LIBERTY UNIVERSITY

SCHOOL OF MUSIC

Content Analysis of Guitar Repertoire for Young People:
The Michelson and Suzuki Collections

A Thesis Submitted to
the Faculty of the School of Music
in Candidacy for the Degree of
Doctor of Music Education

by

Brian Douglas Berlin

Lynchburg, Virginia
April 2021
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ABSTRACT

The guitar is a popular instrument choice in music education; however, most school guitar teachers in the United States neither majored on the instrument nor took a university guitar methods class. These self-taught teachers often rely on trial and error to select repertoire. Effective music curriculum design relies on teachers’ ability to select and sequence proper repertoire based on student ability. Through exploration of the existing literature, deficiencies were found in guitar teacher training, pedagogy for young guitar students, and repertoire evaluation. In this study, the author analyzed two collections of printed guitar music in standard notation. The analysis yielded an improved understanding of how an emerging metric, note-to-beat ratio, can help teachers assess the musical challenges in repertoire more effectively. This explanatory sequential mixed methods study focuses on the prediction of the relative difficulty of guitar music based on note density. Elements for each piece in the Suzuki Guitar School repertoire and Sonia Michelson’s New Dimensions in Classical Guitar for Children were analyzed to determine if useful predictive patterns exist. This study may inform and lead guitar teachers toward the selection of appropriate music for guitar teaching. It also serves as a proof of concept that a type of analysis previously used for keyboard repertoire applies to classical guitar repertoire. The study may encourage further research by those wishing to apply this analytical method to repertoire for other instruments.
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<tr>
<td>ASTA</td>
<td>American String Teachers Association</td>
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<tr>
<td>CCSD</td>
<td>Clark County School District (Nevada)</td>
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<tr>
<td>GFA</td>
<td>Guitar Foundation of America</td>
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<td>ITA</td>
<td>International Trombone Association</td>
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<tr>
<td>NAfME</td>
<td>National Association for Music Education</td>
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<tr>
<td>NTBR</td>
<td>Note-to-beat ratio</td>
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<tr>
<td>RCM</td>
<td>The Royal Conservatory of Music</td>
</tr>
<tr>
<td>RRDI</td>
<td>Ralston Repertoire Difficulty Index</td>
</tr>
<tr>
<td>SAA</td>
<td>Suzuki Association of the Americas</td>
</tr>
<tr>
<td>TGW</td>
<td>Teaching Guitar Workshops</td>
</tr>
<tr>
<td>ZPD</td>
<td>Zone of Proximal Development</td>
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CONTENT ANALYSIS OF GUITAR REPERTOIRE FOR YOUNG PEOPLE: 
THE MICHELS0N AND SUZUKI COLLECTIONS

CHAPTER ONE: INTRODUCTION

The guitar is an affordable musical instrument whose status seems unequivocally linked to popular music. Rhythm-and-blues and rock-and-roll ignited widespread excitement for the guitar during the twentieth century, making it the most in-demand instrument to learn in the United States. According to Victore Coelho, people in the Americas and Europe favored the instrument far earlier. In fact, aristocratic and ordinary folk alike have been embracing the guitar and its music for over six centuries. Its lasting popular appeal relates directly to its versatility. Coelho underscored this versatility explaining that “guitar history simultaneously spans popular and classical styles, urban and rural techniques, contemporary and historical practices, written and unwritten traditions, and Western and non-Western cultures, revealing the contributions of both formally and un-formally trained players.”

Background

Its flexibility within many styles of music fuels the guitar’s continuing popularity. The polyphonic instrument can sound melodies, chords, and bass lines. Musicians can play the instrument rhythmically to accompany singing and dancing. They can even play guitars percussively. It is at home as a solo instrument or in ensembles. Composers, arrangers, and musicians employ many systems to notate music for the guitar, including fretboard diagrams, rhythm notation, slash notation, tablature, and traditional notation. Each system, in its own way, conveys meaning and direction to the musician and relates to the style of music.

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The guitar’s multiple notation systems and its many playing styles can, potentially, complicate the teaching of the instrument. With so many options, there is little consensus about curricular paths that guitar students should follow. Yet, regardless of the style or notation system, the music that teachers select should be developmentally appropriate, matched to students’ abilities, and should build on previous learning in order for students to progress. Unfortunately, few resources exist to guide guitar instructors on how to select and sequence repertoire.

Many school guitar teachers did not study the guitar formally and did not take any guitar methods classes in college. They are often self-taught, book-taught, or Internet-taught and only played the guitar casually before accepting a position to teach it. Explaining the danger of this, Robert Pethel wrote,

> The guitar has been able to help address the problem of attracting a wider proportion of school student bodies to participate in music class, but if it is not taught well, and by a qualified instructor, then we run the risk of miseducating our students.  

Regarding instructor qualifications, Anthony Fesmire observed that “[t]he overwhelming number of [guitar] teachers responding to [his 2006] survey indicated that they learned to play the guitar through self-study. With fewer than one quarter indicating that they learn as part of their music education degree program [sic].” Often, music educators unexpectedly find themselves teaching guitar. Michael Decker found that many classroom guitar teachers’ “teaching assignments had

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been changed to include guitar since they were hired.”

Insomuch as educators frequently teach how they learned, school-based guitar education suffers from a lack of agreed-upon standards, including the type of guitar to play, what notation systems to use, and the repertoire to teach.

Grant Gustafson wrote about the flexibility of the guitar saying, “Traditionally, the guitar has symbolized both individuality and communality. One guitar can play solos and accompany songs, two guitars can jam, three guitars can play in an ensemble, and a room full of guitars can be an orchestra.” Although the instrument has unique capabilities, school guitar classes fare best when taught with the same rigor as other music classes. Clare Callahan maintained that guitar classes should share the same goals as those classes, including increased musical awareness, skill, and pleasure. In practice, guitar teachers often bypass these goals in favor of recreation and entertainment. Echoing Fesmire’s observations on guitar teacher qualification, Callahan wrote that “[t]his shallow view stems …from a lack of information about the guitar and a lack of experience in listening to it played well.”

**Statement of the Problem**

In the United States, school-based guitar classes are becoming increasingly popular alternatives to traditional instrumental ensembles. Unfortunately, educators often teach these classes with little or no formal training on the instrument. As such, the rigor of guitar programs varies drastically. Despite an abundance of guitar method books and a growing number of guitar

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8 Ibid.
curricula, there are few resources to guide guitar teachers who need to supplement these or to develop their own curricula. Furthermore, little has been written pertaining to guitar repertoire and pedagogy for very young students.

**Statement of the Purpose**

The primary purpose of this study was to facilitate the development of a useful analytical instrument and procedure that will help guitar teachers select appropriate performance music for their students. Specifically, it sought to determine to what degree *note density* would be useful in this process. Secondly, the study served as an establishment of foundational criteria for the development of a pre-school to pre-college guitar curriculum. Finally, the findings closed a gap that existed in the scholarly literature pertaining to guitar education for very young students.

**Significance of the Study**

The overarching goal of the study was to help guitar teachers meet students’ needs by adapting existing curricula or developing their own. Matthew Rotjan and Robert Reynolds emphasized the importance of repertoire, explaining that for many music educators, repertoire either is the curriculum and contains everything teachers hope students will learn or is a fundamental component of a larger curricular end. Inexperienced guitar teachers commonly rely on trial and error when choosing their teaching repertoire. Martin warned about this issue, asserting that “[s]ince choosing music by trial and error can be an injustice to the student, a calculated manner of repertoire selection should be used.” Yet it is not an easy task. Matthew

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Hinsley stated that even composers have trouble writing pedagogically appropriate material. He voiced the frustration of educators, writing:

…while an individual part for a piece of music may be relatively ‘easy’ for the first 30 measure or so, it would often depart into a technically challenging section for the next 30 measures! In some cases, it seemed composers had a general sense of the level they were writing for but, understandably, more often the musical result they were seeking would take precedence over staying within any sort of strict technical guidelines.\(^\text{12}\)

School-based guitar education in the United States is relatively young in comparison to band, choir, and orchestra. Related to this, Anne Waller et al. observed in 1990 that, unlike European models, “[t]he American educational system does not provide as clear a course of study from beginning levels through university graduation.”\(^\text{13}\) Some progress has been made in the intervening years to remedy this, but a substantial gap remains. For instance, Sonia Michelson et al. point out that the many gaps in the teaching repertoire, particularly pieces written for young people, result from a top-down mindset:

The importance of early music education can hardly be over-stressed. The greatest deficiency in our culture today is that it is built from above. High-quality guitar study is available at the college level and is increasing each year. However, there is a tremendous void in the pre-college level of instruction. The foundation and basic pedagogy in early guitar and music instruction needs [sic] to be re-examined. Educators should now make a greater effort to answer the artistic and musical needs of children.\(^\text{14}\)

Much of the music that is published for children was written for middle and junior high school students. In the Suzuki tradition, students can begin learning guitar at the age of


\(^{14}\) Sonia Michelson, Margaret Mistak, and Douglas Smith, “Guitar Study for the Pre-College Student: A Graded Curriculum” (paper presented at the American String Teacher Association Guitar Symposium, Hartford, CT, October 1981), ii.
three. Teachers of very young students have few resources. Most of what does exist does not show a clear path from pre-school to college.

