



Western Washington University
Western CEDAR

WWU Graduate School Collection

WWU Graduate and Undergraduate Scholarship

Spring 2023

Steel Bands in US Secondary Classrooms: Process and Pedagogy

Jonathan Woods

Western Washington University, jonathanwoods1990@yahoo.com

Follow this and additional works at: <https://cedar.wwu.edu/wwuet>



Part of the [Music Commons](#)

Recommended Citation

Woods, Jonathan, "Steel Bands in US Secondary Classrooms: Process and Pedagogy" (2023). *WWU Graduate School Collection*. 1178.

<https://cedar.wwu.edu/wwuet/1178>

This Masters Thesis is brought to you for free and open access by the WWU Graduate and Undergraduate Scholarship at Western CEDAR. It has been accepted for inclusion in WWU Graduate School Collection by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.

Steel Bands in US Secondary Classrooms: Pedagogy and Process

By

Jonathan Woods

Accepted in Partial Completion
of the Requirements for the Degree
Master of Music

ADVISORY COMMITTEE

Dr. Patricia Bourne, Chair

Dr. Patrick Roulet

Professor Paul Bain

GRADUATE SCHOOL

Dr. David L. Patrick, Dean

Master's Thesis

In presenting this thesis in partial fulfillment of the requirements for a master's degree at Western Washington University, I grant to Western Washington University the non-exclusive royalty-free right to archive, reproduce, distribute, and display the thesis in any and all forms, including electronic format, via any digital library mechanisms maintained by WWU.

I represent and warrant this is my original work, and does not infringe or violate any rights of others. I warrant that I have obtained written permissions from the owner of any third party copyrighted material included in these files.

I acknowledge that I retain ownership rights to the copyright of this work, including but not limited to the right to use all or part of this work in future works, such as articles or books.

Library users are granted permission for individual, research and non-commercial reproduction of this work for educational purposes only. Any further digital posting of this document requires specific permission from the author.

Any copying or publication of this thesis for commercial purposes, or for financial gain, is not allowed without my written permission.

Jonathan Woods

May 19, 2023

Steel Bands in US Secondary Classrooms: Pedagogy and Process

A Thesis
Presented to
The Faculty of
Western Washington University

In Partial Fulfillment
Of the Requirements for the Degree
Master of Music

by
Jonathan Woods
May 2023

Abstract

The steel band, an ensemble of steel pans rooted in the Caribbean country of Trinidad and Tobago, has grown in the United States from nonexistent to substantial. Over 600 bands exist in the US in primary schools, secondary schools, universities, and community groups. Due to its intrinsic value as a unique, multicultural, and inclusive ensemble, the steel band is an effective tool for secondary music educators to provide a non-traditional ensemble for their students (i.e., an ensemble other than band, choir, or orchestra). To this point, research done in the areas of pedagogy and teaching methods for the steel band is limited. This thesis provides secondary music teachers with pedagogical and background knowledge in creating and teaching a steel band in their school or community. The research in this thesis includes a review of steel band literature, an examination of multicultural teaching frameworks, a survey of steel band educators, and interviews with two experienced directors.

Acknowledgements

I have been very fortunate to work with several special musicians and educators in my academic journey. I'm extremely grateful to Dr. Robert Ledbetter, not only for the insight he offered in my interview, but for creating and maintaining the UM Islanders Steel Band which introduced me to pan in the first place. Without him, this thesis would have never been written.

Special thanks to Gary Gibson for offering his profound and practical guidance. Mr. Gibson is such a prominent figure in the world of pan, and treated every interaction we had with professionalism, respect, and kindness.

I would like to extend my sincere thanks to my committee members, Dr. Patricia Bourne, Dr. Patrick Roulet, and Professor Paul Bain. In addition to providing their valuable feedback on this thesis, they have been inspiring teachers in all facets. My research in steel band pedagogy has been positively impacted by their teaching, musicianship, and care. I couldn't imagine a more supportive committee. I'd like to acknowledge Dr. Felicia Youngblood for her suggestions on writing style and instruction in musicological methods and scholarship.

Finally, I would be remiss in not mentioning my wife, CoriLynne. Her boundless support and inspiration made the writing and research that created this thesis possible. I couldn't imagine completing graduate school without her. Thank you.

Table of Contents

Abstract.....	iv
Acknowledgements.....	v
Chapter 1.....	1
Chapter 2.....	8
Chapter 3.....	15
Chapter 4.....	25
Works Cited.....	35
Appendix A: Resources and Information for Obtaining Steel Band Instruments.....	37
Appendix B: Beginning Steel Band Curriculum Sample.....	42

Chapter 1

We live in an ever-increasingly diverse country. The United States is akin to a patchwork quilt of various ethnic and cultural groups. Not to mention, the country is, however slowly, recognizing neurodiversity and disability as important identity markers. As the United States continues to diversify, our teachers face a growing responsibility to be inclusive of their students' various experiences. For music teachers the expanding cultures within our schools present an opportunity to be more inclusive and representative through the exploration of musics from diverse settings.

Multicultural music education reflects the cultural diversity of the world in general and of the United States in particular by promoting a music curriculum that includes songs, choral works, instrumental selections, and listening experiences representative of a wide array of ethnic-cultures. It also encourages the interdisciplinary study of different cultural groups through not only music but also art, dance, drama, literature, poetry, and social studies.¹

Since the 1970s, primary school music teachers have incorporated more music from non-European cultures in their classrooms. As methodologies like Kodály and Orff-Schulwerk became more established, their practitioners continued to diversify their lessons.² However, secondary school music educators may lack opportunities to do so because of the continued prioritization of the traditional ensembles, choir, band, and orchestra. While these ensembles can explore and represent non-Western music and musicians, they are rooted in Euro-centric traditions and ultimately will continue upholding them. Thankfully, schools are not limited to

¹ William M. Anderson and Patricia Shehan Campbell, "Teaching Music from a Multicultural Perspective," in *Multicultural Perspectives in Music Education*, ed. William M. Anderson and Patricia Shehan Campbell, (Lanham: R&L Education, 2009), 10.

² *Ibid.*, 12.

these ensembles, and teachers with appropriate training and initiative can establish and teach ensembles that focus on music from other cultures.

An increasingly popular option for non-traditional secondary music education is the steel band. This ensemble, made up of several types of steel pans (sometimes called steel drums or simply, pans) and a rhythm section called the “engine room,” comes from a tradition rooted in the Caribbean country of Trinidad and Tobago. Steel pan and steel bands have been gaining traction across the United States since the 1950s. Steel band offers several benefits to secondary music teachers, including accessibility, approachability, and uniqueness.

The purpose of this thesis is to examine the potential for steel bands in secondary schools as a means of diversifying musical curricula in a responsible manner, while also ensuring inclusivity for all students. Following this introductory chapter, a literature review including research and teaching methods is included, and a synthesis of pedagogic frameworks examine best practices for teaching multicultural music. A research survey was conducted and given to members of the Facebook group Steel Band Directors, a resource of the National Society of Steel Band Educators. Finally, interviews were conducted with two experienced steel band directors: Gary Gibson of Seattle and Dr. Robert Ledbetter of the University of Montana.

Researching this topic included both qualitative and quantitative methodology. Steckler et al. noted, “Both the qualitative and quantitative paradigms have weaknesses which, to a certain extent, are compensated for by the strengths of the other.”³ The array of research methods in this thesis yielded valuable information that can shape the instructional methods of the secondary steel band teacher who is in search of instructional assistance to introduce steel band in their educational institution.

³ Allan Steckler et al., “Toward Integrating Qualitative and Quantitative Methods: An Introduction,” *Health Education Quarterly* 19 no. 1 (Spring 1992): 1.

History of the Steel Band

The country of Trinidad and Tobago, a pair of Caribbean islands off the coast of Venezuela, has a long and storied past. This history, like many of the surrounding nations, includes European colonization, from which modern steel pans arose. The island of Trinidad was originally colonized by the Spanish during Columbus's conquests, then came under British rule in 1797.⁴ Trinidad merged with the small island of Tobago in 1889, and in 1962 the two islands as one country gained independence.

In 1931, while under British rule, Trinidadians were barred from using their traditional drums in yearly Carnival celebrations; British officials saw the drums as “disruptive, and a sign of rebellion.”⁵ This led to the creation of tamboo-bamboo bands, which used long, wide bamboo tubes as instruments, struck them directly on the ground, or with sticks or steel objects. Competition among tamboo-bamboo groups in Trinidad grew fierce, sometimes leading to violence, so these ensembles were also outlawed in 1934. In the 1935 Carnival, people still wanted to play music, so musicians began picking up and playing whatever they could find: trash can lids, paint cans, biscuit tins, and metal barrels. Over the years, these instruments were procured and refined. An abundance of 55-gallon oil drums were discarded on Trinidad due to World War II era oil refineries. Ellie Mannette is generally credited as being the first to use one of these oil drums to create the first steel pan in 1946. The earliest pans were diatonic, capable of playing a few notes of a scale. Makers created pans with more notes as needed for the music they wanted to play. Through the 50s and 60s, Mannette and other pan makers continued to

⁴ Chris Tanner, *The Steel Band Game Plan; Strategies for Starting, Building, and Maintaining Your Pan Program* (Lanham: Rowman & Littlefield Education, 2007), 2.

