

Texas Music Education Research

Reports of Research in Music Education

Presented at the Annual Meeting of the Texas Music Educators Association

February 2017

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Published by the Texas Music Educators Association, Austin, Texas
<https://www.tmea.org/resources/teaching-resources/research>

ISSN 2379-9021 (Online); ISSN 2379-9005 (Print)

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Assessing, Extending, or Disregarding? Building on Elementary Music Skills in Sixth Grade Ensembles

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Background

Sixth-grade band, orchestra, and choir directors face a complex challenge when starting their new ensembles in the fall. Sixth-grade students are diverse; some come from strong music programs with adequate resources and others from weaker music programs with fewer resources. In addition, student populations are often ethnically and socio-economically diverse.

While most students entering middle school have had five or six years of some form of elementary music instruction, the content may differ greatly from school to school. The 2014 National Music Standards (NAfME, 2014) state that all fifth graders should, “Use standard and/or iconic notation and/or recording technology to document personal rhythmic, melodic, and two-chord harmonic musical ideas.” In Texas, the state standards, the Texas Essential Knowledge and Skills (TEKS) (TEA, 2013) are more specific and require that all fifth graders are to “read, write, and reproduce rhythm... and extended pentatonic and diatonic melodic patterns using standard notation.” How these skills are taught to fifth-grade students at both the national and state levels is not prescribed in these standards. The methods, approaches, and terminology used to teach music skills and understanding in elementary music programs may be as diverse as the students themselves.

Elementary music teachers have many options in their approach to music education such as Kodály, Orff, and Dalcroze, (Campbell & Scott-Kassner, 2016). This leads to a variety of experiences and differing levels of music understanding for students finishing the fifth grade. Furthermore, some students entering middle school have had several years of individual or private music instruction while others have not, adding to the wide range of skills these students possess.

Elementary teachers often choose to use terminology to describe music notation in

elementary music programs that is different from terminology used in middle school. For example, elementary students often use solfège names (*do, re, mi*, etc.) rather than absolute pitch names (E, G, B, D, F) when reading notes on the staff. Rhythm notation labels more specific to elementary music programs such as “ta, ta-ka-di-mi” (Houlahan & Tacka, 2008) or “ta, ti-ti” (Choksy, 1998) are also used in primary grade settings. Notational labels and skills learned in elementary grades may not easily transfer to labels and skills used in middle school ensembles.

Elementary music skills may also prove difficult to assess because teachers may impart knowledge of music and notation using a variety of approaches. Some teach musicianship through singing or playing the recorder. Others may apply instruction with Orff tonebar instruments, with World Drumming, by improvising on a pentatonic scale, or by moving expressively (Campbell & Scott-Kassner, 2016). Elementary music educators may have specific musical objectives for their students that may or may not be directly related to priorities of a middle school ensemble director.

Middle school music educators are faced with a dilemma. Do they assume that entering sixth-grade students have music skills and understandings or is it necessary to start at the beginning to read music notation? If they don’t start at the beginning, then they must decide whether to formally or informally assess students’ prior knowledge and skills. Musical understanding and skills may not be easily evaluated by an ensemble director who uses different music labels. If assessments are administered, teachers must also determine how to build on those results.

Most middle school instrumental ensemble directors use traditional band or orchestra instruments rather than classroom instruments and approaches used in elementary schools. While music concepts taught at each level may be similar, the instruments and pedagogy in middle school typically vary considerably from that in elementary music instruction. Several instrumental pedagogy books (Lautzenheiser, 2013; Duke & Byo, 2011) assume that entering sixth graders are familiar with rudiments of reading simple rhythm patterns on a staff. They do not, however, provide formal assessment of previously learned music knowledge and skills.

Vertical alignment of learning objectives in the PreK-12 curriculum has been found to be highly successful in other disciplines such as math. Schielack and Seeley (2010) found that when mathematics teachers communicated across grade levels to understand the content and processes of instruction at all levels, students moved from level to level more successfully. One goal of the 2014 National Music Standards (NAfME, 2014) and the music TEKS (TEA, 2013) was to provide a model of vertical alignment between elementary and middle school music skills and knowledge. Texas public elementary, middle, and high schools are required to provide instruction based on the TEKS at each level (CEDFA, 2016). This vertical alignment provides a sequential curriculum from one grade to the next. When students can build on skills and understanding learned the previous year they can maximize their musical development. “It is the responsibility of each district and its teachers to develop curricula that will provide the basis for what teachers will teach and students will learn in the classrooms throughout the district” (TMEA, 2016).

An “Educator Toolkit” provided by TMEA also stresses the importance of aligning a K-12 music education closely with the TEKS (CEDFA, 2016). This toolkit demonstrates the level of effort that state/national organizations have expended in creating a sequenced PreK-12 music education in accordance with state standards.

Chandler & Mizener (2011) found that while vertical alignment between elementary and middle school was a laudable goal, it was not always practiced. The majority of elementary music educators in their study did not align themselves with the middle school music programs. Chandler and Mizener (2011) hypothesized that this was due “to lack of communication between directors or administrators or to a lack of enforcement of an aligned curriculum by the immediate supervisor” (p. 9).

The purpose of this study was to determine how elementary music educators and middle school music ensemble teachers assess music notation skills and understanding of their students. Specifically, we sought to determine answers about vertical alignment and assessment of skills and knowledge of students exiting fifth grade and those entering sixth grade ensembles

by asking the following questions:

- 1) Do middle school music teachers assess and consequently build on the skills developed in elementary schools or do they start over when teaching music notation?
- 2) Do middle school ensemble directors and elementary music educators communicate with each other about their respective programs and the targeted skills and musical goals they have for their students?

Method

To determine answers to these questions, two similar surveys were developed: one for middle school ensemble directors, and one for elementary music educators. The surveys were posted on national professional social media pages designed for music educators. The elementary survey was posted on a private social media page entitled “Elementary Music Teachers” and the middle school survey was posted on a private social media page entitled “Band Directors Group” which also attracts middle school choral and orchestra directors. Two follow-up reminders were posted on each page, to help ensure participation. The surveys comprised questions requiring responses on a five-point Likert-type scale as well as open-ended questions. Ninety-seven ($N = 97$) surveys from across the country were returned, Fifty-four ($n = 54$) were completed by elementary music educators, and 43 ($n = 43$) were completed by middle school band, choral, and orchestra educators. The qualitative and quantitative data were subsequently analyzed.

Results

Results from the survey data of the elementary ($n = 54$) and middle school teachers' ($n = 43$) assessments of their students' skills were analyzed. Of the middle school respondents, 95% were band directors, 16% were choir directors, and 5% were orchestra directors with some directors teaching more than one type of ensemble. When asked to describe the rhythmic reading skills of their exiting fifth graders, the 54 elementary teachers stated that 7% of their students' skills were

“very strong”, 43% were “strong”, 43% were “average”, with only 5% as “weak” and 2% rated “very weak”. This is in contrast to middle school teachers who rated none of their incoming sixth-grade students as “very strong” in rhythmic reading. They rated 14% of their students as “strong” in rhythmic reading skills, 35% as “average”, 35% as “weak”, and 16% as “very weak” (see Figure 1).