If this study helps refine systems for sequencing guitar music from the earliest levels through the pre-collegiate range and beyond, then students of all ages and abilities will benefit from having music matched to their skill levels. Colleges and universities will benefit from having more and better-prepared guitar students interested in education, composition, and performance. Contest, festival, and syllabi committees will benefit from having an objective measure for classifying solo works. Composers and publishers will also benefit from being able to identify gaps in repertoire when composing and publishing for players at all skill levels.

In the author’s 2017 study, note density, therein labeled right hand strikes per beat, emerged as a promising new metric for analyzing music. Because this metric is calculated, it increases objectivity in evaluating repertoire difficulty. Used with other metrics—such as tonal center, range, rhythmic complexity, and tempo—note density may improve the processes upon which teachers rely to sequence music in a curriculum.

**Research Questions**

Two time-tested, graded repertoire collections were selected to serve as models for ideal instructional sequencing. Note density was examined within the collections to establish predictive probability for repertoire sequencing. The fundamental research questions for this study were:

**Primary research question:** Does note density predict the ordinal placement of individual pieces in graded guitar repertoires?

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Secondary research question: What factors influence ordinal placement for pieces not predicted by note density?

**Core Concepts**

One of the assumptions of this study is that school guitar programs fare best when conducted like comparable instrumental ensembles, such as band and orchestra. Since school bands and orchestras use standard music notation, the research sample was limited to guitar music written in standard notation. A “Guitar Educator Resource Guide” was created by the Guitar Foundation of America (GFA) to, in their words, “assist precollege classroom guitar educators, studio guitar educators, curriculum administrators, and other stakeholders [in reviewing] the curricula, texts, materials, and supplements available and [in deciding] which are appropriate for their own students and educational setting.”¹⁶ This publication established five broad categories of printed material for teaching guitar: comprehensive curricula for classroom use, classroom guitar methods, general guitar methods, graded solo repertoire series, and online guitar education publishers.¹⁷ The graded solo repertoire series are preferred for this study, because they best represent authentic compositions written for the instrument.

The GFA lists two graded solo repertoire series: the nine-volume *Royal Conservatory of Music Classical Guitar Series* and the nine-volume *Suzuki Guitar School*. Young students frequently begin learning instruments using adaptations of simple folk tunes before moving into the standard repertoire. *Suzuki Guitar School* was selected for study because it includes material

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¹⁷ Guitar Foundation of America, “Guitar Educator Resource Guide.”
that is accessible to young students such as “Twinkle, Twinkle Little Star,” “Lightly Row,” and “Go Tell Aunt Rhody.”

Michelson, a pioneer of Suzuki Guitar, recognized the wisdom of Kodály in starting young students with sol-mi and sol-mi-la songs, the same kind that students enjoy in early elementary school. Her *New Dimensions in Classical Guitar for Children* (henceforth *New Dimensions*) is a five-level, 55-piece, single-line repertoire collection. It begins with simple children’s folk and play songs, such as “Cuckoo,” “One, Two, Tie My Shoe,” and “See-Saw.” It gradually increases in complexity, becoming equivalent to *Suzuki Guitar School, Volume 1*. The music in *New Dimensions* was included for analysis alongside *Suzuki Guitar School* to ensure that the sample represented the broadest range of musical complexity school guitar teachers are likely to encounter.

**Definition of Terms**

The following terms and definitions are intended to convey the meaning intended by the author in the context of this study. They are not necessarily precise or complete.

*a. See Annular.*

**Annular.** The Spanish name for the ring finger on the right hand.

**Bar (barré).** Pressing multiple strings with a single finger, usually finger 1.

**Closed.** In reference to a scale, “closed” form indicates that all notes are fingered and no open strings are played.

**Curriculum.** A course of study that includes standards, scope and sequence documents, curriculum maps, pacing guides, unit and lesson plans, textbooks, music, and assessments. The curriculum is the content that produces the knowledge and skills students are expected to acquire.
**Drop D Tuning.** Retuning string 6 to a D instead of an E.

**Elongation.** The sustainment of a tone longer than one macrobeat. This corresponds to using larger note values and/or tied notes.

**Fretboard Diagram.** A line drawing of the strings and frets of a guitar upon which dots are drawn showing where guitarists should place the fingers of their left hand.

**Graded.** Increasing, as in a gradient or a slope. A graded repertoire, for instance, contains pieces that present increasing challenges to performers.

**Guitar.** “A plucked stringed instrument with a hollow resonating chamber, gently waisted sides, a flat or slightly curved back, and a fretted fingerboard.” Unless the context indicates otherwise, guitar refers to the nylon-string classical guitar in this thesis. This is because the sample repertoire is written for that instrument.

**Hinge Bar.** Abbreviated HB, indicates “[stopping] the first string with the base of the first finger, leaving the fingertip free to stop a subsequent note on the lower string at the same fret.”

**Hum and Strum.** A chord-based approach to guitar instruction where the instrument accompanies singing.

1. See **Indice.**

**Indice.** The Spanish name for the index finger on the right hand.

2. See **Medio.**

**Medio.** The Spanish name for the middle finger on the right hand.

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Macrobeat. “Macrobeats are those beats that one arbitrarily feels to be the longest.”

Microbeat. “Microbeats are shorter than macrobeats and are derived from the equal temporal division of macrobeats. In most cases, macrobeats are divided into either two or three microbeats of equal duration.”

Note Density. Note density represents a ratio of the total notes that are to be sounded compared to the total number of beats during which they are to be played. Also called note-to-beat ratio (NTBR), note density can refer to an entire piece or a smaller section.

* p-i-m-a. Example of a right-hand fingering patterns. See Pulgar, Indice, Medio, and Annular.

* p. See Pulgar.

Plectrum. A pick.

Pulgar. The Spanish name for the thumb on the right hand.

Rasgueado. “A style of guitar playing in which the strings are strummed, as distinct from punteado, in which individual strings are plucked.”

Repertoire. “The whole body of items that are regularly performed.”

Rhythm Notation. Stemmed hash marks that show the chordal rhythm to be played.

Rigor. The alignment of expectations and the potential of students with the curriculum. Rigor is contextual and based on the student population and curriculum. In other

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21 Ibid.


words, rigor implies high standards for students while making sure that those standards are culturally relevant and responsive to students’ needs.24

**Slash Notation.** Stemless hash marks, indicating *ad lib* chordal comping.

**Tablature.** “Musical notation using letters, numerals, or diagrams to specify pitch in terms of the playing technique of a given instrument (e.g., which strings to stop at which frets…) rather than abstractly, as in conventional Western staff notation.”25

**Traditional (Western) Notation.** “The system of musical notation now most widely in use [that] specifies in varying degrees all four of the components of any musical sound: pitch…, duration…, timbre, and loudness….”26

**Tremolo.** “Usually, the quick and continuous reiteration of a single pitch.”27 On plucked strings, this technique generally employs the right-hand fingering *p-a-m-i*.

**Very Young Student.** This generally refers to a preliterate child who is capable of starting guitar study. While every child is different, in the Michelson and Suzuki traditions, formal instruction can usually begin when the student has reached three years of age.