⁵ Brandon Lee Haskett, “A Case Study on the Importance and Value of the Desert Winds Steelpan Programs” (DMA diss., Arizona State University, 2009), 7.

experiment with designs, note layouts, pitch ranges, and drum configurations, eventually creating the five-to-six voice steel band that is popular today.⁶

Steel bands began playing in other countries in the early 1950s, and in 1957 the US Navy Steel Band, featuring brand new instruments built by Mannette, performed at the White House. Also in the 1950s, Trinidadian pannists and pan makers began immigrating to the United States, bringing their instruments and music with them. The novel sound made its way through various metropolitan music scenes and was quickly picked up by youth programs and schools. Supported by Mannette and other pannists and pan makers, youth organizations were creating steel bands as early as 1959.⁷ Continued growth of the ensembles grew through the 60s to today and has led to the existence of more than 600 US school and university steel bands.⁸

Pan Culture

Steel pan is an undoubtedly important aspect of Trinidadian culture. Pan is directly connected to the liberation of Trinidad and Tobago and the country's growing recognition on the global stage. More than an ensemble, more than a genre, pan is central to Trinidad and Tobago. It represents community, freedom, competition, and spirit. "Pan is we ting," as the Trinidadian saying goes.⁹ Pan is also closely tied to the culturally important genre of calypso.

Calypso is a song, dance, and musical style that has roots in West African work song. The songs typically feature call and response lyrics initiated by the singer, or calypsonian. The earliest calypsos were often sung in French Creole, which was not welcomed by the English powers that controlled Trinidad and Tobago in the 19th century. Calypso lyrics have long

⁶ Ibid., 10.

⁷ Ibid., 17.

⁸ Brandon L. Haskett, "A Survey Study of U.S. Collegiate and K-12 Steel Band Directors' Attitudes Relating to Steel Band Curriculum and Pedagogy," *UPDATE: Applications of Research in Music Education* 34, no. 2 (February 2016): 5, doi:10.1177/8755123314552196.

⁹ Tanner, *Steel Band Game Plan*, 8.

featured witty and critical writing, offering contemporary political and social commentary. Calypsonians and their bands competed against each other, especially during and leading up to the Carnival season before Lent.¹⁰ As calypso and steel bands evolved in the early 20th century, they became inextricably linked.

Prior to the 1963 Carnival season, the Carnival Development Committee organized a festival featuring a brand-new competition, Steelband's Panorama. Bands from all over Trinidad were invited and could play an arrangement of a calypso of their choice. Winners of Panorama won a monetary prize, recognition at home, and were given opportunities to perform overseas.¹¹ Panorama features dozens of steel bands in various size categories, with the largest bands boasting over 100 members. Bands today still perform arrangements of popular calypsos or from the related genre, soca (derived from Soul Calypso, music that combined calypso with elements of soul, disco, and other genres). Bands also may now perform original works. The Panorama competition has occurred every year since (except for 2021 and 2022 due to the COVID-19 pandemic). Pan competitions now occur all over the world, inspired by the original.

Value in Secondary Education

Steel pan offers much to both the secondary student and music educator. First and foremost, making musical sound on a steel pan is straightforward, especially compared to typical band and orchestra instruments. Like many other percussion instruments, steel pans make sound by being struck with a mallet. With a limited amount of guidance, any student can make an acceptable sound. Contrast this with brass, woodwind, or bowed string instruments in which embouchure, hand position, bow hold, or other factors must be considered to create sound. Notes

¹⁰ Grove Music Online, s.v. "Calypso," by Jon Fairly, last modified 2001, <https://www-oxfordmusiconline-com.ezproxy.library.wvu.edu/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000004624>.

¹¹ Haskett, "A Case Study," 15.

in the pan can also be labeled and even color-coded, providing a quick route for students to play the right notes as they learn their first pieces of music. In addition, pan is also an accessible instrument for players with disabilities (this factor is explored further in Chapter 3). Like any instrument, the pan can take a lifetime to master. The entry to success, however, is wide open and provides a gateway to exciting music for anyone interested.

As evidenced by its history, steel pan provides a path to multicultural music education. Pan comes from a colonized, now independent, Caribbean nation with historical ties to Africa through the African slave trade. Its musical foundation, calypso and soca, trace back to West Africa as well. In addition to these styles, steel bands regularly perform samba, bossa nova, reggae, ska, jazz, classical, salsa music, and popular songs. Steel bands can perform anything “from Bach to Belafonte.”¹² There are seemingly no limits to the musical experiences steel bands can provide.

Although pan has experienced rapid growth in the United States and the world, the sound of a steel band is still rather novel. Pan in the US is concentrated in pockets across the country in Arizona, New York, Ohio, Texas, and Washington D.C.¹³ Many US students have likely never heard a steel band or seen a pan in person. There are great video and audio recordings of steel bands available physically and online, but if students and teachers aren’t aware of them they may never have a chance to experience this music. Luckily, steel bands continue to gain traction, in secondary music classrooms especially, thanks to the efforts of dedicated individuals and organizations.

One such organization worth mentioning is the National Society of Steel Band Educators (NSSBE). The society was founded in 2016; their mission is “dedicated to advancing steel band

¹² Tanner, *Steel Band Game Plan*, 36.

¹³ Gary Gibson, interview with author, April 20, 2023.

education in the United States.”¹⁴ The society offers several educational resources for beginning and experienced steel band teachers, written by some of the foremost pan educators in the US. The organization also offers an annual conference and a print publication. Available as one substantial means for teaching, the NSSBE is a cornerstone of steel pan in America.

The history and culture of steel pan serves as a testament to the potential benefits of incorporating steel bands into secondary music curricula. Steel pan music has a rich cultural heritage that reflects the social values of the people of Trinidad and Tobago. Moreover, the growth of the NSSBE underscores the growing interest in steel band music as an educational tool. The support, resources, and professional development opportunities offered by the NSSBE are a powerful catalyst for music educators interested in incorporating steel pan in their curricula. With the development of the NSSBE and the increasing awareness of steelpan's cultural significance, the integration of steel bands in secondary schools can be viewed as a worthy and comprehensive means of diversifying musical education.

Like many steel band enthusiasts, I became fascinated with pan in college. Steel band was always part of my undergraduate performing experience. My percussion professor, Dr. Ledbetter, has been a proponent of steel band since his graduate studies and passes that passion on to his students. The guest artists we were lucky to work with successfully connected not only musical and technical aspects of pan playing, but cultural and humanistic aspects that increased my respect and admiration for the art form. Given steel pan's accessibility, multiculturalism, and sheer joy to play, I will always be a supporter of pan.

¹⁴ NSSBE, “About,” <https://weteachpan.org/about/>.

Chapter 2

The purpose of this literature review was to examine written works on steel band instruction. This chapter focuses primarily on research completed on steel bands and instructional methods. Several of the following works are listed as resources by the NSSBE.¹⁵ Research in the area of steel band education is limited but growing. A few instructional methods exist, like band or orchestra method books seen in traditional ensemble classrooms. Finally, resources selected were intended to deepen a teacher's knowledge of steel band history, culture, and process.

Research in Steel Band Teaching

Brandon Haskett's dissertation, "A Case Study on the Importance and Value of the Desert Winds Steelpan Programs," studied in detail the Desert Winds Elementary School steel band programs in Phoenix, Arizona. It sought to understand the "importance and value of steelpan programs in schools and communities" through study of both the Desert Winds Steel Orchestra (DWSO, the band that existed within the school) and the Desert Winds Community Steel Orchestra (DWCSO, an adult community group which existed due to the elementary students' parents' enthusiasm).¹⁶ Haskett's field work painted a descriptive picture of what steel bands can offer in terms of music making, education, and community building.

With a focus on elementary students and adults, the case study leaves out the experiences of secondary students and educators. However, the focus on communal experiences with steel

¹⁵ NSSBE, "Steelpan/Calypso Books," <https://weteachpan.org/resource/steelpan-books/>.

¹⁶ Haskett, "A Case Study," 69.

band offers practices that have universal potential. Brandon Haskett has continued to be a significant contributor in steel band educational scholarship.

Haskett's dissertation led naturally toward his article, "A Survey Study of U.S. Collegiate and K-12 Steel Band Directors' Attitudes Relating to Steel Band Curriculum and Pedagogy." This served to gain an understanding of pedagogical techniques of steel band teachers and directors in the United States. The 216 respondents answered questions about their musical backgrounds, the number and age of their ensemble participants, attitudes toward contextual information and the inclusion of improvisation, and methods of teaching music and use of teaching materials.¹⁷ The pedagogic issues of teaching steel band were addressed further in later chapters of this thesis.

Haskett's survey certainly has the largest scope of any similar survey in recent research. The list of existing US steel bands was compiled by Haskett over the course of four years, to be as complete as possible. The survey was distributed in February of 2012, four years before the formation of the NSSBE.¹⁸ His survey was completed by directors who worked with students of any age and provided useful insight into the instructional techniques that directors use, as well as their inclusion of extra-musical content in their teaching. This survey is largely quantitative, relying on yes/no questions and 5-point scales, but also offered teachers chances for open-ended responses.¹⁹ Haskett's survey had a significant impact on the development and design of the survey instrument utilized in this thesis study.

Ed Anderson wrote "Hesitations and Realizations: A Journey of Inclusion" for a 2008 edition of *Florida Music Director*. While it doesn't constitute research in a typical way, it

¹⁷ Haskett, "A Survey Study," 5.

¹⁸ *Ibid.*, 6.