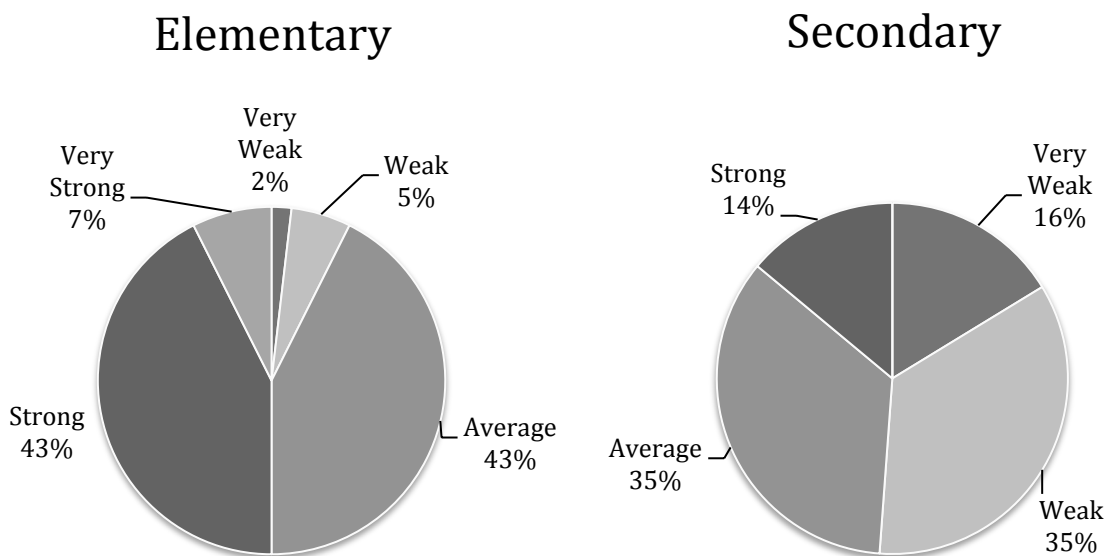


Figure 1. Comparison of responses between elementary and middle school music teachers to the question: “How would you rate your students’ rhythmic reading skills?”

Elementary music educators also rated their sixth graders’ tonal/pitch reading skills more highly than did the middle school directors. The elementary teachers rated 7% of their students as having “strong” skills, 54% of their students “average,” 35% with “weak” skills, and 8% with “very weak” skills. Middle school educators rated 5% of their students as “strong,” 35% as “average,” 35% as “weak,” and 25% as “very weak.” Neither group of teachers rated any of their students as having “very strong” tonal/pitch reading skills.

When asked about their students’ overall musical ability, elementary teachers rated 6% of their sixth graders as “very strong” and 31% as “strong.” They rated 54% of their students as “average,” but only 6% as “weak,” and none as “very weak.” This is in contrast to middle school teachers who rated none of the students’ overall music ability as “very strong” and only 6% as “strong.” They

rated 42% as “average,” 38% of their students as “weak,” and 14% as “very weak” in overall musical ability (see Figure 2).

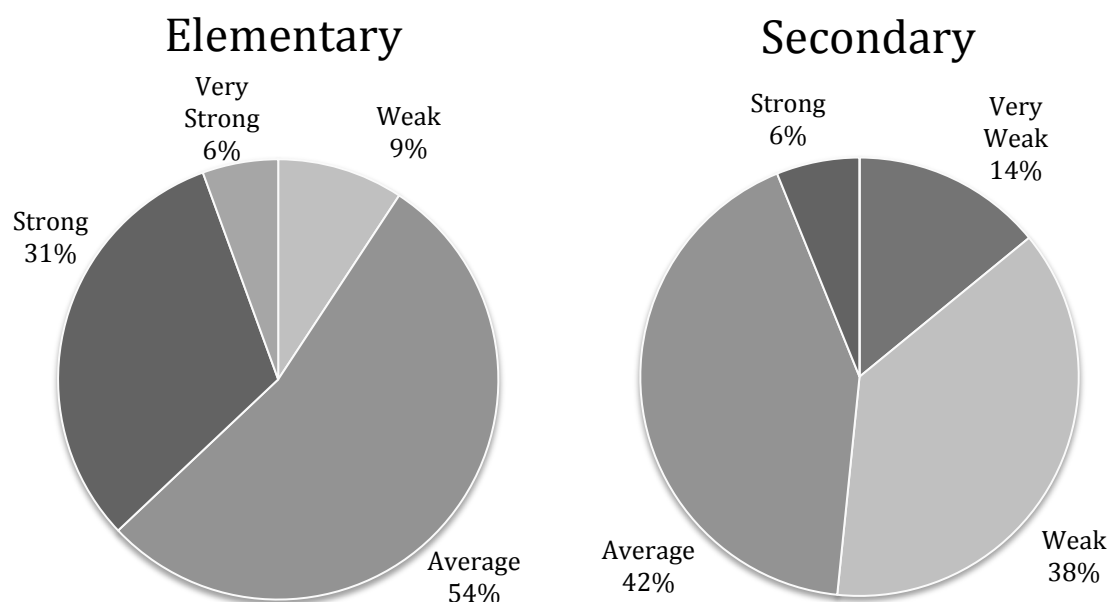


Figure 2. Comparison of responses between elementary and middle school music teachers to the question: “How would you rate your students’ overall musical ability?”

Elementary music teachers cited examples of the knowledge and skills their students have developed by fifth grade. One elementary music teacher commented that by the time his/her students exit elementary school, “[they] can immediately tell if a song is in major, minor, or another mode. They can tell whether a song is in duple or triple time, identify the resting tone of a song, and improvise rhythmic and melodic patterns. They compose their own pieces orally and are much more musically creative than they would be if we just focused on reading notes. When they get to 6th grade band [they are] creating their own songs...” However, it was not stated whether or how these music skills would be assessed or valued by middle school ensemble teachers.

Middle school directors were asked, “How do you assess all sixth grade students who enter with a variety of skill and ability levels?” Only three (7%) middle school directors cited assessment strategies for their entering sixth graders. Some assessment strategies were shared: “I give private lessons based on their scores in the Selmer Music Survey”; “I pre-test all students” (no additional details were provided); “I do lots of informal and formal assessments so I know where everyone is.”

These three teachers who took time to assess knowledge and skills of incoming sixth graders felt that it was important to do so to keep students engaged in their music program. The other 93% of middle school directors responding ($n = 40$) indicated that they tried to keep the students engaged through group activities, external motivation such as prizes, and differentiating instruction with auditory, visual and kinesthetic teaching. Simultaneously, they start with the rudimentary basics with all students. Representative comments were: “I start from square one.” “We all start at the beginning. Even though we have elementary music in our system.” “We all start from the beginning (presuming) everyone knows nothing and build from there.” “I have to start them from knowing absolutely nothing about music.” “I start from scratch and tell my kids that it’s review for those who know.”

We asked both elementary and middle school educators to report the amount of time spent collaborating with music colleagues at other levels. Only 11% of elementary teachers reported spending a “substantial” or “great amount” amount of time collaborating while 65% of elementary educators reported spending a “small amount” or “little to no time” collaborating with teachers at the next level. Middle school teachers in this survey felt they spent more time collaborating with their feeder programs with 23% of them reporting that they spent a “substantial” or “great amount of time” collaborating, but 63% of them reporting that they spent a “small” or “little to no time” conferring with their feeder programs. It is noteworthy that an average of 64% of both groups of teachers responded that they spent a “small amount” to “little or no time” collaborating with their colleagues at the other level.

Discussion

These findings illustrate that elementary music educators rate the skills of their fifth graders much higher than middle school educators rate similar skills of their entering sixth graders. Because so few middle school teachers formally or informally assess their incoming students, they may not have a complete picture of their skills. Several elementary music teachers commented that middle school directors labeled notation with absolute pitch names and

numerical rhythm counting, as opposed to using labels such as solfège and “ta, ta-ka-di-mi.” The elementary teachers considered their students as well-prepared for middle school music programs. The practice of teaching absolute note names as well as rhythmic counting systems could then build and extend on what was learned in elementary school without having to start from the beginning. Potentially, this could also keep more students engaged in music programs and could lower attrition rates in music ensembles.