**Chapter Summary**

This study aims to help guitar teachers in selecting music by examining correlations in existing graded collections. In graded teaching repertoire, each subsequent piece generally presents a new musical challenge for students to master. *Note density* shows promise as an emerging metric for matching music to students’ skills and sequencing pieces in a plan of study.

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24 Samuel Escalante, email message to author, January 22, 2018.
Repertoire selection is just one part of a comprehensive music curriculum, and note density is just a single element in the pieces that make up the repertoire. By scrutinizing this one aspect of guitar music, teachers can improve their skills in selecting teaching material. If teachers present material in a logical order, building on previous skills and knowledge, then guitar programs will serve their students well. Christopher Berg summed this up perfectly: “Preparing oneself for the study of… instrumental literature, mastering its technical and artistic exigencies, and performing it, is a lifelong endeavor. One can’t ascend a ladder without climbing over each rung.”

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CHAPTER TWO: LITERATURE REVIEW

Introduction

This review of the literature serves to provide a context for the study. It begins with an overview of the state of school-based guitar education in the United States and discusses trends in comprehensive, pre-collegiate guitar pedagogy. The second section examines the literature on selecting appropriate repertoire. The last section discusses the literature on grading and sequencing repertoire. By examining contemporary issues in guitar education and the important role repertoire plays in it, this review shows that improving repertoire selection and sequencing can play a significant role in improving the efficacy of guitar teachers.

Section I: The State of Guitar Education

From 2017 to 2020, Thomas Amoriello Jr., Chair of the National Association for Music Education (NAfME) Council for Guitar Education, interviewed guitar teachers from across the United States. The resulting work was the “Guitar Class in 50 States” series published on the NAfME “Music in a Minuet” blog. This endeavor involved Amoriello “…[visiting] guitar educators in a variety of settings from elementary, middle, and high schools, private, parochial, preparatory, charter, magnet, and performing arts schools.”29 His work illustrated that while guitar teachers share much in common, philosophical disagreements about teaching styles, approaches to beginning class, and types of guitar to use weaken the unity of the field and hinder guitar teaching practices. Regardless of the philosophical disagreements among guitar teachers, Amoriello asserted that guitar education, without question, affects students positively:

On many levels the guitar has aided children emotionally and socially providing an outlet to the disinterested-in-school teenager and academic relief to the highly motivated college bound young leader with a schedule full of AP courses.

Introverts and extroverts; gifted and talented, and students on academic probation; affluent and free-and-reduced lunch recipients; and all in between: Guitar education reflects diversity and provides a common ground for all to come together.\textsuperscript{30}

Of the guitar teachers Amoriello featured, only 32\% majored in guitar or considered guitar to be their principal instrument in college.\textsuperscript{31} Pethel’s 2019 study, “The State of Guitar Education in the United States,” revealed the vast majority of people teaching guitar in schools had little or no formal training on the instrument. Furthermore, he noted “[a] substantial number of [guitar teachers] (68.5\%) indicated that they rarely or never participated in guitar-related professional development, and 76.1\% of respondents reported that their pre-service training provided little or no preparation for a career in guitar education.”\textsuperscript{32} In an earlier study, Pethel found a mere 7.9\% of music educators teaching guitar class even consider themselves to be guitar specialists.\textsuperscript{33} It is imperative students receive high quality instruction from knowledgeable instructors. Pethel concluded that miseducating students was a moral concern. Referencing Dewey, he argued that students face the potential of distorted growth in further experiences when they are subjected to miseducative experiences.\textsuperscript{34}

This does not imply that music teachers with limited guitar experience are poor teachers. School orchestras in the United States have encountered similar problems for decades. Although

\begin{itemize}
  \item \textsuperscript{30} Amoriello, “Guitar Class in 50 States: Coda.”
  \item \textsuperscript{31} Bill Swick, “Observations of Guitar Class in 50 States,” Teaching Music 28, no. 3 (January 2021): 48.
  \item \textsuperscript{33} Pethel, “Professional Profiles, Pedagogic Practices,” 39.
  \item \textsuperscript{34} John Dewey in Pethel, “State of Guitar Education,” 258.
\end{itemize}
string teaching can be difficult under the best of circumstances, Phyllis Young believed non-string music teachers were equal to the task:

Though ideally the music teacher is a fine performer on the same instrument as [their] student and has proven [their] pedagogical ability, realistically this is not the case in the majority of circumstances. In fact, if all string teaching in our country were restricted to teachers with both qualifications, there would be few string students indeed! Thousands of youngsters would never have the opportunity to realize their dreams of playing these glorious instruments, and vast areas of the United States would be barren of school orchestras.  

For the same reason, non-guitarist music teachers should also be equal to the task of teaching the instrument.

James Austin’s 2006 study, “The Teaching of Secondary Instruments: A Survey of Instrumental Music Teacher Educators,” highlighted that nearly all instrumental music teachers at least partly teach secondary instruments. Most consider secondary instrument classes to be important components of pre-service music teacher education. Despite this, only three of the 25 institutions responding to Austin’s survey had a guitar component as part of their pre-service teacher training: one as a unit of a string class and two as a separate guitar class.

Loren Zawodny’s 2020 study, “Classroom Guitar in Texas: A Narrative Inquiry,” demonstrated how non-guitarists prepared themselves for teaching the instrument and providing successful programs. His study participant, Mary, “…had no previous training in guitar education. She frequently attended conferences and workshops to improve her knowledge of

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35 Phyllis Young, Playing the String Game: Strategies for Teaching Cello and Strings (Austin, TX: University of Texas Press, 1989), xi.


37 Ibid.
guitar teaching and her playing skills.” Study participant, James, also “…was not a guitarist by training, but he attended conferences and workshops and took private lessons to better his skills on the guitar.” The results of Zawodny’s study of Texas guitar teachers “…suggested that opportunities for training were… readily available through organizations including the Texas Music Educators Association, Texas Guitar Directors Association, and Austin Classical Guitar.”

Bill Swick observed that many school guitar teachers across the United States also attend Teaching Guitar Workshops (TGW) and credit those experiences for getting themselves started.

It is not just the non-guitarists who are underprepared. In the preface of *The Classical Guitar Companion*, Berg observed that “[e]ven successful guitarists may have cobbled together something only resembling a solid background, which can compromise their artistic individuality.”

The guitar has no pedagogical materials as exhaustive as foundational material published by Carl Flesch or Ivan Galamian for the violin. Guitarists are often taught to move patterns around and practice by rote, but high-level players must become fluent with the entire range of the fingerboard and understand the relationship between musical key, and in which positions scales and harmonic progressions can be played on the guitar.

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40 Ibid., 82.


43 Ibid., 9.
Likewise, the perceived shortcomings in guitar and the lack of graded repertoire represented a recurring theme in Pethel’s 2016 study.

For example, Pethel’s study participant, Elizabeth, expressed a desire for widening the offerings of school guitar programs stating, “I feel like we need to get some more repertoire out there. I don’t know—hiring or commissioning people to make arrangements or whatever, but it’s hard to find repertoire that’s accessible to different levels.”

44 Similarly, study participant, Russell, explained:

The curriculum is my own curriculum. Some of the sources that I use of course are, in terms of curriculum, more repertoire sources that anything else, and then there are websites that have downloadable guitar ensemble music. I typically will examine it and see if anything is appropriate for my group. I guess… the traditional classical guitar teaching styles that have been handed down to us for a couple of generations now… have been proven to work. I use that with a good healthy dose of some of the materials that are out there for general teaching—beyond music teaching. So, I really have no choice but to use my own curriculum….

45 Swick estimated that approximately 50% of the teachers featured in Amorioello’s series “write their own arrangements, texts, and/or teaching materials. Compared to band, choir, and orchestra, this number seems quite high. Because it is approximate, it could be even higher.”

46 Based on the high percentage of non-expert guitar teachers, the perceived lack of repertoire could reflect either a genuine lack of repertoire or simply an unfamiliarity with the repertoire that is available.