¹⁹ *Ibid.*, 7.

highlights an area of steel band education that isn't addressed elsewhere in scholarship: that of including students with disabilities. Anderson's article provided anecdotal evidence about his journey toward including students with intellectual disabilities in his advanced secondary steel band. Anderson admitted his doubts and missteps while accounting his strategies and successes in including his students with disabilities in the steel band ensemble. Anderson took advantage of Florida Music Educators Association clinics and his colleagues' professional knowledge to create this inclusive environment.

The strategies highlighted by Anderson are within reach of most music educators. Color coded notes, rote teaching, taking advantage of repeated rhythms, and some patient planning were some of his strategies. In his own words, teachers that can put in "a little effort and some creativity" can open their classrooms and ensembles to more students, in service of eliminating barriers.²⁰ Further means of inclusion are examined in Chapter 3 of this thesis.

In 2020, the International Journal of Music Education published a research paper titled "Exploring a Learner-centered Pedagogy Through Composition, Peer Teaching, and Student-led Modern Band Projects in a Middle School Setting." The paper was authored by Christine A. Guzzetta and focused on learning method preferences in a steel drum classroom. This research investigated how middle school students in an advanced steel pan class in central Florida perceived and responded to a learner-centered approach to music composition and learning. The study involved sixteen participants who were asked to compare traditional teacher-led formal instruction with student-led informal learning across three different projects. The projects included composition, peer teaching, and student-led small group activities using Modern Band instruments.

²⁰ Ed Anderson, "Hesitations and Realizations: A Journey of Inclusion." *Florida Music Director* 61, no. 12 (November 2008): 18.

The study measured ease, enjoyment, and success rates of the students through questionnaires, video recordings, field notes, and interviews. Students preferred peer-directed learning, with a shift in preference towards teacher-led instruction as the tasks became more challenging. Guzzetta's research also indicated preferred learning techniques for playing steel pans, including written notation, listening to music, and kinesthetic modeling. Using these results in consideration of their setting in a middle school classroom, secondary steel band teachers can create a more learner-centered environment by planning rehearsals that align with the students' ability and background knowledge.

Teaching Methods

Francine Morin's report, *Elementary School Steelband: A Curriculum and Instructional Plan for Canadian Schools*, was one of the earliest attempts at formalizing a curriculum for steel band. Though written for a different country and age group than the scope of this thesis, many principles of Morin's work also apply to secondary educators. Her report was based on her experience at a summer steel band institute held at the University of Manitoba in 1988, which included instruction from the renown pannist and arranger, Ray Holman. Morin prescribed five statements of value that "reflect the fundamental nature of the art of steeldrumming."²¹ Though some of this vocabulary is antiquated (steel band as "multi-ethnic music,"²² steel pan music as "unsophisticated,"²³ Trinidadian pannists as "musically illiterate"²⁴), it recognized the social aspects of pan in Trinidad and emphasized the importance of translating these values to the classroom.

²¹ Francine Morin, *Elementary School Steelband: A Curriculum and Instructional Plan for Canadian Schools* (University of North Dakota, 1989), 11, <https://eric.ed.gov/?id=ED401183>.

²² Ibid.

²³ Ibid., 13.

²⁴ Ibid.

Many of Morin's prescriptions for steel band teaching may not be popular with current teachers when compared to Haskett's survey. Morin emphasized the importance of rote teaching and learning, citing traditional models of Trinidadian instruction. However, many directors today favor written notation, or a mixture of rote and note learning. Similar disagreements were found in the areas of instrument switching and learning music through adult or peer section leaders. These issues will be covered in more depth in Chapters 3 and 4 of this thesis.

One of few true steel band classroom methods, Mike Wendeln's *Steel Band in the Classroom* series offers an option familiar to band and orchestra teachers that may use class method books for their ensembles. The series includes student books for each of the five main voices in a steel band (lead, double tenor, double second, guitar, bass), and a teacher manual. Wendeln notes that teachers can also teach from a student book, referring to the teacher's manual when needed to view full scores.²⁵ The musical selections included in the book were selected from the steel band repertoire, to give students and teachers "connection to a growing world of original pan music."²⁶

Clearly, this method book intended to teach students about steel pan while strengthening their music reading abilities. If a teacher desired to align their instruction more toward rote learning and teaching, they could still use this method as a source of technique instruction, warmups, and repertoire. Being one of the only classroom methods for multiple types of pan, this method has immediate value for instructors who want to be teaching and performing full ensemble music in their curriculum.

²⁵ Mike Wendeln, *Steelband in the Classroom: Practical Materials for Teaching Steelband with a Focus on Music Reading and Performing* (Cincinnati: Wendeln Music Works), 4.

²⁶ Wendeln Music Works, "Method Books for the Classroom," <https://wmusicworks.com/collections/textbooks>.

Published by Hal Leonard, *Steelpan Method* was written by internationally-known, Trinidadian pannist Liam Teague. Teague co-directs the Northern Illinois University Steelband and is the university's Head of Steelpan Studies.²⁷ He has performed in Trinidad and internationally as a soloist and regularly commissions works for the instrument. *Steelpan Method* is a method book designed for independent study of the lead steel pan (the highest-voice instrument in a steel band ensemble). The book included brief historical and cultural information. It covered playing technique and music reading skills while pannists play real calypsos from the genre's vast repertoire as well as original pieces.

Though not designed for classroom use, Teague's book could offer teachers supplementary material. Like the Wendeln method, this text was focused on reading written musical notation and could be taught by rote if desired. Many music teachers would recognize that having too many resources is never detrimental, and this book may best fit into that category. It could also serve as a primary text for music teachers who may be teaching with lead pans only, though this class setup is less popular among steel pan teachers.

Other Resources for Teachers

Though the following resources don't represent research or methods for steel band education specifically, they are recognized as some of the most important texts for steel band players, teachers, and enthusiasts. Secondary steel band directors can learn in-depth history about pan in Trinidad and the United States, as well as other general considerations for beginning and maintaining a steel band program in their school or community.

The first text to mention is Chris Tanner's book, *The Steel Band Game Plan: Strategies for Starting, Building, and Maintaining Your Pan Program*. Considered a significant resource by

²⁷ Northern Illinois University School of Music, "Liam Teague," <https://www.niu.edu/music/faculty/teague.shtml>.

many pan professionals, the *Game Plan* is a bookshelf staple. Reviews by none other than Ellie Mannette, Liam Teague, and Seattle-based pannist and educator Gary Gibson are glowing. Tanner's work is compact at only 99 pages, but is filled with important information regarding pan history, steel band make up, rehearsal strategies, performance considerations, and more. Steel band teachers could use this book for quick answers to most questions regarding their ensemble.

Andrew Martin, Ray Funk, and Jeannine Remy wrote one of the most comprehensive texts on steel band education in the US: *Steelpan in Education: A History of the Northern Illinois University Steelband*. Northern Illinois University (NIU) was the first university to offer a steel band ensemble ever, beginning in 1973. Soon after, NIU offered degrees in pan, and other universities followed suit. Suffice it to say, where NIU went, steel pan education followed, including outside postsecondary education. *Steelband in Education* is an important work for educators intent on understanding pan's history in America.

Finally, ethnomusicologist and pannist Shannon Dudley wrote two books on steel pan and its ties to Trinidadian culture and history. *Carnival Music in Trinidad: Experiencing Music, Expressing Culture* is an educational text. It offers an overview of the history of calypso, soca, and steel band and how these styles provide a sense of communal pride for Trinidad and Tobago. Dudley's other text, *Music from Behind the Bridge: Steelband Aesthetics and Politics in Trinidad and Tobago*, dives further into the history of steel band and its political implications. Since pan can trace its roots to the ban on traditional drumming practices of the African diaspora in the 20th century, it is irrefutably tied to political strife. As pan players and educators deepen their knowledge of pan history, they deepen their knowledge of pan itself.

Chapter 3

The purpose of this thesis is to investigate the inclusion of steel bands and steel pan curricula in secondary level music education. This topic was affixed with the assumption that music teachers can and should introduce students to cultures from around the world through the study of their music. The steel band ensemble provides the unique sound and opportunity to explore the rich musical traditions of Trinidad and Tobago through its national instrument.²⁸ As diverse as the world is, its musics are perhaps even more so. Cultural context is extremely important, and music lacks value without context.

Music teachers face not only a responsibility to teach multicultural content to their students, but a responsibility to do so in a manner that effectively contextualizes the music. As student populations diversify, so should a teacher's breadth of instruction. The purpose of this chapter is to investigate practical means of multicultural music education, through examination of Campbell's World Music Pedagogy and Beveridge's approach to avoiding appropriation, and how it relates to the topic of steel pans in secondary level school and community settings.

Using the Trinidadian steel band as an ensemble case study, I determine trends in world music education from Haskett's study of scholastic steel bands and Collins's survey of non-traditional secondary music ensembles. These trends, when combined with Campbell's framework and Beveridge's ideas, reveal several best practices that educators can implement in their current curricula, and their potential steel bands. Also included in this chapter are Knapp's observations on world music's accessibility for players with disabilities.

²⁸ Tanner, *Steel Band Game Plan*, 5.

Multicultural Education and World Music Pedagogy

Beyond expanding students' horizons, a multicultural music classroom benefits students in several ways, chief among them being the recognition of increasing diversity in their communities. Currently, of the United States's approximately 332 million inhabitants, about 59% are White, 19% are Hispanic or Latino, 12% are African American, 6% are Asian, 2% are multiracial, just under 1% are American Indian, and 0.2% identify as Native Hawaiian or Pacific Islander.²⁹ Estimates indicate that by 2050, the White population will decrease to about 47% of the whole, while Hispanic, African American, and Asian groups will grow to 29%, 13%, and 9% of the population, respectively.³⁰ Of course, ethnic groups are not evenly dispersed throughout the country, and communities will differ in the number of cultural groups that comprise them. This shift in demographics has a direct impact on curricula and priorities, including determining the irrefutable legitimacy of multicultural education.