It is unknown whether students who possessed strong musical skills entering sixth grade were able to transfer these skills when placed in a new secondary ensemble that used a different language for describing notation. Such skills include transferring solfège labels of notes to absolute names of pitches (E, G, B, D, F) when reading music from graphic notation, or reading rhythm patterns using labels such as “ta, ta-di” rather than “1 te, 2 te”. If middle school teachers were to assess skills of entering sixth graders using either of the above systems learned in elementary school, they could learn more about these students’ cognitive knowledge and musical skill and build upon those skills.

A limitation of this study is that the elementary and middle school teachers were not asked to rate the same group of students with a detailed rubric as they exited fifth grade and then entered sixth grade a few months later. This could be considered a limitation of this study. Respondents in this study also volunteered to participate in these surveys; thus, there was a degree of self-selection. Elementary teachers may be comparing their exiting fifth grade students who have the strongest skills in the school compared to the abilities of the younger students in that school. Conversely, middle school teachers may be comparing the wide-ranging abilities of their entering sixth-grade students to the more skilled older students in that school. It would be of interest to assess fifth graders both in the spring and then again in the fall as sixth graders using the same instrument. This could determine to what extent there is a loss of skills and knowledge over the three months of summer between fifth and sixth grades. It would also be interesting to gather data from middle school choral directors about incoming students’ use of pitch and rhythm names practiced in elementary school.

We found little collaboration between elementary and middle school music educators. A majority of the respondents in this survey did not report collaborating with teachers in other levels in their district to promote a smoother transfer of skills and knowledge for students moving from elementary and middle school. Insufficient time was expressed as a major reason for this lack of collaboration. We speculate that increasing teacher conversations on this matter could smooth the transition between elementary music and instrumental ensembles and keep more students engaged in music.

Attrition of student participation in middle and high school music programs is a concern. Over half of the students who enroll in a music ensemble in middle school opt to drop their study of music within the first two years (Lautzenheiser, 2010; Mazzocchi, 2015). Our findings reported in this study indicate increased communication between teachers and more assessment of skills would be helpful.

In summary, Kathy Kuddes (2010), Director of Fine Arts in the Plano school district, stated, “It is clearly in our students’ best interest to smooth this important transition between elementary general music and middle school ensembles. Doing so requires a number of strategic conversations to improve mutual understanding, respect, curriculum design, and instructional delivery on both sides of this programmatic divide.” Music educators are encouraged to prioritize talking to each other, sharing goals and objectives, and working more closely together for stronger, more cohesive music programs and to keep more students engaged in making music.

Keywords

elementary music, assessment, music notation, vertical alignment, national standards

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The 21st Century Elementary Music Classroom and the Digital Music Curriculum: A Synergism of Technology and Traditional Pedagogy

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Background

The modern age of *digital natives* has ushered in the need to transform the educational system in order to supplement traditional pedagogy (Prensky, 2001). Tobias (2016) posits that a *hybrid technological approach* in the classroom will continue to employ technology as a learning tool, evaluative assistant, multi-media resource, and curriculum developer. Prior to the digital age, the graded-music textbook series was the foundation of primary music education—a convention dating back to the methodologies and school songbooks of early nineteenth century pedagogues, such as Lowell Mason, Christian Hohmann, and Luther Whiting Mason (John, 1954). For nearly 150 years, the graded-level music series has been the basis of general music curriculum for young children since the first widespread and internationally acclaimed series, *The National Music Course* by Luther Whiting Mason in 1870 (John, 1954). The general music program still maintains this model in the elementary school levels, promoting rote singing methods, cultural folk music, instrument fundamentals, essentials of music literacy, and performance.

The core educational subjects have evolved as many schools have approached 1:1 technology resources in support of 21st century educational trends and recent legislation. The 2015 Every Student Succeeds Act (ESSA)—a necessary update to the 2004 No Child Left Behind Act—provided clear definitions to the core placement of arts in public education and stimulated more substantial budgets for arts curricula (U.S., 2015). The ESSA also provided expectations of college readiness, real world connections, and the incorporation of technology in all aspects of education, holding schools and teachers accountable for supporting the *digital wisdom* of the 21st century student (Prensky, 2011).

Since the turn of the century, the introduction of STEM (Science, Technology, Engineering, and Mathematics) programs and magnet schools began taking precedence as they provide specialized education tracks with 21st century credentials, satisfying many of the new criteria of modern education, but may come at a cost to arts programs such as dance, theatre, and visual and performing arts. In some cases, the rise of specialized programs can supersede the traditional enrichment classes as seen in the Figure 1 data gathered from Dallas and Houston school districts.

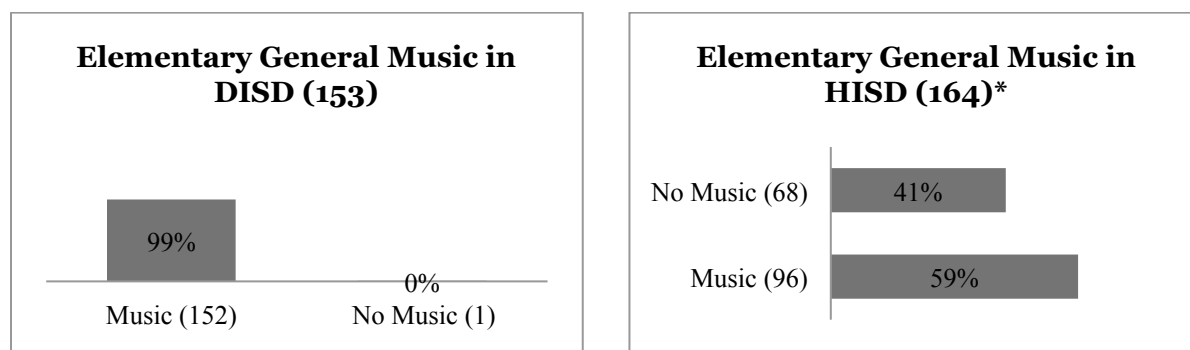


Figure 1. 2017 school data retrieved from Dallas and Houston district web pages and by school communication. *HISD may have additional schools without music classes.

Houston ISD (2017), Fort Worth ISD (2017), and Dallas ISD (2017) are all proponents of a district STEAM mission (science, technology, engineering, *arts*, and math), as stated in their annual reports. Still, some music and art programs have been dissolved in various elementary schools. The transition into the digital music curriculum propels music education advocacy by adapting to the technological competencies of digital natives and appealing to the standards of 21st century education— further justifying the inclusion of arts within STEAM initiatives.

The arts must adapt in order to meet the digital wisdom in this new technology age; otherwise, they will become too far removed from what is now considered a well-rounded school education (Prensky, 2011). Children are spending increasing amounts of time with electronic devices and applications—new platforms for creativity coined “curiosity-amplifiers”— doodling on drawing apps, designing in *Minecraft*, learning songs by finger tapping apps, and composing

high quality music pieces with the iPad and the smartphone (Order, 2015). Trends in the modern music industry also place technology at the forefront of popular music making with the use of digital instruments, mechanisms for vocal correction or auto-tune, and complex sound mixing and editing capabilities. The rise of electronic dance music (EDM) and artist-music producers such as Kanye West, DJ Khaled, Deadmau5, and David Guetta also points clearly to what the future holds for popular music production and performance. It seems logical that the arts must adapt to the current trends by regularly including digital applications for artistic learning and creativity. The alignment of general music to 21st century technology is inevitable, as music education must look toward the future with a digital music curriculum.