Teachers have access to more print and online resources now than ever before, yet few resources address repertoire selection and sequencing. In addition to Berg’s aforementioned

45 Ibid., 50.
Classical Guitar Companion, teachers can refer to Swick’s Teaching Beginning Guitar Class, Anthony Glise’s Classical Guitar Pedagogy, and Steve Eckels’s Teaching Classroom Guitar. Berg’s and Glise’s works are primarily technical resources. The latter “…was designed to be used as a college textbook for conservatory or university classes in Classical Guitar Pedagogy.”

Classical Guitar Pedagogy contains an appendix of suggested methods, studies, and pieces. Neither Glise’s nor Eckels’s works satisfactorily address repertoire selection or sequencing. Swick and Eckels designed their books with classroom teachers in mind. Neither of these books delve deeply into solo guitar literature, that is to say, pieces “arranged for guitar in such a way that the guitar can stand alone.”

Modern Folk Guitar by Harvey Reid and Terry Lee Kuhn is a notable academic approach to guitar pedagogy. As a folk-focused book, standard repertoire selection is not addressed. In fact, the authors assert that this is ultimately the responsibility of the guitar educator:

Every instructor who teaches a guitar class assumes responsibility for organizing content, instructional procedures, and grading of students. The order in which material is presented will depend on the purposes of specific instructional settings, the students’ backgrounds, and the experience of the students.

Although Reid and Kuhn begin with a chord and strumming approach, their method introduces note reading and fingerpicking accompaniments relatively early in standard notation and tablature. This approach bridges easily to classical guitar technique and literature, should the teacher or student desire it.

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49 Harvey Reid and Terry Kuhn, Modern Folk Guitar (York, ME: Woodpecker Records, 2004), xi.
In his 2010 article, “Challenges Facing Guitar Education,” Eli Harrison noted that many of the challenges of teaching guitar are inherent to the pedagogical approach selected by the teacher. For example, modern guitar notation includes not only standard notation but also tablature and fretboard charts. In deciding which approach to use, teachers must understand the advantages, limitations, and ramifications of each system. While the guitar is versatile and capable of rendering many styles of music, “[it] is also a difficult instrument. Inconsistencies across the guitar’s structural and notational systems create an environment in which guitarists struggle against the instrument to develop their own musical awareness.”

Swick’s analysis of the Amoriello series revealed a perfect divide between pedagogical approaches with 39% of guitar programs structured as classical, focusing on posture, tone production, technique, and hand positions and 39% defined as playing only popular music including folk songs, bluegrass, blues, rock, jazz, and original compositions. The remaining 22% of the programs represented introductory programs, such as nine-week exploration classes and components of elementary general music classes. According to Lee Bartel’s research, the major approaches to guitar education in school include: “hum and strum,” guitar orchestra, rock band, jazz ensemble, classical guitar solo, and multifaceted approaches. But regardless of the performance medium, guitar classes should be quality music education programs that seek to attain broad objectives set for the most exemplary music programs.

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52 Ibid.

With so many approaches available to teachers, the necessity for establishing ideal instructional content becomes apparent. In *Teaching Beginning Guitar Class: A Practical Guide*, Swick aligned his curriculum and lesson plans with the National Standards for Music Education. Doing so adds a measure of accountability for the educator. He advocates for the use of the backward assessment model when developing a teaching plan. The backward assessment model’s strength is that it

…clearly defines skills every student is going to learn in a course of study. The weaknesses are that this list of skills is in no particular order and there is no timeline as to when each of the skills should be completed. Many teachers approach the backward assessment model with the attitude that as long as students can demonstrate all of these skills by the last day of school, then mission accomplished. The attitude of leaving everything to the end of the year is what makes this model unattractive. What really works is providing a list of skills which are tied directly to a school calendar. For example: ‘(1) *perform using correct posture and appropriate hand positions* by the completion of month one’ makes this model far more powerful.\(^{54}\)

Swick targets his text toward school guitar teachers who have limited experience on the instrument.

While state and national standards provide important benchmarks for student learning, their generic nature provides only limited help to inexperienced guitar teachers. Therefore, the NAfME Council for Guitar Education created a four-year, best practices document to guide teachers for whom guitar is a secondary instrument. Validating and supporting the many instructional approaches in use, they wrote:

As a Guitar Council, we have taken careful consideration to ensure that the lists are applicable to middle school and high school guitar class instruction, and may be covered through a wide variety of method books and music styles (classical,

country, folk, jazz, pop). All items on the list can be performed on acoustic, classical, and/or electric guitars.\textsuperscript{55}

While the document provides considerably more guidance and specificity than state and national standards alone, it also has shortcomings. In its rightful desire to be inclusive of the widest range of approaches, the document limits its own applicability. For instance, guitar programs that focus on classical technique may achieve high artistry without ever addressing \textit{popular music} concepts such as strumming patterns, power chords, alternate picking, and chord diagrams. With the NAfME Guitar Council validating the widest range of approaches, it may mean that untrained guitar teachers fail to realize that they are miseducating their students.

Swick observed two common pitfalls in teaching guitar class. First, teachers frequently teach the way they learn.\textsuperscript{56} Given that most school guitar teachers are self-taught, learned casually, and/or base their guitar teaching on how they themselves learned their primary instrument, it is no wonder that the state of guitar teaching in the United States lacks the unity and cohesion that band, choir, and orchestra programs enjoy. Comparing guitar instruction with other instruments, Callahan observed that

\begin{quote}
...on every other instrument, a beginner is taught the basics of good position, proper techniques of finger and arm movement, tone production, note reading—in short, the fundamentals that prepare that individual to play effectively.\textsuperscript{57}
\end{quote}

\begin{footnotes}
\footnote{Bill Swick, \textit{Bill Swick's Beginning Guitar Class Teacher's Manual: Quarter One, Quarter Two} (n.p.: Self-published, 2009), 2.}
\footnote{Callahan, “Guitar Instruction in the Schools,” 21.}
\end{footnotes}
By avoiding teaching the fundamentals of good playing, guitar teachers impose limits upon the students’ abilities to grow through a lack of critical information and habits.\textsuperscript{58}

The second pitfall Swick observed is that teachers tend to teach class guitar the same way they teach individuals privately.\textsuperscript{59} For many years, Swick taught private students from the seven-volume \textit{Modern Guitar Method} by Mel Bay, one of the most popular guitar methods ever published. When Swick began teaching class guitar, he initially taught from the same method. He quickly discovered that classroom teaching required a great deal of supplementary material that \textit{Modern Guitar Method} lacked. Having to fill the gap himself, Swick recounted that “[he] spent evenings and weekends writing simple melodies and exercises and simple ensemble pieces so that classes would have ample materials to practice the [learning objectives].”\textsuperscript{60} The classroom guitar teacher faces challenges that are not present in the private studio. Swick noted how critical the curriculum is to successful teaching in the guitar classroom:

\begin{quote}
Teaching thirty or more students simultaneously is very different than teaching one student privately. The class moves much, much slower and having enough new and interesting materials to keep a class of students on task from bell to bell is absolutely essential for classroom management and for maintaining a strong educational environment.\textsuperscript{61}
\end{quote}

Focusing on the fundamentals, he suggested that to have a successful first quarter, beginning students should learn, in no particular order: note recognition on the staff, note placement on the guitar, rhythmic notation, how to count, the parts of the guitar, how to make a sound with the right hand, and how to place fingers on the fingerboard to change pitches.\textsuperscript{62}

\begin{footnotesize}
\begin{itemize}
\item\textsuperscript{58} Ibid.
\item\textsuperscript{59} Swick, \textit{Bill Swick’s Beginning Guitar Class Teacher’s Manual}, 2.
\item\textsuperscript{60} Swick, \textit{Bill Swick’s Beginning Guitar Class Teacher’s Manual}, 2.
\item\textsuperscript{61} Ibid.
\item\textsuperscript{62} Ibid., 1.
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\end{footnotesize}
Swick recently retired from teaching at Clark County School District (CCSD) in Nevada, where he chaired the CCSD Guitar Task Force. The impetus for the CCSD guitar program was primarily vocational—to train guitarists who could work in the many Las Vegas music and entertainment venues. Under Swick’s supervision, the Las Vegas Academy of the Arts magnet school won twelve Educational Grammy Awards, and Swick himself was a top-ten finalist for an Individual Educator Grammy. Being a nationally recognized, exemplary program, it bears noting that the CCSD guitar program primarily uses nylon-string guitars. Honor guitar ensemble and solo & ensemble contests require them. Most schools have a few electric guitars and electric basses; however, few CCSD schools have steel-string acoustic guitars. Nationwide, school guitar programs normally fall into one of three categories: all nylon-string classical guitars, all steel-string acoustic guitars, or mixed guitar types. Based on programs featured in the Amoriello articles, Swick estimated that approximately “49 percent of the programs… only use nylon-string guitars, 37 percent of the programs use strictly steel-string guitars, and 14 percent use a combination of both.” This divisive topic is hotly debated among guitar educators.