Through the lens of multicultural education, students are guided to be good citizens of their communities, their country, and the world, regardless of community setting. As the globe becomes increasingly connected, diverse cultural experiences in school will broaden students' perspectives. These broadened horizons also allow students to recognize the versatile makeup of their own country, and how they can function within it.³¹

Multicultural pedagogy has been a part of music classrooms in the United States for multiple decades, and it continues to grow and evolve to better serve students and represent more peoples. The need for world music in American classrooms has gained recognition since the

²⁹ USAFacts, "Our Changing Population: United States," https://usafacts.org/data/topics/people-society/population-and-demographics/our-changing-population/?utm_campaign=ND-DemPop&utm_medium=cpc&utm_source=google.

³⁰ Patricia Shehan Campbell, "World Music Pedagogy: Where Music Meets Culture in Classroom Practice," in *Teaching General Music: Approaches, Issues, and Viewpoints*, ed. Carlos R. Abril and Brent M. Gault, (New York: Oxford Academic), 93.

³¹ Anderson and Campbell, "Teaching Music from a Multicultural Perspective," 11.

1955 formation of the Society for Ethnomusicology. As this discipline developed, scholars and educators established the need for multicultural music education first at the college level, then in secondary and elementary classrooms, thanks in part to the Music Educators National Conference (MENC), now called the National Association for Music Educators (NAfME).³² Many leaders have emerged within these and other organizations, and work in pedagogy, advocacy, and curriculum development continues.

An important leader in this area is music educator and ethnomusicologist Patricia Shehan Campbell. Campbell and others created a framework for implementing multicultural music, through the publication of *World Music Pedagogy* (WMP). WMP promotes a pedagogic practice that has “quite naturally arisen from the nexus of the long-standing realms of music education and ethnomusicology.”³³ It seeks to balance ethnomusicological practice with educating students in cultures of the world.

The framework contains five phases each with a heavy emphasis on listening, creating, and integrating world music. These phases include attentive listening, engaged listening, enactive listening, creating world music, and integrating world music. Teachers working through these five phases help their students grasp the cultural context of the music they are engaging with in a sequenced, logical manner.³⁴ (These five phases will be revisited in conjunction with the following case study).

Steel Bands in Schools

As mentioned in Chapter 1, the evolution story of steel bands has been fast and widespread, especially since the formation of the US Navy Steel Band in 1957. Continued

³² Campbell, “World Music Pedagogy: Where Music Meets Culture in Classroom Practice,” 92.

³³ Ibid., 94.

³⁴ Ibid., 98.

growth of the ensembles has led to the existence of more than 600 US school and university steel bands.³⁵ The author will include results of an original pedagogical survey in Chapter 4, but first we will observe key results from a previous similar study.

According to a 2012 survey conducted by Brandon Haskett, the majority (about 51%) of US steel bands exist in the secondary education level (middle or high school level, or combined grades 6-12). College or university groups make up approximately 31% and primary schools and other groups make up about 14%. Also, 12% of groups surveyed were categorized as “extremely large,” having 61 or more participants in their band(s). 80% of these “extremely large” programs were in secondary schools.³⁶

Regardless of size or setting, directors of steel bands face many pedagogical choices when it comes to responsibly teaching their respective groups. According to Haskett, these choices center around allowing students to switch instruments mid-year, encouraging improvisation on the instruments, and using some form of written music. These choices are made with a variety of factors influencing decisions, including balancing the traditional methods of pan playing in Trinidad with the modern goals of music education in the US.

Regarding moving from one pan to another mid-school year, most directors’ students stayed on one instrument (56%). This reflects traditional pannists’ actions: most steel pan players will specialize on one instrument, though many pannists and pan makers have a degree of proficiency on multiple types of pans. Some directors noted that due to the complexity of the instruments, moving from one type of pan to another may inhibit students’ growth as they spread

³⁵ Haskett, “A Survey Study,” 5.

³⁶ *Ibid.*, 9-10.

themselves too thin. However, students may find higher levels of motivation and teamwork in covering other students' parts if they are allowed to learn multiple instruments.³⁷

Improvisation is generally welcome by most steel band directors (68%). Though improvisation has precedence in steel pan history as a solo and jazz instrument, it has not been a part of traditional, large, Trinidadian steel bands. Improvisation instruction typically occurs after students have garnered some level of fluency with their instruments, such as knowing scales, playing by ear, and understanding music theory behind chords. Directors who teach these skills in their bands are more likely to use some form of written music, such as chord charts or fake books.³⁸

Written versus rote learning is one of the biggest talking points in steel band pedagogy in the United States. Typically, Trinidadian bands will learn long, complex pieces of music entirely by ear and demonstration, and these arrangements may morph over time as the composer/arranger works with the band. However, American steel band directors tend to favor written notation for their groups, with 66% of respondents agreeing or strongly agreeing that their learning occurs primarily through this medium.³⁹ A wide variety of written arrangements for steel band are available through online publishers, no doubt aiding this method. Approximately 14% of directors surveyed by Haskett indicated their bands learn primarily by rote. Other methods identified for learning music included lead sheets or having strong players teach the parts to their respective sections. About 52% of directors agreed that they use a mixture of the above methods to teach their bands.⁴⁰

³⁷ Ibid., 10.

³⁸ Ibid., 11.

³⁹ Ibid., 12.

⁴⁰ Ibid., 16.

A 2009 survey of Los Angeles-area teachers by Danielle Collins offered insights into the various aspects of teaching non-traditional ensembles (NTEs, noted as non-traditional because they are different from traditional school ensembles such as concert bands, orchestras, and choirs, though the musics may be traditional to various cultures), including steel bands, mariachi, taiko, rock music, world drumming, and electronic ensembles. A responding teacher of the Taiko ensemble noted that, like traditional Taiko musicians, their repertoire was entirely aural. One of the steel bands surveyed by Collins indicated a similar and interesting manner of learning music. The teacher taught the group how to arrange any music in a style appropriate to the ensemble, and all their repertoire was student driven.⁴¹ This was a notable attempt at balancing student needs and motivation with traditional methods of learning steel band music that was not represented by Haskett's survey.

While Haskett's survey showed that steel band directors' instruction included historical context, genre, and prominent figures in the world of steel pan, little was mentioned about how specifically this teaching was done. Collins's survey offered nothing in this vein either. However, through the lens of Campbell's Five Phases of World Music Pedagogy, one can imagine a system to effectively introduce multicultural content through steel bands and other NTEs.

The Five Phases can be illustrated in the context of a steel band. Phase one, Attentive Listening, is intended to be the introductory phase for students unfamiliar with this music and culture. Steel band directors can lead students to listen for instrument timbre, texture, and rhythmic components. After students are familiar with the instruments in a steel band, attentive listening could be focused on hearing those voices in a recording. Phase two, Engaged Listening,

⁴¹ Danielle Collins, "Diverse Approaches to Developing a Nontraditional Ensemble in a Secondary School" (MA thesis, California State University, Long Beach, 2016), 36, ProQuest 1786690437.

as Campbell described, is a “process of participatory musicking.”⁴² Students can play along with rhythmic motifs or investigate harmonic and melodic lines they hear. The third phase is Enactive Listening. This follows closely to the aural traditions of learning pan music, learning by ear. After the three listening phases, teachers can move to phase four: creating. Students of all ages can engage in the process of creating music, and creating steel band music is achievable by secondary groups as evidenced by Collins’s and Haskett’s research. The fifth and final phase is Integrating, focusing on understanding world music in its cultural context. As indicated by Haskett, steel band teachers already take this into consideration through historical context and recognition of important figures.

NTEs and Disability

As educators continue to focus on multiculturalism in their curriculum and with their students, they must also continue to focus on including students with disabilities. Some definitions of multiculturalism mention “ability” alongside race, ethnicity, class, and gender.⁴³ Within secondary music education, teachers have taken more responsibility to include their students with disabilities in lessons and various musical experiences.

David Knapp’s case studies of NTEs that offer value to students with disabilities provided a great roadmap for teachers. Knapp highlighted the intersection of taiko drumming and deaf musicians. Taiko, the energized and impressive Japanese drumming style that has become more well known through the 20th and 21st centuries, includes choreography that deaf and hard-of-hearing players can participate in through visual cues and kinesthetic feedback of the drums

⁴² Campbell, “World Music Pedagogy: Where Music Meets Culture in Classroom Practice,” 98.

⁴³ Knapp, David H. “The Inclusive World of Music: Students with Disabilities and Multiculturalism.” *General Music Today* 25, no. 1 (October 2011): 41.