Music education retains a unique criterion for measuring success as students are expected to develop musicianship skills such as mastering music literacy, cultivating an eclectic musical palate; acquiring competencies in listening to, analyzing, and composing music; and making music with proper practice techniques and performance standards. These benchmarks are delineated in national music standards and TEKS standards (TEA, 2017).

The use of technology in music education has for long been considered a tool for measuring music competency, assisting instruction and methods, and supplementing the classroom with multi-media resources, yet its impact on education is still unclear. For example, researchers in Finland investigated the possibility of teaching several rural homes simultaneously through the creation of a digital general music classroom taught by a music specialist over a webcam which produced more problems than benefits (Maki, 2001). A partnership of music education students from Australian and African universities created the “Orff-Tswana” Intercultural Music-Making Initiative. Students successfully communicated and collaborated with Orff methodologies to capture authentic transcriptions and recordings via video-conferencing and Sibelius software (Klopper, 2010). Astafan utilized *SMARTMUSIC* software program to assess the sight-reading level and rhythmic skills with a 5th grade class over several weeks which did not reach any noticeable outcomes except that the students enjoyed working with the digital activities (Astafan, 2011). The most significant research comes from another international collaborative

study with children from Indiana and Israel using the music technology program, *Teach, Learn, Evaluate* (Portowitz, Peppler, & Downtown, 2014). The music program study highlighted the music fundamentals units and interactive computer software which yielded positive findings in music learning, retention of concepts, and cognitive skill development; however, the program itself is a single-user format which does not have implications for classroom settings.

Much of the research on music education and technology conducted in recent years is in danger of becoming obsolete since many of the digital resources and materials highlighted in the literature, such as YouTube, music education websites, and GarageBand, are more than a decade old. An Ohio study addressed the increasing demand of music teachers to utilize technology competencies such as computer-based notation, digital music production, and computer-assisted instruction (Dorfman, 2008). The study confirmed that teachers only used technology for some planning, electronic accompaniment, and burning CDs which propelled the researcher to inquire into the possible potential of advancing music education landscapes.

There is at least some investigation into the feasibility of a smart device or iPad such as the music making tool of Williams (2014) and the curiosity amplifier of Order (2015). Additionally, there are considerations regarding the discovery of new applications for musical creativity such as with Ko and Chou (2013) who stated that, “music technology can enhance the quality of music being created and allow children to hear their creation instantly.” Lum (2016) reflected on the reality that “digital natives enter the classroom with a higher technology competency and accessibility than the teachers”. After investigating the current perspectives of technology and music education, it can be concluded that there has not yet been significant research of the effects of a technology-based music curriculum. The following question prompts the underlying purpose of this study: “Should [it] not continue to bewilder and challenge music educators to think about what it means to be teaching general music in the 21st century?” (Lum, 2016).

On the positive side of technology and music education, several supporters note benefits from using digital resources; however, there has not been any insight into the recent music curriculum advancements. The *connectivism* of Beegle and Bond (2016), *creative application* of

Guderian (2014), and the *hybrid approach* of Tobias (2016) all presented ideologies of a technology-infused classroom; but, resources that were highlighted are a decade old, such as YouTube, music education websites, and GarageBand, in addition citing publications about technology from the 1990s and 2000s. There is at least some investigation into the feasibility of a smart device or iPad in a pedagogical and music educational setting such as the *music making tool* of Williams (2014) and the *curiosity amplifier* of Order (2015). Additionally, Ko and Chou (2013) offered that, “music technology can enhance the quality of music being created and allow children to hear their creation instantly.” Lum (2016) reflected on the reality that “digital natives enter the classroom with a higher technology competency and accessibility than the teachers”. After investigating the current perspectives on technology and music education, it can be concluded that there has not yet been significant research into a technology-based music curriculum. The followings question prompts the underlying purpose of this study: “Should [it] not continue to bewilder and challenge music educators to think about what it means to be teaching general music in the 21st century?” (Lum, 2016).

The development of digital music curricula

What is a digital music curriculum? There is currently a wide variety of electronic resources that supplements lesson content and instruction. In the elementary music classroom, there are many free digital tools that enhance fundamental music skills. Such tools include music and video streaming sites, music theory applications, lesson plan resources, digital instrument players, accompaniment and notation software, and music games. The modern general music teacher balances curriculum resources with online and text resources in order to supplement a self-written general music. Prior to 2011, there was not an online music curriculum that offered a wide variety of applications, materials, and resources for the use of year-round lesson planning.

The concept of an all-inclusive digital music curriculum was first introduced with *Interactive Music* through the collaboration of Silver Burdett, Alfred, and Pearson, followed by Quaver’s *Marvelous World of Music* and, the most recent, *Themes and Variations: MusicPlay Online*. In

Texas school districts, a trend of digital music curriculum adoption appeared in 2015, which included two large ranking school districts in the nation, Houston ISD (ranked 7th) and Dallas ISD (ranked 14th) (Snyder, 2016). The allure of a digital general music program includes the assimilation of online and cloud-based platforms, diverse interactive media resources, alignment with traditional methodologies, ongoing digital updates and new material, efficient time management, and the differentiated instruction that enables teachers to reach even more students via technological platforms. As new curricula adoptions are shifting towards digital content, it is essential to explore the perspective and feedback from current educators to obtain a current snapshot of general music. The digital curricula providers of the Silver Burdett *Interactive Music*®, Quaver's *Marvelous World of Music*®, and Themes and Variations' *MusicplayOnline*® have been selected for examination into the viability and benefit of developing a 21st century general music classroom.

On October 4th, 2011, Pearson released the premiere PK-8 general music curriculum of the Silver Burdett® *Interactive Music* in association with Alfred Music® (Pearson, 2016). The all-digital platform was a significant step away from the typical graded-level text book series which offered a multitude of digital mp3, song banks, midi-adjustable song features, interactive games, and platform of the *Online Learning Exchange*. *Interactive Music* is equipped with a 36 lesson-set for each grade which provides downloadable song-based lesson files, pdf sheet music, printable activities, national standard alignment, and structured lesson plans that can be edited in word applications. *Interactive Music* boasts an activity and lesson bank of over 1600 selections that can be quickly accessed through search tools or grade-level units. The PK-8 costs \$1,435.97-\$1,678.97 per grade level for the 8-year license. *Interactive Music* issued an extensive update in January 2017, supporting the convenience that is a feature of an online curriculum.

Quaver's *Marvelous World of Music*® was a joint endeavor of music artist, Graham Hepburn and businessman, Dave Mastran, out of Nashville in 2008 (Quaver, 2017). Since the 2011 release of the 30-episode music collection in the *Quaver's Music Essentials*, the vision of providing educational tools developed into a complete online K-5 curriculum. Texas music education

received its own customized version of *Quaver's QK-5 Texas Music Curriculum*, developed just prior to the ESSA and the Texas Proclamation of 2015 (TEA, 2017), making it the only fully TEA compliant curriculum adoption. *Marvelous World of Music®* is used in over 4,000 schools in most states across the nation and in 16 countries, making it one of the largest K-5 music curricula providers in the world. Quaver's resources include over 216 full lessons organized into 36 weeks, 600+ songs in ClassPlay, complete instrument units for recorder, keyboard, and ukulele, methodology-based lessons of Orff, Kodály, Gordon, Eastman, and Dalcroze, sequenced grade-level curriculum maps that include Pre-K, fully customizable *click and drop* lesson plans, weekly educator newsletter with *The Beat*, and extensive webinar training resources for the reinforcement of professional development. The Texas QK-5 curriculum prices are \$1,575 a year or \$10,400 for the 8-year license which includes all features of the web platform in addition to a full USB Flash Drive content back-up for offline usage. The Quaver company holds this essential vision: "We want to set a new standard for general music education—to help teachers become more effective with less effort and to have children learn music while having fun." (Quaver, 2017).