The versatility and the flexibility of the guitar tend to undermine its pedagogy. This directly relates to the different types of guitars in common use today. Gustafson highlighted key members of the guitar family:

It’s difficult to imagine a more versatile instrument than the guitar. Actually, the guitar includes an entire family of modern instruments: the nylon-string classical, the steel-string acoustic, the archtop, and the electric guitar. Related to the lute, the guitar is one of the oldest instruments still being played.

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65 Gustafson, “Class Guitar in Middle School,” 34.
Although this may be true, Callahan posed two critical questions: “What is the core instrument of the guitar family? What is the basic technique?” In response, she asserted that “[t]he core instrument is the acoustic/classical guitar with six nylon strings, a sound hole, and a body that joins the neck at the 12th fret.” All other guitars, including electric, western steel-string, and 12-string varieties, are derivatives of this basic model.

Along with the standard instrument comes a standard technique involving “sitting in a balanced position with a footstool under the left foot, moving both hands in a natural, technically felicitous way according to physiological and anatomical tenets manifest in innumerable classical guitar methods from the 18th century on.” Richard Hannemann highlighted advantages of nylon-string guitars:

Nylon is easier on the fingers than steel—for new guitar players, of any age, this is a plus. The slightly wider neck makes fingerings easier and more forgiving. Most importantly, the slightly smaller body makes it easier to hold….

Manufacturers and luthiers construct guitars in fractional sizes like bowed string instruments. This allows students as young as three to hold the instrument properly.

Correlations can be drawn between the type of instrument and the style of music being used to teach. Fesmire’s 2006 Colorado study found that 71.43% of guitar teachers surveyed used rock and popular music in their curriculum; 64.29% included folk music; 53.57% used classical music; and 28.57% included various other teacher- and student-selected styles like jazz.

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67 Ibid.
blues, fingerpicking, and country. While all music styles are valid, the type of guitar that students use has significant ramifications and can either facilitate or hinder their musical journeys. Callahan advocated using nylon-string classical guitars, playing with the fingers instead of a plectrum, and performing music from the standard classical guitar repertoire because it is logical and educationally honest to offer students instruction on basic classical technique on the guitar, as we do on other instruments. She highlighted how avoiding fundamentals can be a miseducative experience:

Curiously, a number of guitar classes begin (and end) with chord study. Playing position tends to be casual or at random, right-hand skills are not even touched upon. The student is given a plectrum to hold or is told to brush his [right-hand] thumb across the strings. Rarely is the proper joint and knuckle position of either hand discussed or demonstrated. There is seldom any progressive approach to acquiring proper physical control of the instrument.

Guitar students who master reading and the technical requirements of playing the advanced classical repertoire can execute many styles, including those used in popular music. The converse is not necessarily true.

Swick observed that only 57% of the guitar teachers included in the Amoriello articles teach note reading of modern notation. It is difficult to understand why this is so, since music literacy is a key component of state and national standards. It supports the notion that people, for better or worse, tend to teach how they learned. If teachers learned guitar without reading

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70 Fesmire, “A Survey of Middle and Senior High School Guitar Programs,” 60.

71 Clare Callahan in Renthungo Merry, “A Paradigm for Effective Pre-College Classical Guitar Methodology: A Case Study of Two Models of Effective Instruction,” (doctoral diss., University of Northern Colorado, 2010), 22, ProQuest Dissertations & Theses Global.

72 Callahan, “Guitar Instruction in the Schools,” 60.
notation, it is probable that they will teach it the same way. Swick comments on the irony of this percentage:

Compared to band and orchestra, this number seems really low. Many school band websites not only promote note reading as being extremely important, but also consider sight reading as an important skill for musicians to learn as early as possible. It is confusing why this does not transfer to guitar class considering 68 percent of [guitar teachers in the sample] also teach band, choir, or orchestra.73

It is unclear whether these teachers do not know how to play the guitar from standard notation, or they do not see reading standard notation as a necessary step along the path to performing music on the guitar. Swick also noted that teachers disagree about the best approach for beginning guitar class. Some teach beginning guitar using a “hum and strum” approach, “while others approach beginning guitar at the same level of beginning band or orchestra, stressing the importance of posture, hand positions, technique, and tone production. Some [teachers] are somewhere in the middle.”74

Beginning guitar teachers who choose to teach non-classical approaches need not sacrifice the rigor of music literacy. Michele Berlin’s 2017 study, “A Content Analysis of Beginning Guitar, Electric Bass, and String Bass Method Books,” demonstrated that numerous plectrum-oriented class guitar methods exist that parallel the rigor of beginning band and orchestra methods.75 With layouts resembling popular beginning band and orchestra books, authors and publishers design these methods with the non-guitarist music teacher in mind.


The classical guitar has centuries of repertoire written for it, fostering the creation of rich, pre-collegiate guitar curricula. Such curricula tend to engage students in classroom settings. For instance, Renthungeo Merry hypothesized that “[t]he quality of the repertoire may explain why the students [in his study] were actively engaged in the music and there was a sense of enthusiasm as well as seriousness.”

Furthermore, he surmised that the most interesting, rich, technically challenging, and effective musical selections seem to have been written by guitarists who were also composers, such as Fernando Sor, Mauro Giuliani, Francisco Tárrega, Roland Dyens, and Leo Brouwer.

Swick supports Merry’s assertion that engagement can be a function of the quality of the repertoire. He described his students as falling into one of two groups. The first is the group that comes to him for suggestions of solo pieces to play for contest. The other group finds the most obscure pieces possible on their own. This second group of students practices in private until the contest where Swick usually hears the music for the first time. When the first group asks Swick for music, they usually receive one or two pieces from Classical or Romantic period guitarists. The ones who do not ask almost always pick music from living composers. Popular choices with these students include Swiss composer Jürg Kindle (b. 1960), American composer Andrew York (b. 1958), French composer Roland Dyens (1955–2016), Cuban composer Leo Brouwer (b. 1939), and American composer Andy McKee (b. 1979). Students in the second group usually audition pieces on YouTube to find the music they like to play with no consideration of how hard it may be in terms of graded levels.

76 Merry, “A Paradigm for Effective Pre-College Classical Guitar Methodology,” 70.
77 Ibid.
78 Bill Swick, email message to author, January 15, 2021.
In his 2010 dissertation, “A Paradigm for Effective Pre-College Classical Guitar Methodology: A Case Study of Two Models of Effective Instruction,” Merry studied a secondary charter school guitar program and a private guitar studio focused on the Suzuki method.

Speaking about the music choices, Merry observed that “[i]n terms of repertoire, both models had students playing from a wide range of musical selections, including solo literature and ensemble works from the standard repertoire as well as music written by twentieth century composers.”

He described the charter school program in this way:

Starting age of students was around twelve…. Oldest students observed were high school seniors…. Method books used include Shearer, Noad and Sagreras…. Supplemental study pieces include works by Sor, Giuliani, Carcassi, and Carulli, among others…. First solo piece is dependent on teacher. Usually music in two lines…. Solo literature includes, among others, works by Carcassi, Giuliani, Sor, and Sagreras…. Advanced literature includes, but not limited to, Villa-Lobos, Tárrega, Narváez, Sor, Brouwer, Dyens, and Piazzolla.

By contrast, Merry’s account of the private studio describes a typical Suzuki program:

High emphasis given to starting lessons at a very young age…. Youngest student observed was two years and six months. Oldest student observed was thirteen years…. Method of teaching firmly rooted on the Suzuki Volume I through IX, along with other supplemental materials…. Supplemental study pieces include works by Sor, Giuliani, Carcassi, and Carulli, among others…. First solo piece in Volume I is “Twinkle, Twinkle, Little Star.” First solo pieces are single melodic lines…. Solo literature includes, among others, works by Carcassi, Giuliani, Sor, Longay, Suzuki, Sagreras, and Paganini…. Advanced literature includes, but not limited to, Francisco Tárrega’s “Recuerdos Alhambra,” “Asturias” by Isaac Albéniz, and Fernando Sor’s “Variations on a Theme of Mozart.”