<http://ezproxy.library.wvu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=ram&AN=A736600&site=ehost-live>.

reverberating. In one specific example, students learned taiko for three weeks, and were able to perform for their peers with virtually no adaptations.⁴⁴

Knapp highlighted the success that steel band director, Ed Anderson, had with students with disabilities. The teacher first worked with this group in a separate general music class and was therefore familiar with them and their various capabilities. Anderson later combined this general music class with his existing steel band class, making a handful of adaptations to create an environment of successful participation. Anderson observed that his students had success with repetitive rhythms. Repetitive rhythm is critical in the engine room of the steel band, and also in some “strumming” parts on the pans (strumming being the term used for repeated harmonic rhythms in the mid-range pans, a la strumming a guitar), especially when the right notes were marked with a colored sticker, or students played on smaller pans with less notes.⁴⁵

Applications in Secondary Classrooms

Collins’s survey was limited in scope. It was initially sent out to twenty-four secondary teachers in Southern California, with fourteen respondents offering their answers to survey questions, and some providing additional insight through further clarification. Though limited, it highlighted challenges and rewards teachers can expect if including an NTE in their curriculum. Most of the surveyed NTEs met all four Core Arts Standards,⁴⁶ drew additional enrollment in the overall program,⁴⁷ and many groups were student driven.⁴⁸ All these positives occurred while teachers reported they spent fewer hours overall on their NTE versus the traditional ensembles they-directed.⁴⁹ These benefits, combined with the benefits of multicultural education presented

⁴⁴ Ibid., 43.

⁴⁵ Ibid.

⁴⁶ Collins, "Diverse Approaches to Developing a Nontraditional Ensemble in a Secondary School," 33.

⁴⁷ Ibid., 34.

⁴⁸ Ibid., 40.

⁴⁹ Ibid., 38.

by Anderson, Campbell, and Knapp, point to NTEs being an invaluable asset to student-musicians at any level. When implemented through the Five Phases of World Music Pedagogy, educators can have great odds in successful transmission of multicultural experiences to their students.

Campbell cautioned that it can be all too easy for music educators to miss the mark on appropriate inclusion of these musics in curricula.

Early efforts were based more in repertoire than process, and so the addition of an African American spiritual or a Japanese song of springtime did not much take into account the musical nuances of the performance tradition, the meaning of the music within the lives of the people who valued it, or the manner in which the music was taught and learned within the culture.⁵⁰

This description aptly describes my music education through primary schools. Other than learning “Feliz Navidad” or a couple songs in Hebrew or an African language, I cannot remember any music from my early education that weren’t in English and based on American or European stories. It can be simple for teachers to include non-English songs and believe they’ve effectively introduced multiculturalism to their students. Because of this stumbling block, educators must be cognizant of not only cultural context, but also of cultural appropriation.

Cultural appropriation is a bit of a buzzword currently, but nonetheless it has reached into communities all over the country. Sports teams with Native American caricatures as mascots, the use of African American Vernacular English by non-Black people, and wearing clothing or makeup from another cultural context are easy examples to point to. Cultural appropriation can be defined as “using or adopting artifacts from another culture, without consent, and in a way that causes harm.”⁵¹ All music, from the United States or abroad, needs to be taught in a way that

⁵⁰ Campbell, “World Music Pedagogy: Where Music Meets Culture in Classroom Practice,” 91.

⁵¹ Tina Beveridge, “Equity in Music Education: Avoiding Cultural Appropriation in the Music Classroom,” *Music Educators Journal* 109, no. 1 (September 2022): 60, doi:10.1177/00274321221126222.

avoids stereotypes and recognizes that all individuals are products of their cultural heritage, which may be complex. Regarding steel band specifically, it is important for teachers to recognize and impart the rich tradition that accompanies the instrument. Prioritizing frameworks like World Music Pedagogy goes a long way to explore authenticity in this music, including the important cultural markers and significant people in the world of pan.

Music teachers all over the country strive to bring their students together through a shared, innate part of humanity: music. As Haskett noted in his field study of the Desert Winds Steel Orchestra, “The impact of music on well-being is not limited to steel bands... Music educators could consider the multiple meanings and effects ensemble experience may have for individuals.”⁵² As teachers continue to seek content that meets their culturally diverse students’ needs and expanding their horizons, they should continue to consider effective and responsible ways to share the world’s music with their students.

⁵² Haskett, “A Case Study,” 159.

Chapter 4

Research around steel pan pedagogy has been limited. Haskett's pedagogical survey was significant, but he also noted "little research exists on steel band curricula and pedagogy."⁵³ In service to the goal of this thesis, this chapter will present the results of a research survey I conducted. Comparisons will be made between this survey and Haskett's work where appropriate. In addition, interviews conducted with two steel band teachers will further the discourse of steel pan pedagogy in the United States. Considerations for secondary music teachers are drawn from these data.

The research survey focused on pedagogy used in US steel band programs of secondary school-age students (approximately 10-18 years old). The survey was posted in April 2023 in a Facebook group titled Steel Band Directors, a resource of the National Society of Steel Band Educators.⁵⁴ While the survey focused on secondary school steel bands, directors of steel bands that included other ages were also accepted. In total, 17 steel band directors responded to the survey. The survey itself included questions about pedagogical choices, demographics, and background information about the directors and their students/players. Survey inquiries were a mixture of multiple choice, yes/no, five-point scale, and open-ended questions. All multiple choice and yes/no questions included the option for further comment from respondents.

Haskett's survey influenced how my survey was developed, distributed, and recorded. The intention of this modelling was to record any notable shifts in teaching methods that may

⁵³ Haskett, "A Survey," 7.

⁵⁴ Facebook, "Steel Band Directors," <https://www.facebook.com/groups/steelbanddirector>.

have occurred in the eleven years since Haskett's survey, and to shed light on differences in teaching secondary students compared to a general population. Several of the author's questions also asked teachers to answer in more depth than Haskett's survey. My questionnaire sought to balance qualitative and quantitative approaches.

Survey Responses

Of the 17 respondents, 14 have bands based in middle or high schools (directors could choose multiple options). Five directors also have community-based steel bands, and three of those five include secondary-age students. Fifteen responses came from steel band educators in the United States, one from Canada, and one from the United Kingdom.

Examining program size, 8 of 17 directors (47.1%) had 21-30 students in the program. Three respondents (17.6%) had 1-20 students, and six directors (35.3%) taught 51 or more students. Four of these six (24% of the total) have programs with over 71 students. From a wider perspective, 64.8% of directors surveyed taught 30 students or fewer, while 35.3% taught 51 or more (no responses indicated groups between 31-50 players). Though different in scope, this survey is congruent with Haskett's with respect to program size. Haskett indicated 65.28% of directors surveyed taught 30 or fewer and 34.72% taught more than 30.⁵⁵ Regarding the number of individual bands within one program, 35.3% of directors surveyed teach one band, 29.4% teach two, 5.9% teach three, 17.6% teach four, and 11.8% teach five or more.

Fortunately, the survey drew responses from experienced steel band educators with well-established programs. Eight respondents (47.1%) have programs that have been active for over ten years. Three (17.6%) have been active 6-10. A wide range of experience levels was present in the questionnaire results, but four respondents (23.5%) have been teaching steel pan for over

⁵⁵ Haskett, "A Survey," 9.

20 years. 17.6% have taught pan for 15-20 years, 5.9% for 12-15, and 17.6% for 10-12. Less than 36% percent of directors surveyed had fewer than 10 years of experience in steel pan education.

Pedagogically, the survey focused on the following areas: mode of teaching (i.e., “rote versus note”), players switching instruments, genres represented in group repertoire, player improvisation, player composition, and contextual elements of steel pan. Several of these areas were also part of Haskett’s survey, and comparisons will be drawn between the two.

With respect to mode of learning, two main schools of thought exist. One being that, in Trinidad, most pannists do not read music and learn by rote. In a large steel band setting, typically sections of a steel band would learn music one phrase at a time from the arranger (though this practice is slowly changing, to be discussed further in this chapter). In the United States, there is a focus placed on reading music notation as early as primary school. Therefore, most US steel band teachers also use written notation to teach music to their players. Of the 17 survey respondents, eight (47.1%) use written notation as their primary mode of teaching. Another eight teachers say they use a mixture of methods including written music, rote teaching (led by teacher or by strong players), lead sheets, and/or symbolic notation. This is in line with Haskett’s findings, where 67.13% of respondents agree or strongly agree that their students’ music learning occurs primarily with written notation.⁵⁶

There are several ways a steel band director may consider instrument switching in their ensembles. It is easily understood that if players don’t switch (i.e., one player only plays bass pans their whole time in the program), they will become more proficient on their instrument. But they will be less well-rounded as each type of steel pan is different and requires its own

⁵⁶ Ibid., 10.

knowledge of note location and playing technique. The author's survey indicates that 35.3% of directors don't have their students switch instruments. Of the remaining teachers, their students switch instruments for a variety of reasons. Many directors allow their students to switch as desired, others may assign parts to specific students, so they get a wide range of experience. Student motivation is a common theme among directors who allow their students to switch with regularity. One director explained that their students switch for any number of reasons, but the ultimate decision is based on "where do they feel happy." Another director noted that "advanced students may switch pans song to song, or concert to concert. Beginners remain on the same pan all year." This strategy may strike a balance between consistency and motivation that could be beneficial for learners.

As covered in earlier chapters, the primary genres of the Trinidadian steel band are calypso and soca. Haskett's survey indicated that the vast majority (91.67%) of directors agree that their bands' repertoire includes calypso and soca.⁵⁷ This remained consistent in the results I received, however the most popular genre indicated was popular music arranged for steel band. Popular music is represented slightly more in music choice (94.1% to 88.2%) than calypso or soca music. Reggae, jazz, and classical arrangements for steel band are also popular choices. Both surveys indicate that directors program a wide variety of music for their groups.

Regarding improvisation in steel bands, Haskett's survey showed that 68.06% of directors include improvisation in their groups, similar (64.6%) to responses in my survey.⁵⁸ Steel band teachers responding to the current survey indicate that students wishing to improvise a solo should have some knowledge in music theory and/or harmony. Three of the eight open-ended responses indicated that any student may learn and attempt improvisation in the band.