Canadian-based *Themes and Variations* founded by Denise Gagné in 1994 has been a foundational music curriculum and education resource for many classrooms in Canada and the US (Themes and Variations, 2017). The *Musicplay K-5/K-6* series is the classroom curriculum package includes grade level teacher guides, digital lesson resource, Smartboard files, mixed-percussion guides, performance/accompaniment CDs, and the inclusion of the *Musicplay Online* which was released in October 2016. The basic K-5 School Complete Package starts at \$1,625 and the upgraded package with a class set of student books costs \$2,200. Many additional resources and classroom activities can be added to customizable packages, allowing for the teacher to design a unique music curriculum. The K-5 Musicplay package includes online subscription for 3-year access, providing a variety of user-friendly web features along with 700 full song lessons by grade level, piano sheet music, lesson plans, warm-up exercise videos, rhythm and solfège activities, and instrument lesson units for Orff percussion, guitar, ukulele,

and recorder. The most valuable attribute of *Musicplay Online* is that it can be purchased at an annual subscription of \$149, a remarkable bargain for districts with limited budgets and smaller education organizations such as homeschool communities, early childhood centers, or private schools. Current features of each of the three curriculum providers can be seen in Tables 1 and 2 below.

Table 1. Features of three popular digital curriculum providers.

Curriculum Features	Quaver®	Interactive Music®	MusicPlay Online®
National Standards	X	X	X
TEA-TEKS Compliant	Full Compliant	TEKS Correlations K-4	TEKS Correlations K-5
K-8 (PK component)	X	X	X
Single User Login	X	X	X
Grade-level Units	X	X	X
Song-based Lessons	X	X	X
Interactive Activities	X	X	X
Interactive Lessons	X	X	—
Smart Device Apps	4	—	6
Student Home Access	X	X	—
Hispanic Music	13	59	32

Table 2. Resources offered by three popular digital curriculum providers.

Curriculum Resources	Quaver®	Interactive Music®	MusicPlay Online®
Teacher Training	Online and In-person	Online and In-person	Workshops Only
Print Resources	X	X	X
Hardcover Textbooks	—	X	X
Downloadable Multimedia Content	USB Flash Drive	X	Sheet Music/Lessons
Interactive Music Player/Accompaniment	X	X	MP3/Video only
Editable Lesson Plans	X	X	—
Formal Assessment Tool	X	X	—
Instrument Units and Lesson Resources	Keyboard (26), Recorder (19), Ukulele (28)	Percussion, Recorder, Guitar	Percussion, Recorder (38), Guitar (25), Ukulele (32)

The purpose of this study was to investigate teachers' perceptions about the viability and benefit of using a digital music curriculum in the elementary music classroom. A survey was created that focused on three leading digital curricula providers: PK-5/8: *Quaver's Marvelous*

World of Music®, *MusicPlay Online®* by Themes and Variations, and Silver Burdett's *Interactive Music®* by Pearson and Alfred.

Method

An online survey created in Google Forms was emailed in November 2016 and, again, in January 2017 to over 400 Texas elementary music educators that subscribed to digital curricula in and around Dallas, Houston, and Fort Worth. The survey consisted of three sections: 1) General Information of Educator (5 questions), 2) School and Classroom Information (3 questions), and 3) Digital Music Curriculum and Resources (14 questions). The final section allowed participants to provide further feedback about their prescribed digital curriculum. The survey took between 4 and 7 minutes to complete.

Results

Participants ($N = 72$) were Texas educators at schools in various districts within and surrounding the cities of Houston, Dallas, and Fort Worth (see Figure 2).



Figure 2. Location reported by survey participants. “Other” consisted of schools in various districts using *Musicplay*.

Participants indicated college specialization in the following areas: vocal (33.3%), woodwind (22.2%), brass (15.3%), percussion (5%), or two or more areas (19.4%). 69.4% of participants reported 4+ years of elementary teaching experience (9 years and above, 50%; 4 to 8 years, 19.4%; and 0 to 3 years, 30.5%) and 43% indicated having received specialized certification in Kodály, Orff, or Gordon methodologies.

Participants provided information about their school demographics, music classrooms, and school resources. Aligning with the documented growth of predominantly Hispanic communities in the metropolitan centers of Houston and Dallas, participants confirmed prominent Hispanic populations in their schools (see Figure 3).

Typically Caucasian (over 50%)	3	4.2%
Typically Hispanic (over 50%)	45	62.5%
Typically African American (over 50%)	7	9.7%
Typically Asian American (over 50%)	0	0%
Typically Hispanic and African American (50% and 50%)	11	15.3%
Balanced demographic or no majority	6	8.3%

Figure 3. Reported survey data on participants' school demographics.

The majority of participants reported regularly teaching in a music class consisting of 16 to 25 students (83.3%). 43.1% of teachers indicated having observed class size growth over the past few years. It was also clear from the responses that most participants have available to them technology, such as laptop (98.6%), wireless Internet (86.1%), smart tablet or iPad (72.2%), and a Smartboard (80.6%), that allows them to take advantage of interactive digital curriculum resources (see Figure 4).

Screen Projector	49	68.1%	Teacher Computer/Laptop	71	98.6%
TV	8	11.1%	Teacher Ipad/Tablet	52	72.2%
Smartboard/Prometheon/Ebeam Technology	58	80.6%	Internet (Cable)	47	65.3%
Sound System/Room Speakers	44	61.1%	Internet (WIFI)	62	86.1%
Student Computers	8	11.1%	White Board (magnetic)	56	77.8%
Student Ipad/Tablet (individual or class set)	6	8.3%	White Board (non-magnetic)	19	26.4%

Figure 4. Reported survey data on digital resources available to participants.

It was clear that the participants have the available technology to take full advantage of the interactive digital curriculum resources using a laptop (98.6%), wireless internet (86.1%), smart

tablet or iPad (72.2%), and the smartboard (80.6%).

Digital curriculum and viability

The third section of the survey was designed to answer whether teachers feel that digital music curricula are viable and beneficial to elementary music classrooms. Responses revealed that the majority of participants (65%) used *Quaver's Marvelous World of Music*® at the time of the study and that most teachers (62.5%) had previous experience in using a music curriculum series prior to the digital subscription. Most participants used the digital curriculum resources in the majority of (59.7%) or occasionally in (23.6%) their lessons and activities. However, educators indicated much less utilization of the digital curricula in classroom assessments, as seen in Figure 5.

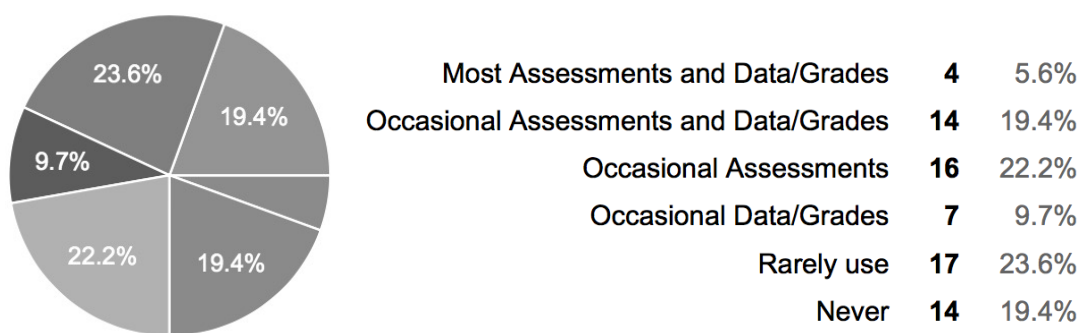


Figure 5. Reported digital usage for teaching of survey respondents.