A complete list of the contents of *Suzuki Guitar School, Volumes 1–9* appears in Appendix A.

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79 Merry, “A Paradigm for Effective Pre-College Classical Guitar Methodology,” 116.

80 Ibid., 110–112.

81 Merry, “A Paradigm for Effective Pre-College Classical Guitar Methodology,” 110–112.
Although the Suzuki guitar repertoire is substantial, Merry reported that “most Suzuki teachers supplement the core repertoire with music by composers like Leo Brouwer and Andrew York.”\textsuperscript{82} In his 1989 dissertation, “The Suzuki Approach Applied to Guitar Pedagogy,” Robert Griffin addressed criticism that the repertoire contains limited musical styles, meters, and modes asserting that …the Suzuki method books are not intended to comprise the child’s complete musical experience. They are logical, orderly methods for developing specific instrumental technique, tone, and musicality which presuppose that the child is taking part in a much broader musical experience that includes singing songs of various modes and meters, attending live performances, and learning to read music. It is in this realm of the broader musical experience that a great opportunity exists to create materials to complement the Suzuki repertoire.\textsuperscript{83}

In the 1960s, the guitar displaced the accordion as the dominant popular music instrument in America. Following the Tanglewood Symposium, educators sought ways of infusing “popular teenage music” into music curricula.\textsuperscript{84} Only a few years earlier, Suzuki first toured the United States with an entourage of young violinists demonstrating the effectiveness of his violin method. Guitar educators soon theorized that they could apply the Suzuki method to the guitar. Studio teachers, such as Douglas W. Smith and Sonia Michelson, sought to do that very thing. In an early review of the first published volume of \textit{Suzuki Guitar School}, Michael Carenbauer observed,

In spite of the notable work of such visionaries as Doug Smith and Sonia Michelson, it is a commonly accepted notion that methods of pedagogy available

\textsuperscript{82} Ibid., 117.


to teachers of the young and very young student of the guitar have lagged far behind those available to most other instruments.\textsuperscript{85}

Smith’s 1979 \textit{Classical Guitar for Young Children: A Rote Learning Approach} and Michelson’s 1984 \textit{New Dimensions in Classical Guitar for Children} were two foundational works for teaching guitar to very young students based on Suzuki teaching principles. These principles include the following:

The child should listen to reference recordings every day... to develop musical sensitivity. Rapid progress depends on this listening. Tonalization, or the production of beautiful tone, should be stressed in the lesson and at home. Constant attention should be given to correct posture and proper hand positioning. Parents and teachers should strive to motivate the child so [they] will enjoy practicing correctly at home.\textsuperscript{86}

Griffin illustrates how other teachers, such as Frank Longay and William Kossler, also applied Suzuki teaching principles to the guitar in their own studios. Kossler was the first guitar teacher to study directly under Suzuki and graduate from the Talent Education Institute in Matsumoto, Japan.\textsuperscript{87}

Although teaching very young children is a well-known hallmark of the Suzuki instruction, the method is not without criticism. Michelson asserted that “\textit{Suzuki Guitar 1} progresses at a very fast pace [for very young students]. Many Suzuki teachers throughout the world have written [to her] that they begin their very young students with [her] \textit{New Dimensions}\textsuperscript{86,87}


first and then go on to *Suzuki Guitar 1.*”\(^{88}\) Zawodny highlighted the use of Michelson’s method by a participant in his study who teaches an elementary school-based classical guitar program:

> The materials and approach that [James] used came from *New Dimensions in Classical Guitar for Children* by Sonia Michelson (1991), which married elements of *Suzuki Guitar School* with the Kodály method. With this, he noted a profound increase in student motivation and engagement when they were singing and playing age-appropriate folk songs, and he knew that he [had] found the right balance of repertoire for his students.\(^{89}\)

Griffin further described Michelson’s approach thus:

> Michelson has combined the approaches of both Zoltan Kodály and Suzuki, and, like Douglas Smith, has published a guitar method based on this teaching. Her approach is quite consistent with that of Suzuki, emphasizing the importance of starting at a young age, parental participation, developing listening skills, proper posture and positions, initial rote learning, and employing monthly “workshops” or group classes in addition to weekly private lessons. Students are prepared for note-reading by various Kodály-derived techniques such as rhythmic cards and syllables and Curwen’s melodic hand signals, devices used in many American Suzuki programs as well. …Michelson uses [games] to stimulate the child’s interest in learning…. The one place where Michelson’s practice diverges from Suzuki’s is in not requiring the parent to learn to play the instrument before the child.\(^{90}\)

In the years since Griffin’s study, the Suzuki Association of the Americas launched the *Suzuki in the Schools* initiative, which recognizes that in-school instruction presents unique challenges. In 2006, the association developed additional teaching models that strive to uphold Dr. Suzuki’s ideals while adapting them to school settings. For instance, the “Modified Suzuki” models do not presume extensive parental involvement.\(^{91}\)

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\(^{88}\) Sonia Michelson, email message to author, July 14, 2020.


The repertoire in *New Dimensions in Classical Guitar* comprises 55 single-line folk songs and classical melodies. The material ranges in difficulty from simple *sol-mi* songs such as “Cuckoo, Where Are You?” to “Minuet in G” by J.S. Bach. Michelson grouped her sequenced repertoire into five levels. In his description of Michelson’s teaching, Neil Mermelstein describes *New Dimensions* thus:

In the first [level], the key of G and 2/4 meter are used extensively. D (*so*, using a movable *do* system) is the first note to be introduced; it is played with the third finger of the left hand from the start in order to strengthen that finger. Next comes B (*mi*) on the second open string to give the minor third *so-mi*. Later E (*la*) and G (*do*) are included to create the triad *so mi do*. A (*re*) is introduced in Level 2, completing the pentaton *do re mi so la*. Not until Level 3 is C (*fa*) introduced. The method uses Kodály’s system of intervals, progressing from the minor third to the full pentaton.92

Level 3 songs overlap with material in the first half of *Suzuki Guitar School, Volume 1*. This effectively provides 22 songs for young students before they encounter “Twinkle, Twinkle, Little Star.” Describing the remaining material in *New Dimension*, Mermelstein stated, “Using the movable *do* system, Michelson introduces in the fourth level the minor key and a more extended melodic line are brought into it [sic]. This is followed by further advanced pieces with dotted rhythms and syncopations in the fifth.”93

For duet and ensemble play, Michelson introduces simple *ostinati* and three-string chords. She designed the text primarily for teachers and parents rather than for students. The slower pace makes this repertoire collection more accessible and engaging for very young students. The fusion of Kodály teaching strategies presents the guitar material to elementary music teachers in a way that is similar to their usual teaching practices. Michelson intended


93 Mermelstein, “Teaching Children Guitar.”
students and teachers to sing the folk songs with lyrics and solfege. A complete list of the contents of *New Dimensions in Classical Guitar for Children* appears in Appendix B.

**Section II: Selecting Repertoire**

Scholars emphasize the importance of wise repertoire selection. Writing about school bands, Donald Griffith held that “one of the most effective means of promoting music as an influential part of our culture to school band members is through organized, progressive, and sequential curricular experiences [emphasis added].”