⁵⁷ Ibid., 11.

⁵⁸ Ibid., 9.

Others set up benchmarks such as being able to play a confident solo with the teacher playing chords before they did it with the full group or in concert.

Most teachers surveyed (52.9%) do not include student composition as part of their steel band programs. Those that do take many approaches to include it. One director indicated that the “basics of arranging *is* part of [their] program” (emphasis included by director). Another indicated that students who are in the Advanced Music Theory course concurrently are assigned a composition project for their steel band program. All directors that indicated composition is part of their program (eight in total) agreed that arranging existing songs is vital. Four of those eight said individual composition is involved, and two of the eight said group composition takes place.

Finally, several questions were asked of directors about non-musical, contextual content included in their lessons. Specifically, teachers were asked how often they taught about steel pan culture, history, contemporary events, and important figures in the world of pan. Directors used a five-point scale (ranging from “not at all” to “very often”) to indicate the inclusion of this content. A majority of steel band teachers agreed they included content on culture (58.8%), history (64.7%), contemporary events (58.8%), and important people (58.8%) in their lessons or rehearsals. Haskett’s survey found similar results regarding directors’ inclusion of historical context (82.87%), genre (75.46%), and significant individuals (58.80%).⁵⁹

Interviews with Steel Band Teachers

To advance the discussion on steel band teaching methods, two proficient music instructors were interviewed. Dr. Robert Ledbetter, professor of percussion at the University of Montana in Missoula, and Gary Gibson, an in-demand percussionist, pannist, composer, and

⁵⁹ Ibid., 11.

teacher. Each provided valuable input on the development of steel bands in the United States and within secondary school settings.

Dr. Ledbetter was first introduced to pan in graduate school at the University of Akron in 1980. The school had very recently begun a steel band program, and Dr. Ledbetter, in his assistantship, was tasked with helping get the program running. In context of steel band history in the United States, there were no published arrangements, very few builders, and not many resources. Dr. Ledbetter and the Akron steel band obtained a few arrangements from the US Navy Steel Band, made their own pan stands and mallets, and arranged most of their own music. Dr. Ledbetter pursued his DMA at the University of North Texas, where a steel band was established in 1982. He held a teaching fellowship for four years at UNT and directed the steel band there.

Dr. Ledbetter started steel bands the University of New Mexico and the University of Montana. Dr. Ledbetter continues to teach steel band, arrange and publish music, and bring in guest artists to the university. He also has experience teaching steel pan to secondary students through music camps and clinic events. Though Dr. Ledbetter has primarily taught steel pan at the college level, he recognizes the success of his colleagues that teach pan to secondary students.

Pedagogically, Dr. Ledbetter's beliefs align with much of what is agreed upon by directors in the previously discussed surveys. At UM, he teaches primarily with written music. Although he would like to teach by rote more often, there is a limit to the amount of time the ensemble can rehearse (typically one hour per week), and all the players already read music. In this case, according to Dr. Ledbetter, it makes the most sense for him and his students to continue learning from written music. His students switch instruments often. However, there are

typically students who lean toward one type of pan more than another. He values his students getting a wide range of experiences, playing all the pans as well as drum set and other rhythm section instruments. He notes, however, that there must be balance between the educational value of learning different pans and the performance value of developing higher proficiency on one instrument. He takes the input of his students seriously; if they approach him wanting to try a new pan, he'll honor that.

Along the same lines of the educational value of diversity, Dr. Ledbetter programs a wide variety of genres for his steel bands. Socas, calypsos, classical music, Afro-Cuban styles, popular arrangements, and Panorama transcriptions are all regularly programmed. He welcomes students to improvise in performances when they're interested in learning how to do so. Typically, he limits improvisation to the lead pans as the technical demands of the double pans are a lot to handle with limited rehearsal time. Similarly, he invites students to compose or arrange for the band when they're interested in doing so. Dr. Ledbetter has published articles on arranging and gladly guides students in their compositional process.

Gary Gibson is established in the Seattle area, where he began his nonprofit steel band program, Steel Magic Northwest (SMN), in 2014. Mr. Gibson saw the US Navy Steel Band perform when he was ten years old and was enthralled. He immediately tried to make his own pan out of a saucer sled. During his undergraduate studies at Wichita State University, the university acquired steel pans and his pan career launched from there. He was involved in the University of North Texas's steel band (just before Dr. Ledbetter was there). Mr. Gibson spent time in Trinidad, immersing himself in the culture and performing with top-level steel bands in Panorama.

One of his current missions is to inspire and educate teachers. Several musicians have tried to establish steel band programs in the Seattle area, but for various reasons nothing has had staying power. One result of that is there are lots of steel pans in closets or storage warehouses or classrooms that just aren't being used. Mr. Gibson is working to make the Pacific Northwest one of the regional hubs of US steel bands, to rival established steel band locations such as Phoenix, New York, Washington D.C., and Ohio.

Pedagogically, Mr. Gibson's insights into current trends and innovations in teaching methods are unique. Regarding the use of written notation, he knows firsthand how things are changing. As a part of the Exodus Steel Orchestra (a powerhouse Trinidadian steel band) in 2004, he witnessed how the arranger, Pelham Goddard, wrote the band's Panorama arrangement using music notation software. Players who could read music then more quickly disseminated the music to their sections, and therefore the band spent less time learning the notes and more time polishing their performance. It turned out to be a winning strategy, as Exodus took home the grand prize that year. Many steel bands in Trinidad now employ what's called a "stageside," a group of 15-30 musicians who are proficient music readers. Music is arranged electronically, and the stageside teaches their respective sections the parts.

At Steel Magic Northwest, Mr. Gibson uses written music. But he welcomes anyone to join his beginning band, whether or not they can read music. SMN's pans have notes labeled with scientific pitch notation indicating the octave (C4 as middle C, C5 one octave higher, etc.). In the music notation software, a plugin generates note names, with the octave designation, above each note. This enables students with no music reading experience to get a quick start in finding their notes on the instruments. Mr. Gibson also employs a rhythm reading technique based on subdivision, which he calls the Morse Code Technique. Any rhythm is broken down

into the number of subdivisions within it, described as a “single,” “double,” or “triple” depending on its value. He also uses auditory cues with students, using language like “that low D will be right with this snare drum note.” Between this cueing, the Morse Code Technique, and the labelled notes, beginners can begin reading music without any formal explanation.

Instrument switching in SMN is student led. Especially early on, the youngest students switch often and develop a taste for one instrument over another as they get more experience. Often, by the time the players are in the intermediate or advanced band, they really like to stay on one type of pan. Mr. Gibson still encourages students to switch, especially when a particular song has a technically easier part on a specific pan, for example. At this point, student improvisation and composition are not a part of SMN. Mr. Gibson writes all their arrangements.

One pedagogical point that Mr. Gibson stresses is that directors should heavily consider playing drum set for their band. Groove is very important in calypso and soca music, and having an experienced musician playing a solid groove will go far in terms of creating a secure playing environment for the students. If a steel band director was unable to play drum set, a drum machine or pre-recorded tracks could suffice. Even teachers who are interested in having a steel band program but are not primarily percussionists should consider learning a couple of basic drum set patterns to accompany their group, according to Mr. Gibson.

Considerations for Teachers

As evidenced by the preceding surveys and interviews, it’s clear that many steel band teachers have found success in offering spaces for young musicians that may lack the ability to read music. Whether through rote teaching, a symbolic system, or instruction in music reading, teachers have an opportunity to provide an ensemble experience with multicultural value, rich

history, and novelty to secondary learners that lack interest in traditional school music ensembles.

As student populations continue to diversify, and as music educators continue to recognize the importance of multicultural music education, the steel band presents a worthy option to pursue. This young musical form has a history in the United States that's approximately the age of one human lifespan. Yet, it's rapid growth and development in the United States, Trinidad, and around the world speak to its vitality and potential to offer unique and fulfilling musical experiences to secondary students.

Though it may not have the formalized curricula of its traditional ensemble alternatives, a robust and growing foundation of literature and resources for steel band is available. Scholars and pedagogues are continuing to shape strategies for teaching and learning this music. It's continuing to become more popular and well known in the United States. It remains a worthwhile music to explore deeply and offer to all students.

Works Cited

- Anderson, Ed. "Hesitations and Realizations: A Journey of Inclusion." *Florida Music Director* 61, no. 12 (November 2008): 12-18.
- Anderson, William M., and Patricia Shehan Campbell. "Teaching Music from a Multicultural Perspective." In *Multicultural Perspectives in Music Education*, edited by William M. Anderson and Patricia Shehan Campbell, 10-18. 3rd ed. Lanham: R&L Education, 2011.
- Beveridge, Tina. "Equity in Music Education: Avoiding Cultural Appropriation in the Music Classroom." *Music Educators Journal* 109, no. 1 (September 2022): 60–62. doi:10.1177/00274321221126222.
- Campbell, Patricia Shehan. "World Music Pedagogy: Where Music Meets Culture in Classroom Practice." in *Teaching General Music: Approaches, Issues, and Viewpoints*, edited by Carlos R. Abril, and Brent M. Gault, 89-111. New York: Oxford Academic, 24 March 2016.
- Collins, Danielle. "Diverse Approaches to Developing a Nontraditional Ensemble in a Secondary School." MA thesis, California State University, Long Beach, 2016. ProQuest (1786690437).
- Dudley, Shannon. *Carnival Music in Trinidad: Experiencing Music, Expressing Culture*. New York: Oxford University Press, 2004.
- . *Music from Behind the Bridge: Steelband Aesthetics and Politics in Trinidad and Tobago*. New York: Oxford University Press, 2007. ProQuest Ebook Central.
- Gibson, Gary (Executive/Artistic Director, Steel Magic Northwest). Interview with author. April 20, 2023.
- Guzzetta, Christine A. "Learning Method Preferences in a Steel Drum Classroom: Exploring a Learner-Centered Pedagogy through Composition, Peer Teaching, and Student-Led Modern Band Projects in a Middle School Setting." *International Journal of Music Education* 38, no. 2 (May 2020): 267-282. doi:10.1177/0255761419877575
- Haskett, Brandon Lee. "A Case Study on the Importance and Value of the Desert Winds Steelpan Programs." DMA diss., Arizona State University, 2009. ProQuest (304844194).
- . "A Survey Study of U.S. Collegiate and K–12 Steel Band Directors' Attitudes Relating to Steel Band Curriculum and Pedagogy." *UPDATE: Applications of Research in Music Education* 34, no. 2 (February 2016): 5–12. doi:10.1177/8755123314552196.