In response to questions related to observable improvements in the classroom as result of the including of digital curricula, most participants agreed that improvements were seen in student participation (79.2%), student behavior and classroom management (73.6%), retention of music pieces and songs (75%), and retention of musical knowledge and concepts (75%). Teachers also indicated that the adoption of digital curricula resulted in positive changes in their lesson planning, assessments, and time management (73.6%) as well as in their understanding and instruction of general music content (68.1%). The great majority responded that their digital music curriculum met the grade level TEKS standards (95.8%) and aligned with music

methodologies such as Kodàly, Orff, and Gordon (84.7%).

80.6% of teachers reported that they would recommend their respective curricula to future music educators and most free responses to the final question of the survey, “Do you believe that there is a need to update the general music curriculum to a digital curriculum?” were positively in favor.

Conclusion

Music educators believe that the digital music curriculum is a viable method of instruction in classrooms, benefiting their instruction and their students’ learning, as there was an overall 71.9% of regular usage and a reported 73.3% of improvement of student and teacher performance. Additionally, the data reflected alignment with both music education standards (95.8%) and traditional methodology (84.7%). Participants in this study viewed the online digital music curriculum as viable for the music program and beneficial to the classroom.

The survey used in this study had limitations, as only a few districts were chosen due to time constraints and limited district access. To arrive at a more comprehensive understanding of the use of digital curricula, it may be necessary to include a larger, more diverse sample of educators and schools across the state. Further research may also examine more closely the effects of a digital curriculum on student success as defined specifically by state standards.

Keywords

educational technology, digital music curriculum, ESSA, STEM, STEAM

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Task Difficulty, Practice Techniques, and Confidence in Adult Concert Bands

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Background

Studies have documented the musical and social benefits of group music making for older musicians (Lehmberg & Fung, 2010). Understanding and learning to avoid the confounding variables to musical participation and growth may help make older adult music settings more enjoyable and productive. One factor that may inhibit, or conversely, increase learning is how participants feel about their abilities when participating in musical ensembles.

A potential challenge with measuring participants' feelings about their abilities is the terminology used in the research literature. Self-esteem, self-efficacy, self-concept, self-evaluation, confidence, and attitude have been used to address participants' beliefs about themselves, with definitions varying across these terms. There are also measurement challenges with using self-efficacy assessments; as Dunning, Heath, and Suls (2004) noted, skill and self-assessment measures tend to have only modest relationships due to individuals overestimating their skill levels and confidence in achieving a goal.

Indeed, positive feelings of efficacy can be found in many studies of adults. Kruse's (2012) study of self-esteem of adults in community music settings documented participants' positive feelings about music participation, interest, skill, and longevity. In other fields, Grembowski et al. (1993) found that older adults who had high self-efficacy also had fewer health risks. Denissen, Zarrett, and Eccles (2007) found that interest and self-efficacy played an important and positive role in learning situations for school-age learners.

In terms of age, there has been greater diversity of findings for self-efficacy, possibly due to term definition variability or diversity of content areas in the research. Kruse (2012) documented a significantly lower mean of self-efficacy in the oldest adults in his study (ages 62–

89) on a general music self-esteem scale than was noted for 49–61 year olds or 19–48 year olds. Conversely, Demo (1992) found that self-evaluation became more positive with age, but may have periods of fluctuation, noting that situational instability may lead to changes in self-concept. Other studies have documented a curvilinear path with self-efficacy increasing during childhood, leveling off during the middle years, and declining during later years (Gurin & Brim, 1984; Woodward & Wallston, 1987). Lachman (1985), however, found no decline in the oldest participants, with adults aged 60 and over actually having an increase in efficacy.

Past learning, achievement, and the ability to problem solve in new scenarios may also be linked to feelings of self-efficacy. Hammond (2004) found that learning was beneficial and enjoyable to adult participants, but only if the tasks matched the skill levels of the learners. Schafer and Shippee (2010) report that stress produced increases in so-called “subjective” age, or age identity, especially when the participants felt that they had limited resources to handle problems. Lane and Talbert (2014) found that adult musicians possessed very strong awareness of their own musical competencies, and generally assumed a self-deprecating view of their abilities. Blanchard-Fields (2007) noted that due to greater life experience, adults used a larger number of problem solving techniques than children, however Rohwer (2005) found that adults used relatively few practice techniques in their musical practice, as was also found with children (Rohwer & Polk, 2006).

What techniques adult musicians use to combat challenges may also be an important variable in the improvement process. Kruse (2012) constructed a general self-esteem scale for adults in community music settings, but it would be valuable to have an assessment of context-specific challenges faced when playing music, including the techniques adults use to solve their musical problems. While Rohwer (2005) documented that the adults in her study often practiced with repetition as the most common technique, it may be useful to ask adult musicians, over time, how they are practicing and whether they perceive that their practice is leading to improvements.

Becker (2004) documented the one-minute paper as a pedagogical technique that has

empirical evidence for improving learning, and its use has been supported by the pragmatic application of the one-minute paper in instructional environments (Chizmar & Ostrosky, 1998; Drabick, Weisberg, Luci, & Bubier, 2007; Harwood, 1996; Higgins, Lauzon, Yew, Bratseth, & Morley, 2009; Kloss, 1993; Ludwig, 1995; Orr, 2005; Rohwer, Coffman, & Raiber, 2012; Stead, 2005; Steele, 1995; Wilson, 1986). In a study by Rohwer, Raiber, and Coffman (2012), the one-minute paper was used to gather information about adult musicians' perceptions concerning important and frustrating aspects in instrumental rehearsals. The researchers found that musical, human, and environmental issues were experienced as both important and frustrating aspects in rehearsals, and they conclude that conductors can use the one-minute paper as a mechanism to understand the context of member frustrations in order to address these strategically in rehearsals.

The purpose of the current study was to describe adult band musicians' perceptions of task difficulty, use of practice techniques, and confidence to learn using the one-minute paper in an adult concert band setting.

Method

The participants in the current study ($N = 83$) were members of two New Horizons bands in two states (Texas, $n = 50$; South Carolina, $n = 33$). The members in band one were males ($n = 30$) and females ($n = 20$), ranging in age from 41 to 82 ($M = 64.74$, $SD = 9.35$), who played woodwind ($n = 29$), brass ($n = 18$) and percussion instruments ($n = 3$), and represented Caucasian ($n = 48$), and Hispanic ($n = 2$) ethnicities. Band 2 membership included males ($n = 16$) and females ($n = 17$) ranging in age from 50 to 82 ($M = 66.12$, $SD = 8.68$). Distribution of instruments included woodwind ($n = 15$) and brass ($n = 18$); there were no percussionists. All members in Band 2 were of Caucasian background. While there were 83 band members at the time of the study, the respondent sample sizes were smaller than this number due to absences or other contextual issues across the sessions.

The music rehearsed for the purposes of this study was Irish Suite for Band by Stan Applebaum (1978). The piece had three movements--Fisher Boat's Home, Nighttime, and The

Festival--and had enough technical challenges that both bands were able to progress across the time of the study without mastery happening too early in the semester. The first and third movements were in a fast tempo (6/8 meter, conducted in two) and the middle movement was slow (6/8 meter, conducted in six). The key centers across the movements were F, C, D, and E-flat major, and G minor. Assessment of the difficulty of the piece has varied across publications, ranging from a grade three (Miles, 1998) to a grade five (South Carolina Band Directors Association, 2014).