Citing Robert House, Lawrence Intravaia underscored the importance of music selection in the curricular experience:

> …the music library constitutes the band’s ‘course of study;’ the music which the band studies and performs stands for its ‘textbook.’ Whatever musical and artistic merits are implicit in the repertoire will be mirrored in the end product, the performers themselves.\(^95\)

Intravaia echoed Merry’s observations about how the quality of repertoire affected engagement:

> Good literature teaches itself. All aspects of good music, the melodic, tonal, and rhythmic configurations, style, and inherent beauty have an appeal, accord, and rapport with and to the director and players that are almost immediately apparent. This is conducive to a stimulating, interesting and effective learning experience.\(^96\)

Michael Hopkins explained that selecting the proper music requires expertise, and the experts consider it to be one of the most difficult aspects of their job:

> One of the challenges we face when selecting repertoire and planning performances is finding a balance between the technical and aesthetic goals of music education. If we teach our students that every successive piece learned needs to be more technically difficult than the piece before, it can lead to the mistaken belief that the reason we learn music is to be continually performing harder and harder music, as if performing technically difficult music is somehow a goal in and of itself, rather than a means to an end. It leads music educators to


saying things like, “that piece is a ninth-grade piece,” as if there is nothing aesthetically valuable about the music other than as some sort of technical steppingstone toward something harder.\(^{97}\)

Yet, as discussed earlier, many school guitar teachers initially lack the expertise to select appropriate, high-quality guitar-teaching repertoire effectively.

Repertoire can be sorted into three broad classifications: original compositions, transcriptions and arrangements of compositions originally written for other media, and instructional and/or training literature.\(^{98}\) Intravaia explained the advantage of having multiple types of repertoire, stating, “This gives [ensembles] a contrast, which is one of its most valuable assets.”\(^{99}\) His set of eight criteria for selection of ensemble performance literature includes high artistic value; reputation of composer or arranger; programmability or appropriateness for specific upcoming performances; contrast and variety; musical criteria; instrumentation and scoring, including key signatures and ranges; suitability for a particular group, including students’ technical level, grade of difficulty, and age appeal; and length and endurance.\(^{100}\)

In his 1958 dissertation, “Analyses of Seven Major Band Compositions of the Twentieth Century,” William Tarwater established criteria for evaluating repertoire. Under the heading \textit{contrast and variety}, he included the following aspects:

\ldots musical forms; harmonic structures; type and treatment of thematic materials; proportions between polyphonic and homophonic textures; degrees of contrapuntal texture; expression of mood; function of instruments; scoring; adherence (or lack of adherence) to tonalities, modes, or tonal centers; levels of


\(^{100}\) Ibid., 28–54.
technical difficulty; instrumentation required; and mixtures of solo and ensemble colors.¹⁰¹

Likewise, musical criteria include melodic quality, rhythmic quality, meter and rhythmic complexity, harmonic quality, and textural quality.¹⁰² Although these criteria were envisioned for band literature, most of the elements are also applicable to repertoire for solo guitar and guitar ensembles.

In “Programming in the Zone: Repertoire Selection for the Large Ensemble,” Hopkins further addressed suitability for a particular group by examining repertoire selection considering two psychological theories: Vygotsky’s Zone of Proximal Development (ZPD) and Csikszentmihalyi’s Flow Theory. Flow pertains to balancing skill and challenge. In the musical context, ZPD describes a piece of music that is on the threshold of a student’s technical ability, but they will be capable of achieving it with the help of their teacher and peers. Asserting that there can be an optimal repertoire, sequence, and timing, Hopkins wrote:

The challenge for us as ensemble directors is to choose repertoire that brings our students into the ZPD at the beginning of the rehearsal cycle, challenging them and providing them with strong opportunities for new musical growth. As we near the performance, our collaborative efforts have solved the musical challenges and our students have attained mastery of the repertoire. During the performance, there is a balance between skill and challenge. The ensemble performs the music at a level of high quality, leading to “flow”—an optimal experience for the students.¹⁰³

Flow theory may help explain Merry’s and Intravaia’s observations of student engagement as a factor of repertoire quality. Christopher Walters felt that optimal learning experiences happen when flow conditions exist. The key factor for the manifestation of flow is finding the optimal

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¹⁰² Intravaia, Building a Superior School Band Library, 39–44.

¹⁰³ Hopkins, “Programming in the Zone,” 71.
balance of high challenge and student skill. Walters described nine dimensions of flow, including “high challenge-skill balance”, “clear goals”, “immediate feedback”, “sense of control”, “intense concentration”, “merging of action and awareness”, “loss of self-consciousness”, “distorted perception of time”, and “a sense that the activity is intrinsically rewarding.” 104 Within a state of flow, activities are “perceived to be autotelic” or ends in themselves.105 Walters proposed that flow can be a guiding construct in how conductors might select the most appropriate repertoire for their ensembles. By identifying salient potential challenges through score study and analysis, they can find the high challenge-skill balance for their ensembles.106

Guitar students often find note reading to be a challenge. In “Developing Basic Reading Skills with the Young Guitarist,” Smith espoused the ideal view that “everyone should reach a standard of reading whereby they can explore music without having to laboriously slave over each piece note by note.”107 He conceded the generally accepted opinion that many guitarists are poor readers. Duplicate notes positioned on different parts of the guitar fingerboard compound the problem. For instance, guitarists can play the note B, written on the third line of the treble staff, in five places. Smith held that foundational elements for developing student reading ability included playing in 2/4, 3/4, and 4/4 time signatures and introducing the natural diatonic notes on each string. Smith suggested the following sequence:


105 Ibid.

106 Ibid., 18.

Each string has to be introduced individually; after [the first] is done, [proceed to] the string next to it until the student can read both strings competently. This process has to grow from 2 strings to 3 and gradually to all [six].  

Teachers should first employ melodies that mainly move stepwise and that make use of all the natural diatonic notes; these melodies must be simple and musical.

Smith held that only after students have a thorough working knowledge of the first position should teachers add the challenges of arpeggios and broken textures. He explained that these additional tasks are primarily left-hand problems because “…the student needs to be able to place more than one finger at a time.” Additional steps toward reading include “playing two parts simultaneously, playing a three-part texture, three- and four-note chords, adding accidentals, slurring, and articulation, as well as moving up the neck to other positions.” Smith underscored the result of working through the steps: “The labor pays off with the ability to play complete unaccompanied solos.” This payoff depends on having proper literature for each step. Smith asserted that the music written by past masters—such as Carulli, Carcassi, Sor, Guiliani, and others—does not meet all the musical needs of today’s beginning students: “There is a definite need to select only the best from the past and get on with facing the literature shortage by composing and encouraging others to do the same.”

Rotjan suggested ways to improve the selection of repertoire, even if directors already have methods that seem to work. Foremost, teachers should include students in the repertoire selection and evaluation process, and categories for evaluation should relate directly to the

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108 Smith, “Developing Basic Reading Skills with the Young Guitarist,” 38.
109 Ibid., 39.
110 Ibid., 40.
111 Ibid., 39.
112 Ibid., 40.
students. He explored six perspectives on choosing repertoire, including technical, aesthetic/affective, musicianship, critical, creative, and alternative/eclectic. These various perspectives serve as reminders that repertoire selection remains a complex task that defies easy quantification.

Rotjan’s technical perspective “links repertoire primarily as a curricular tool to increase student playing ability on their instrument.”\footnote{Rotjan, “What’s Your Rep?,” 38.} The aesthetic/affective perspective grows from the desire to have students develop and deepen their love of music through interactions with quality literature.\footnote{Ibid., 39.} The musicianship perspective seeks to immerse student performers more deeply into authenticity within a particular tradition of music.\footnote{Ibid., 39–40.} The critical perspective seeks to broaden selections to be more inclusive of what music is as a whole, as opposed to music favored in the Western canon.\footnote{Ibid., 40.} The creative perspective affords students opportunities to change what composers wrote on the score, which in turn provides “a generative ideal of repurposing, reimagining, and rearranging as creative musical practice and composition.”\footnote{Ibid.} The alternative/eclectic perspective suggests teachers and students choose music that is outside of the tradition in which we usually practice.\footnote{Ibid., 42.}
Instead of *this piece teaches this skill*, Rotjan’s approach favors *this piece benefits the student in this way*. Yet, despite its importance, he clarifies that repertoire selection comprises only one part of the equation for effective teaching:

> Obviously, it is not the repertoire alone that offers students the experience in our classes—it is *us as teachers* in classrooms *with our students* that bring the repertoire to life, as relevant to our students, and as artistic canvases to leverage the educational possibilities in our classrooms. Selecting repertoire that is beyond the Western canon or laden with creative possibilities does not mean that our students will experience the educational opportunities afforded by them. Our teaching philosophies and epistemological frameworks of how we view repertoire impact how we go about teaching *through* repertoire to leverage their educational possibilities.¹¹⁹

Adding to Rotjan’s point, Reynolds wrote, “While it may be an overstatement to say that repertoire is the curriculum, we can all agree that a well-planned repertoire creates the framework for an excellent music curriculum that fosters the musical growth of our students.”¹²⁰

Although, as Rotjan advocated, including students in repertoire selection engages them in the process, Reynolds cautions that directors should not fall into the trap of basing repertoire entirely on whether students like it:

> While [directors] should consider the students’ enthusiasm for the music, the intrinsic merit of the music has a much higher level of priority. English literature classes do not select reading material based upon the desires of the students, but rather on the inherent value of the literature to be read. Music classes should be no different.¹²¹

Directors can also select repertoire based on graded syllabi, such as the Royal Conservatory of Music (RCM) syllabi; contest and festival lists, such as the National Federation

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¹¹⁹ Ibid., 41.