- Knapp, David H. "The Inclusive World of Music: Students with Disabilities and Multiculturalism." *General Music Today* 25, no. 1 (October 2011): 41–44. <http://ezproxy.library.wvu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=ram&AN=A736600&site=ehost-live>.
- Ledbetter, Robert (Director of Percussion Studies, University of Montana). Interview with author. April 18, 2023.
- Martin, Andrew, Ray Funk, Jeannine Remy. *Steelman in Education: A History of the Northern Illinois University Steelband*. Ithaca: Cornell University Press, 2017. ProQuest Ebook Central.
- Morin, Francine L. *Elementary School Steelband: A Curriculum and Instructional Plan for Canadian Schools*. University of North Dakota. 1989. <https://eric.ed.gov/?id=ED401183>.
- Steckler, Allan, Kenneth R. McLeroy, Robert M. Goodman, Sheryl T. Bird, Lauri McCormick. "Toward Integrating Qualitative and Quantitative Methods: An Introduction." *Health Education Quarterly* 19 no. 1 (Spring 1992): 1-8.
- Tanner, Chris. *The Steel Band Game Plan; Strategies for Starting, Building, and Maintaining Your Pan Program*. Lanham: Rowman & Littlefield Education, 2007.
- Teague, Liam. *Steelman Method*. Milwaukee: Hal Leonard Corporation, 2014.
- Wendeln, Mike. *Steelband in the Classroom: Practical Materials for Teaching Steelband with a Focus on Music Reading and Performing*. Cincinnati: Wendelin Music Works.

Appendix A: Resources and Information for Obtaining Steel Band Instruments

The topic of obtaining and maintaining instruments in a steel band can be daunting. Although resources are being compiled and made more readily available, finding them can still present teachers with a challenge, especially if their primary instrument is not percussion. This appendix will lay out clear definitions of instruments, their roles in the steel band, recommendations for purchasing, and suggestions for taking care of equipment.

Most steel band arrangements that are currently available are written for five voices, plus a rhythm section known as the engine room. The five voices, from highest to lowest, are lead pans (sometimes called tenor or, more rarely, soprano pans), double tenors, double seconds, guitar/cellos, and basses. Arrangements also exist for four voices which usually combine double tenor and double second parts. Occasionally, arrangements are written for six (or more) voices, usually filled out by tenor basses (existing in a baritone role that accentuates the basses) and/or a differentiated guitar and cello part. Typically, arrangements with six or more voices are played only by advanced ensembles.

The engine room, or rhythm section, is vitally important to the steel band. Providing groove and a dense wall of various percussive sounds, a steel band without a filled-out engine room will sound empty. The drum set usually leads the way in setting tempo, groove, and phrasing (This is one important reason that Gary Gibson strongly recommends steel band teachers play drum set with their group). Second to the drum set, one of the most recognizable sounds in a steel band is that of the iron. Most steel bands in the US use automobile brake drums, although some companies sell specific instruments to fill this role. Other instruments common to

the engine room are a pair of congas, shakers, cowbells, and, occasionally, wood blocks, and scratchers (guiro-like scraper instruments). Most steel band arrangements do not include written parts for the engine room instruments except for drum set. Common rhythmic patterns can be arranged through listening to recordings and referencing resources such as *The Steel Band Game Plan* or articles provided by the NSSBE.

Lead pans are most often the melodic voice of the steel band. Leads are single barrel instruments, typically with a two octave and a half octave range starting on middle C or the D above. Lead pans are great for beginning players, since all other pans are typically in sets of two or more barrels.

In the alto role are double tenor and double second pans (some professionals call this group of pans “the doubles”). Double tenors and double seconds are similar in tone and range. They primarily differ in their pitch layout and the role they play in an ensemble. Opinions in the pan community are divided, but many teachers (include Bob Ledbetter) prefer not having double tenor pans in the ensemble, citing their awkward pitch layout.⁶⁰ Double seconds can easily play double tenor parts, differentiating tone if necessary through mallet selection. In many arrangements, double tenors often provide countermelody or double the melody of the leads. Double second parts provide rhythmic support but can also provide melodic material.

The next lowest range is occupied by the guitar/cello pans. This instrument group can provide the most confusion to new steel band teachers, due to the number of different layouts of pans. Most pan builders differentiate cellos from guitars by their skirt length (the amount of barrel left on the pan after construction); cello pans have longer skirts which darkens and

⁶⁰ Arguments for and against the use of double tenors can be seen in Tanner’s *The Steel Band Game Plan*, Chapter 4, and this discussion in the Steel Band Directors Facebook group, featuring notable contributions from pan greats Cliff Alexis, Andy Narell, Gary Gibson, and others, <https://www.facebook.com/groups/steelbanddirector/permalink/1721041901345366>.

mellows their tone. Guitar and cello pans can exist in one-, two-, three-, and four-barrel configurations which affect their range and note layouts. Common configurations include double guitars, triple guitars, triple cellos, and four cellos. Steel bands can use combinations of guitars and cellos, or only use one style of pan. In many arrangements, guitars and cellos share a part. Most often, their part involves “strumming,” or playing rhythmic and harmonic ostinati to accompany the melody, like a guitar would accompany a singing calypsonian. In advanced arrangements with separate guitar and cello parts, cello pans are often called upon to harmonically accompany through arpeggiated chords. Guitar/cello parts can also double the bass line, and occasionally may play melodies.

Bass pans, as their name implies, most often play bass lines. Bass pans are most commonly in six-barrel configurations, though other arrangements exist that may affect pitch range. Bass pans commonly have three notes per barrel with two notes in an octave and the fifth in between them (C2, G2, C3 for example). Tenor basses also exist and are either written in six-voice steel band arrangements or double the bass part. Tenor basses have shorter skirts than bass pans and are usually in four-barrel configurations with a smaller range. Tenor basses can double the bass line at the octave, or accentuate it, filling the spaces in the bass line.

For an initial instrumentation in a beginning program, it is best if at least four melodic voices can be covered. Dr. Ledbetter recommends purchasing two leads, one double second, and one guitar/cello pan. A bass guitar or upright bass can fulfill the bass role in a small band, which is especially prudent as the bass pans are often the most expensive pans due to their six-barrel layout. Doubling the leads provides more support for the melodic line. Parts can also be filled in with keyboard percussion instruments such as marimba or vibraphone. Instruments with significant attack sound such as xylophone and glockenspiel should be avoided; their bright tone

is contrary to the sound of steel pans. An instrumentation like this, including the engine room, could involve as many as ten players with only four pans.

When considering purchasing pans, finding pan builders can be challenging in and of itself. The NSSBE maintains a list of pan makers and tuners; this list is subject to change as new builders make their way into the scene and others move out. There can be a very large price difference from one maker to another. A new lead pan can cost from \$700 to \$4,000 depending on the maker. Often, the less expensive pans are built in Trinidad, imported, and sometimes retuned in the United States by tuners employed by the company. Gary Gibson says such pans work just fine for ensembles, even advanced ones. American-made pans with a significantly higher price tags are usually made for professional solo artists.

Like any instrument, steel pans require maintenance. Since steel pans are created and tuned by hammering the metal, every note played on the instrument moves it ever so slightly out of tune. It is generally recommended that teachers do not attempt to tune steel pans themselves. The tuning process is complex, and it can take years to become proficient. There are a handful of pan tuners in the US. The easiest way to find one is to contact the company from which the pans were initially purchased. Since different manufacturers employ different methods, builders and tuners form relationships as they become familiar with one another's techniques in the craft. If pans are bought second hand and the builder is not available or identifiable, contacting a pan builder can still yield positive results because they can recommend a tuner they know and trust. Most steel band educators recommend having pans tuned every one to three years, depending on use. In Mr. Gibson's simple words, "you have to budget for tuners."

In a similar vein, these instruments require cases or covers, stands, and mallets. Many steel pan manufacturers also sell these items. If you plan to travel with your pans, hard cases are

invaluable due to the delicate nature of the playing surface. If your pans don't move often, soft covers can be used to prevent minor damage and corrosion. Soft covers can be bought or made from blankets of other materials. Stands can come in a wide variety of configurations and prices. More expensive stands may be more adjustable, sturdy, easier to move, and/or easier to break down. Mallets come in many forms, but generally consists of a wood or metal handle with a rubber tip. Many pan builders make or sell mallets, but there is also a collection of mallets made by Innovative Percussion. As a well-known percussion company with several retailers, they may be easier to order from in a pinch.