After rehearsing the music, members of both bands used a paper-pencil assessment to answer three open-ended questions: (a) "What was the most difficult aspect of the piece of music we just rehearsed?" (b) "What practice techniques will you use to approach the learning of this piece of music?" and (c) "How confident are you in your ability to learn how to perform this piece of music at a high level?" These three questions were asked in the second week of the semester, and again in the seventh week of the semester. In the fourteenth week of the semester, a culminating set of reflection questions was asked: (a) "What is still difficult in the piece of music we will soon be performing?" (b) "In hindsight, how well do you think your practice techniques worked in preparing this piece for performance?" and (c) "How confident are you in your ability to perform this piece of music at a high level?" Three administrations of the one-minute paper procedure were used instead of the four administrations documented in Rohwer, Coffman, and Raiber (2012) due to their conclusion that quality and quantity of responses decreases with later administrations, and Stead's (2005) concern with the possible overuse of this evaluation technique.

Analyses of the open-ended responses were completed through coding of themes for the three questions (difficulty, techniques, and confidence) across the three administrations. Because of the following issues, names were not placed on the one-minute paper responses that were turned in: (a) the one-minute paper feedback was being used as an instructional technique endemic to the setting in addition to its research purposes (as approved by the Institutional Review Board); (b) past research has documented the usefulness of anonymous responses to the

one-minute paper technique in class settings (Chizmar & Ostrosky, 1998; Drabick et al., 2007; Harwood, 1996; Higgins et al., 2009; Kloss, 1993; Ludwig, 1995; Orr, 2005; Rohwer, Coffman, & Raiber, 2012; Steele, 1995; Wilson, 1986); and (c) listing names would have caused confidentiality issues that may have led to the respondents providing incomplete or softened responses to their conductors who were also the researchers in the study. Because of these issues, responses could not be tracked for individuals across the three administrations. Instead, general trends across the participants over the three administrations were analyzed. Extensiveness of themes was documented through frequency counts and percentages, and additional support within the themes was provided through respondent quotations.

The administration process and type of short question format were confirmed for content validity based on past one-minute related literature, both in and out of music. The wording of the three questions was assessed for clarity with three band members in a different adult band. Two co-researchers (a graduate student and a music education faculty member at a separate institution from the authors) confirmed the themes and codings for consistency.

Results

A total of 75 participants (43 from Band 1, 32 from Band 2) responded on the first administration of the one-minute paper. On administration two, 59 band members responded (34 from Band 1, 25 from Band 2), and on administration three, a total of 49 participants responded (31 from Band 1, 18 from Band 2).

Band 1

At all three stages, the most common difficulty that respondents noted was rhythm/meter (55 total citations: 21 in administration one, 13 in administration two, and 11 in administration three). As two respondents stated:

“I need to go Google 6/8 so I can play it. That is new to me.”

“I am having trouble internalizing how 6/8 can be in two and also in 6. That blows my mind. I just don’t know when to play and when not to and how much notes count for.”

The difficulty of rests was documented in each administration (15 total citations: 6 in administration one, 5 in administration two, and 4 in administration three). The difficulty of tempo was documented in the first two administrations (19 total citations: 8 in administration one and 11 in administration two). In administration two and three, band 1 members noted a unique difficulty component; instead of personal difficulties, some participants noted group difficulties, including cohesiveness ($n = 7$), blend ($n = 4$), and melodic handoffs ($n = 4$). As two participants stated: “As a group we need to make sure the transitions between the instrument groupings on the melody part go smoothly,” and, “Some people are starting and stopping at different times. It makes us sound sloppy.”

In the final administration, two additional categories emerged: no difficulties ($n = 5$) and the listing of specific measures that were difficult ($n = 4$).

The most common practice techniques that participants documented across the first two, one-minute paper administrations were audio/visual, such as listening to a recording or watching a YouTube video of a group performing the piece (24 total citations: 13 in administration one and 11 in administration two). As two participants stated: “I like to listen to a recording or video of the piece and then practice difficult parts. I do this everyday,” and, “I practice along with a band on the internet.”

The second most common practice technique was varying the tempo (20 total citations: 12 in administration one and 8 in administration two), strategically woodshedding difficult measures (15 total citations: 8 in administration one and 7 in administration two), using a metronome to practice hard patterns (10 total citations: 6 in administration one and 4 in administration two), and counting rhythms (10 total citations: 6 in administration one and 4 in administration two). Gestalt techniques of repetition ($n = 7$) and practice in general ($n = 6$) were documented in the first administration only.

At the third administration, participants rated how well they thought their practice techniques worked, with 22 stating that the techniques worked well, 5 stating they had moderate

improvement, and 2 stating that they had made little improvement. Some participants discussed barriers to their improvement:

“My techniques were good. I just needed to practice more and more regularly.”

“I needed to do much more personal practice.”

“My practice didn’t go as well as I liked. I needed to use the metronome more.”

“My improvements were too slow! I never attained my goal.”

“I didn’t practice at home. I love being in band, but I’m not a good practicer.”

Overall, the participants documented high confidence in their ability to learn to perform the piece of music at a high level (74 out of 108 total responses, 69%). Perceptions of high confidence remained fairly consistent across the three administrations (administration 1: 29 out of 43 responses or 67%; administration 2: 24 out of 34 responses or 71%; and administration 3: 21 out of 31 responses or 68%). As one participant stated: “I am very confident. I can do it!!!!”

For those who documented the lowest confidence, their response patterns for difficulties and practice techniques had similar low confidence trends. Two low confidence participants stated the following: “I don’t know how to respond about difficulties. It is all very difficult,” and “I can’t find myself in the music. I get lost and I don’t know what to do.” And in answer to what practice techniques they would use to approach the learning of the piece, the same low confidence participants stated: “Slapping the side of my head,” and “I have no idea: Practice?”

Band 2

Similarly to Band 1, participants in Band 2 most frequently cited rhythm/meter as the most difficult element of the music rehearsed (35 total citations: 16 on administration one, 11 on administration two, and 8 on administration three). Additionally, participants cited elements of pitch accuracy (17 citations total: 9 for administration one, 6 for administration two, and 1 for administration three) and key signature (16 total: 7 for administration one, 1 for administration two, 8 for administration three), across all administrations. Across the first two administrations, participants cited the element of rests (11 citations total: 6 for administration one and 5 for administration two), and tempo (8 citations total: 3 for administration one and 5 for

administration two). Additional elements identified in administration 1 that received only 1 citation included expression, dynamics, and balance. Participants cited two elements unique to administration 2, range (2 citations) and phrasing (1 citation). One citation unique to administration 2 described elements in relation to musical preference: “The whole first movement, rhythm, notes – it lacks melody or sense to me and I don’t enjoy playing it. I hope we don’t play another one like this again. I love the second movement, the phrasing and dynamics.”

A set of responses from Band 2 that was noticeably different from Band 1 included a general topic of ‘timing’, which received multiple citations across all three administrations (12 total: 5 for administration one, 5 for administration two, 2 for administration three). From the responses given, it was not clear exactly what was intended; for example, on administration four of the five participants who responded wrote only the single word ‘timing’.