Appendix B: Beginning Steel Band Curriculum Sample



BEGINNING STEEL BAND

Exploring the National Musical Instrument of Trinidad and Tobago

A 20-week, 1-semester class for middle school

Created by: Jonathan Woods

In Partial Fulfillment of the Requirements for MUS 561, Advanced Instructional Techniques in General
Music Education

ABOUT THE CLASS

Beginning Steel Band is a course designed for everyone to learn more about music through the wonderful instrument known by the people of the southern Caribbean nation of Trinidad and Tobago simply as “pan.” Pans (also called steel pans) exist in many forms, and ensembles called steel bands are made up of several types of pans. The pan is an approachable and accessible instrument; anyone will be able to make a great sound within seconds. Steel band as an ensemble is unique, novel, multicultural, and *fun!*

This class is intended to be a general music class at the secondary level, building on skills that students will have learned in primary general music classes. However, it will also be appropriate for students with little knowledge about music. There is no prerequisite to play pan!

Through the course of the semester, students will learn music fundamentals such as note names, rhythms and ways to count them, form and style, and the building blocks of harmony. In addition to these theoretical skills, students will develop music literacy skills including auditory and visual analysis, attention, and memory. The class will also cover important historical and cultural aspects of Trinidad and Tobago that have shaped how pan became so important to its people.

Pan is a relatively new phenomenon, existing in its current form since the 1940s, and its roots go back about fifty years before that. Compared to Western Classical music which has been around in various forms since the Medieval era, pan is young! Yet, it is quickly taking the world by storm. Pan is growing in popularity in the US, Europe, and Asia. People of all backgrounds have come to enjoy this music. Considering studies that indicate steel pan is an accessible instrument to children with developmental disabilities, you have an instrument and ensemble that is truly for everyone.

RESOURCES NEEDED

ROOM

A classroom for Beginning Steel Band will be big enough to hold students, teacher, instruments, and storage spaces. It doesn't have to be the size of a gym, but likely bigger than a standard classroom. A typical band or choir room would work well, ideally without tiered floors.

INSTRUMENTS

There are many variables to consider. There are several types of steel pans (one can think of the roles of soprano, alto, tenor, and bass in a choir). Steel pans are a significant investment, and it may not be feasible to purchase a full ensemble of pans at one time. As well, instrument needs will depend on student enrollment, as more students require more instruments. In early stages, a class could be successful with eight students with the following instruments:

- 1 lead pan
- 1 double second pan
- 1 single cello pan
- 1 bass guitar with amp
- 1 drum set
- Various other percussion instruments including congas, shakers, cowbells, and brake drums

As the course grows over time and acquires more instruments, it could include twenty students or more and use this expanded instrumentation:

- 4 lead pans
- 2 double tenors
- 2 double seconds
- 4 guitar/cello pans
- 2 "six bass" pans
- The same drum set and percussion instruments as above

All pans would also require stands, mallets, and cases or other storage solutions. Storage for the unpitched percussion instruments is also necessary.

ADDITIONAL EQUIPMENT

An appropriate number of chairs and desks or foldable tables would be needed for the occasional written assignment and note taking. Music stands would also be needed.

RESOURCES/MATERIALS/TEXTS

Various sources of published music for steel bands exist, and it could be fruitful over time to build a library of steel band music. However, to begin the course, this is not necessary as students tackle the beginning stages of learning the instrument.

TECHNOLOGY

A projector, screen, and computer are vital for providing audio/visual examples of steel band music to students, as well as presentations and written music examples.

STUDENT PURCHASES

Depending on the student body's ability to bear this financial burden, students could purchase their own steel pan mallets. This can provide students with a sense of ownership and "buy-in" to the music.

Mallets generally cost between \$15-\$30 from online providers.

COURSE UNITS

Steel Band Basics – 4 Weeks

This unit will primarily focus on historical, cultural, and contemporary considerations of pan. Students will learn about the formation of the steel band and its roots in African diaspora drumming in Trinidad, and how rebellion against European colonialism ultimately led to the formation of the instrument and music as we know it today. Through this historical overview, students will learn about important figures in pan, including pan makers, players, and arrangers. This unit will also introduce students to the different types of pans.

How We Play – 5 Weeks

The second unit in the course will focus on playing technique and making music. Students will have the chance to play all the types of pans (that are currently owned by the school) and will also learn about the vital role of the "engine room," or rhythm section, in steel bands. Exploration of the instruments will be guided through the learning of simple melodies and arrangements. This will include popular music that students want to learn, as well as traditional calypsos and other music from the Caribbean.

What We Play – 5 Weeks

Our third unit in the course will synthesize the cultural music of Trinidad from Unit 1 and the playing technique of Unit 2 to understand the importance of calypso and soca music in steel band. Students will gain an understanding of the political importance of these genres, as well as their musical features.

Guided by student interest and instrument availability, this unit will be the first foray into arranging a calypso for full steel band. Students will take an active role in the arranging process.

Composing for Steel Band – 6 Weeks

After the experience of Unit 3, students will tackle creating original compositions for the steel band. Students will work individually and in groups to learn about the composing process. The culmination of the unit and course will be a class performance to showcase the student-created compositions. Student originality will shine here, and appropriate treatment of musical characteristics and style will also be emphasized.

SAMPLE LESSONS FROM UNIT 2, HOW WE PLAY

Unit 2, Lesson 1: First Notes

LEARNING TARGETS

- “I can hold and move the steel pan mallets correctly.”
- “I can pat and play a steady beat along with music.”
- “I can make a nice sound on the pan with a light touch.”

STANDARDS

- Performance Standard (MU:Pr4.3.6)
 - a. Perform a selected piece of music, demonstrating how their interpretations of the elements of music and the expressive qualities (such as dynamics, tempo, timbre, articulation/style, and phrasing) convey intent.

RESOURCES

- Audio/video equipment for video playback
- Two to three steel pans (can be different types), and their appropriate mallets and stands
- Room to stand in a circle and move around

STUDENT TASKS

- Watch teacher explain and model grip and movement of mallets
- Receive mallets from teacher and “air play” with correct technique
- Watch and listen as teacher models correct playing areas and light touch on the instrument
- Participate in a “tryout circle”
 - Students make one large circle around two or three pans
 - Students in front of a pan play four notes of their choice in time with a song
 - Circle moves to the next people in four beats, then it’s their turn to play four notes

Unit 2, Lesson 2: The Engine Room

LEARNING TARGETS

- “I can define what ‘the engine room’ is in context of a steel band.”
- “I can identify and name the usual instruments of the engine room.”
- “I can perform the typical rhythms of engine room instruments.”

STANDARDS

- Performance Standard (MU:Pr4.2.6)
 - c. Identify how cultural and historical context inform performances.
- Performance Standard (MU:Cn11.1.6)
 - a. Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.

RESOURCES

- Engine room instruments including drum set, congas, brake drum (called the “iron”), shaker, cowbell, scratcher, wood blocks
- Audio/video equipment for video playback

STUDENT TASKS

- Watch and listen to “Olatunji - Engine Room” by Olatunji Yearwood on YouTube
- Discuss, with teacher facilitation, instruments referenced in the song and video
 - Discuss role of the engine room in a steel band
- Watch teacher model various engine room instruments
- Volunteer to try instruments
- Name instruments “flashcard style”
- Watch teacher model, then play typical rhythms on instruments

Unit 2, Lesson 3: First Song

LEARNING TARGETS

- “I can sing the response to ‘Day-O’ and play it on lead pan with appropriate tone.”
- “I can identify the intro, verses, choruses, and outro of ‘Day-O.’”

STANDARDS

- Performance Standard (MU:Pr4.2.6)
 - a. Explain how understanding the structure and the elements of music is used in music selected for performance.
- Performance Standard (MU:Pr6.1.6)
 - a. Perform the music with technical accuracy to convey the creator’s intent.

RESOURCES

- Audio/video equipment for video playback
- At least one lead pan with mallets and stand, more is better.

STUDENT TASKS

- Listen to “Harry Belafonte - Banana Boat (Day-O) (Official Audio)” by Harry Belafonte on YouTube
- Define, through discussion, parts of musical form including intro, verse, and chorus
- Identify the above parts of the form of “Day-O”
- Sing response to teacher’s various calls from “Day-O”
- Watch and listen to teacher model the response on lead pan
- Take turns playing the response on pan while teacher sings calls
 - Students not playing response will continue to sing

SAMPLE ASSESSMENT

Unit 2, Lesson 2

EVALUATION CHECKLIST

Today, each student:

___ watched, with focus, “Ola Tunji - Engine Room”

___ engaged in group discussion about the role of the engine room and its instruments

___ volunteered to try playing at least one instrument

___ participated in group “flashcard style” instrument naming

___ tried to replicate typical rhythm on at least one engine room instrument

REFERENCES

Belafonte, Harry. "Harry Belafonte - Banana Boat (Day-O) (Official Audio)." Harry Belafonte. YouTube video, 3:06. https://youtu.be/oKD_PfCQx9A.

Bishop, Jason "Shaft," Scott Galt, Michael Hulsmeier and Olantunji Yearwood. "Olatunji - Engine Room." Olantunji Yearwood. YouTube video, 3:21. <https://youtu.be/UMQ4IQk6Ayl>.

Tanner, Chris. *The Steel Band Game Plan: Strategies for Starting, Building, and Maintaining Your Pan Program*. Lanham, Maryland: Rowman & Littlefield Education, 2007.