Whereas Band 1 participants identified audio/visual aids as the most common practice technique, Band 2 participants identified repetition as most common (21 citations out of 64 total, 33%; 11 citations out of 28, 39%, for administration one; 10 out of 37, 27% for administration two). Chunking (or ‘breaking things down’) received the next most citations (19 citations out of 64 total, 30%; 12 citations out of 28, 43%, for administration one; 7 out of 37, 19% for administration two). Practice with a metronome was identified in 13 citations (out of 64 total, 20%; 5 citations out of 28, 18%, for administration one; 4 out 37, 11% for administration two). Other techniques identified included playing long tones (7 citations out of 64 total, 11%; 1 citation out of 28, 4%, for administration one; 6 out of 37, 16% for administration two). Techniques cited only one time included breathing and practicing scales. One participant may have had the most honest response by simply commenting, “Pray!”

All but one participant (17 of 18) in Band 2 indicated that they felt that their practice techniques were successful. Examples of comments from these individuals include, “Repetition at home - very effective. ‘Practice makes perfect,’” and “Yes. Metronome, clapping, really helped me get the beat.” The lone responder who felt that their practice techniques were not successful commented, “Tried it over and over. Never got to quarter note equals 60.”

Half of the participants (9 of 18) indicated that they would do nothing different in their future practice. Among those who stated that they would change their practice, 7 indicated that they would simply practice more, 1 indicated they would use a metronome more regularly, and 1 indicated that they would use audio/visual aids (specifically YouTube) to help them learn.

Like those of Band 1, Band 2 participants described high levels of confidence in their ability to perform the music at a high level (65 out of 74 total responses, 88%); and this confidence seemed consistent across all three administrations of the one-minute paper (28 out of 32, 88% for administration one; 22 out of 25, 88% for administration two; 15 out of 17, 88%, for administration three). Individuals who expressed less than very high or high levels of confidence tended to be somewhat self-deprecating in a humorous way, as evidenced by this comment: “Not confident. In the history of human trombone honking, maybe with work I’ll get it.”

Conclusion

Participants in this study identified elements of rhythm and meter as difficult throughout the rehearsal process, reflecting trends reported in previous research (Lane & Talbert, 2014). It should be qualified that the perceived difficulty of rhythm and meter may have been specific to the music that was rehearsed during this study, and therefore, potentially not generalizable to less rhythmically complex music or to bands of different skill levels. The finding of rhythm and meter difficulty suggests that directors may want to sequence this instructional component strategically, using a variety of practice techniques and instructional approaches. One example may be for the director to identify potentially difficult or problematic rhythmic material from the music prior to distributing the selected piece, then develop activities that would allow the musicians to engage with the difficult material in other contexts (e.g., call and response, isolated exercises). This process may help facilitate more efficient learning once the actual sheet music is distributed.

In general, responses from participants in the current study indicated that they had very few practice techniques at their disposal. Similar trends have also been reported in previous

research (Rohwer, 2005; 2006; Lane & Talbert, 2014). The need for specific practice techniques is a key part of self-regulated learning (Lane & Talbert, 2014) and developing skills that lead to musical independence. Therefore, it seems important for future research efforts to investigate ways in which adult musicians can learn specific practice techniques and then be provided opportunities to work with the techniques and identify those that they perceive as most effective in a variety of scenarios. A first step may be to model options for practicing difficult rhythms during the band rehearsal, then the musicians could work with the demonstrated techniques on their own, and finally the musicians could discuss the various options with the director as a way to compare the contextualized techniques.

The trend of progressing from personal musical difficulties (such as notes, rhythm, and articulation) to group difficulties (such as balance, blend, and chordal intonation) across the rehearsals was documented in Band 1. This may have occurred because of the specific rehearsal format of Band 1's early rehearsals highlighting basic technical issues and later rehearsals moving to more gestalt group issues; the components that were rehearsed most often, then, may have been cited as the participants' own perceived difficulties during those times in the rehearsals. This may be a message to directors that what is valued as important in rehearsal may be what the adult participants deem as important enough to practice at home. Directors may be able to reinforce important musical concepts by planning lessons that address the issues in a variety of places in the music being rehearsed, such as pinpointing dynamics associated with the important melodic lines across all of the pieces that the band is playing. In that way, the reinforced concept becomes memorable and potentially transferrable to the process of practice when the musicians are at home.

The use of the term timing, prominent in comments from Band 2, deserves attention. In a previous study of musical learning processes demonstrated by adult amateur musicians in solo settings, Lane and Talbert (2014) found that participants sometimes had difficulty in describing elements of music, especially in relation to the description of perceived errors during performance. In the context of the current study, it is difficult to determine what exactly the

participants were referring to; this may be in part due to difference in data collection method. The previous study involved one-on-one individual interviews with no time limits as opposed to the one-minute paper method used in the current study.

This finding also highlights the need for development of appropriate vocabulary within music learning contexts. This seems especially important for adult musicians, who may have more firm conceptions and more consistent interpretations of word meanings than young learners might have. Differences or lack of options in word choice, context, and application can confound the learning process; for example, in the context of this study, the use of the word timing may have been interpreted and used differently both between individual participants and between musician and director. Issues of contextual vocabulary development within the learning environment should be examined in future research. In addition, it would be valuable for directors of adult bands to purposefully introduce musical concept vocabulary that could be used and understood consistently by all musicians in the rehearsal context.

Audio/visual tools such as recordings and YouTube were common rehearsal techniques for Band 1, and therefore may be useful as a possible pragmatic practice technique for some adult band members to try. Band 2's most commonly used technique was repetition, as has also been cited in past research (Rohwer, 2005). The different techniques used may be due to rehearsal modeling by the director, or practicing by different sections within the bands, or may have been developed by band members on their own. Band members may need access to a great number of practice techniques to approach musical challenges, and they may need the practice at using techniques in appropriate ways. It may be useful for band sections (e.g., trumpets, clarinets) to have sectional practice sessions where members can brainstorm and try out practice strategies to approach musical challenges.

Most of the participants in the current study reported high confidence to learn the music, as was also found by Kruse (2012). It should be noted that confidence appeared to remain fairly steady across administrations, which may be more of a personality or self-efficacy issue than an increase of competence or comfort. While those participants with high confidence may have

been well matched to the musical challenges found in the music, directors may need to weigh how challenging is too challenging for a group of adult musicians, and whether difficulty can be moderated through greater learning about how to error detect and practice well.

Low confidence comments that lacked reflective specificity on how to improve were noted in both bands. Since the one-minute papers were anonymous, it was impossible to track the low confidence responses across the administrations, therefore it is difficult to determine if any of the low confidence comments from the first administration became more confident in later administrations or not; specifically tracking low confidence adult musicians in their musical progress may be a beneficial future study to assist this subgroup.

Low confidence musicians may need the most help if they have trouble determining what their specific musical difficulties are and how to determine what the most appropriate practice techniques to use would be. As reported by Rohwer (2005), there may have been older adults in the current study who lacked a musical feedback loop so it was difficult for them to know if what they were playing was correct or not. The one-minute paper (using names to track responses) may be a viable way to find these individuals, through their statements about being lost or through their self-deprecating comments. If this low confidence trend is noted, then the director could model error detection, reflection, and problem solving in one-on-one sessions. Undergraduate students from area universities may also be able to help by providing this one-on-one personal connection with the low confidence musicians.

Finally, as noted by Rohwer, Coffman, and Raiber (2012), the one-minute paper appears to be a useful and efficient means to gather descriptive information from adult band members. It should be noted that one-minute paper participation diminished on each subsequent administration. While the numbers and percentages of comments decreased across administrations for difficulties, it is unclear whether participants may have perceived an increase in skill level across the time of the study that made these difficulties seem less problematic, or whether they simply tired of responding to the prompt. Directors who wish to use the one-minute paper should carefully weigh frequency of use based on the needs and

desires of their groups.

Keywords

adult concert bands, confidence, practice techniques, task difficulty

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