¹²¹ Ibid., 33.
of Music Clubs *Festivals Bulletin* and the University Interscholastic League “Prescribed Music List”; and/or graded collections. First mentioned in Chapter 1, the GFA “Guitar Educator Resource Guide” summarizes commonly used curricula, texts, materials, and supplements available to guitar teachers. Besides the Suzuki volumes, the GFA guide lists the nine-volume *Royal Conservatory of Music Classical Guitar Repertoire and Etudes* as the only other repertoire series.

Stephen Mattingly endorsed the *RCM Classical Guitar* series in a 2010 roundtable discussion, saying:

One method I find to be excellent is the *Royal Conservatory of Music [Classical] Guitar Series*. It’s an excellent resource because it is reviewed or revised every few years and it’s peer-reviewed, so they usually get a panel of half a dozen different guitarists and educators from around North America to review the pieces in the series. It’s progressive, and what they do when they review it is, they look at all the pieces in it to see if it is progressive enough, if technical issues are addressed, if the proper pieces in the repertoire are addressed. It touches on many different styles and many contrasting eras of music, so I find that to be a really strong resource.¹²²

Rather than being a method, as Mattingly described it, the *RCM Classical Guitar Series* is more accurately described as a leveled repertoire and etude collection. The RCM website describes the fifth edition of the series thus:

The nine books in this one-of-a-kind series include carefully chosen repertoire and etudes that introduce students to both classic favorites and new, exploratory pieces. Featuring updated repertoire from modern composers such as Sérgio Assad, Dušan Bogdanović, and Roland Dyens, and an increased presence of South American music, this progressive series provides an excellent balance of styles suitable for students of all ages and learning styles. …Each progressive *Repertoire and Etudes* book explores a wide range of historical periods and styles, featuring pieces compiled from more than 500 years’ worth of guitar and other plucked-string music. With this series, teachers and students will embark on an

innovative learning path designed to foster well-rounded musical development and an enduring passion for their instrument.\textsuperscript{123}

The secondary charter school guitar program mentioned previously in Merry’s study uses the graded Royal Conservatory repertoire.\textsuperscript{124}

The RCM \textit{Classical Guitar Repertoire and Etudes} series was considered for sampling in this study. Several aspects of the series caused it to be rejected: the earliest material in the \textit{Preparatory} volume is too advanced for very young students; the contents of the series undergo significant changes periodically; and it does not appear that the publishers necessarily intend for students to learn the repertoire and etudes sequentially. These three factors are important to the method of this study and \textit{are} present in the Michelson and Suzuki repertoire.

Kristin Herkstroeter recalled that when she began teaching, her school’s music library was old and dated. She did not know where or how to look for suitable new music for her orchestra: “One of the most confusing aspects of choosing music for your ensemble can be the grading systems. Unfortunately, there is not one uniform system, which may result in confusion—especially for the novice teacher.”\textsuperscript{125} Speaking from a string orchestra perspective, technical skills to identify in the music include left-hand skills, right-hand skills, familiarity with the notes, and familiarity with the rhythms. In addition to these, John Thomson suggested the following musical criteria: provide a challenge that students can meet, upgrade students’ technical ability, be musically satisfying and interesting, have lasting value for the students, and


\textsuperscript{124} Merry, “A Paradigm for Effective Pre-College Classical Guitar Methodology,” 40.

contribute positively to students’ overall understanding of music and music appreciation.\textsuperscript{126} Furthermore, ensemble pieces should include interesting parts for everyone; otherwise, students may find their part, and perhaps even their instrument, unimportant or boring.\textsuperscript{127} Similarly, GuitarCurriculum.com emphasizes the importance of choosing the right repertoire. The teacher manual states:

\begin{quote}
Often times \textit{sic}, music teachers push their students with each new piece trying to take leaps in technique and breadth of repertoire only to find that students are struggling or frustrated. This can lead to behavior \textit{sic} problems and an inability to focus on “the good stuff.” Choose music that is easily attainable by \textit{every} student in your classroom with one or two new elements to attend to. Focus on expression, character, style, ensemble, articulation etc… Remember, you can always demand more from your students with any piece of music, but it is very hard to push through an unsuccessful, frustrating experience.\textsuperscript{128}
\end{quote}

The next section discusses important elements of choosing appropriate repertoire: grading and sequencing.

\textbf{Section III: Grading and Sequencing Repertoire}

Once music teachers choose high-quality repertoire, they must next decide on sequencing, or the order in which to present the material. Scholars have written few works that discuss this issue for guitar music in general and guitar music for very young players, specifically. Therefore, this section includes literature written for other instruments and other contexts to seek specific strategies for grading and sequencing repertoire.

The primary research question of this study pertains to \textit{note density}, a function of rhythm. Edwin Gordon’s 2012 \textit{Learning Sequences in Music} established an excellent groundwork for

\begin{flushright}
\textsuperscript{126} John Thomson in Herkstroeter, “Choosing Music for Your String Orchestra,” 40.
\end{flushright}
sequencing repertoire based on rhythm. Breaking down the rhythmic element, Gordon wrote, “Three components that define rhythm are macrobeats, microbeats, and rhythmic patterns.”

Macrobeats are those that a person feels are the longest in a piece of music, “perhaps those you might walk to as you are singing or chanting.”

As the prefix implies, microbeats, according to Gordon, “are shorter than macrobeats and are derived from the equal division of macrobeats.”

In duple meter, there are two microbeats for every macro beat. In compound meter, there are three. Rhythm patterns are typically not shorter than one macrobeat nor longer than two.

He completed the rhythmic learning sequence overview writing, “Rhythm patterns, in addition to rests, ties, and upbeats, may include macrobeats, microbeats, divisions, and elongations of macrobeats and microbeats.”

Gordon then established a taxonomy of rhythm patterns within a hierarchy of meter classifications. For this study, usual duple and usual triple meters suffice. Gordon organized rhythm patterns as follows: macro/microbeats, divisions, elongations, divisions/elongations, rests, ties, and upbeats. See figures 1 and 2 for examples of these.

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130 Ibid., 175.

131 Ibid.

132 Ibid., 177.

133 Ibid.

![Diagram of duple meter rhythms]


![Diagram of triple meter rhythms]

Note: The source for figure 2, *Usual Triple Meters Macro/Microbeats*, shows three eighth notes followed by a dotted quarter note rather than the dotted quarter followed by three eighths as displayed above. Gordon explained how individual perception of the macrobeat and microbeat means that some aspects of this hierarchy are subjective:

A division of a macrobeat may sound exactly the same as an elongation of a microbeat. For example, a dotted eighth note written in usual duple meter 2/4 may be considered a division of a quarter note macrobeat or an elongation of an eighth note microbeat.\(^{134}\)

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\(^{134}\) Gordon, *Learning Sequences in Music*, 204.
Since this study focuses on the printed score, Gordon’s hierarchy lends credence to the underlying principles of the primary hypothesis. Additionally, the position of elongations in the hierarchy may help explain instances in the sample that do not support the primary hypothesis.

The notation of some songs may require that subjective decisions be made as to the definition of a macrobeat. For instance, in compound time, tradition dictates that a dotted quarter note is a single macrobeat lasting for the duration of three eighth note microbeats. In the case of waltzes in 3/8 time, such as the Paganini “Waltz” from Sonata No. 9 in Suzuki Guitar School, Volume 3, it may be more logical to think of eighth notes as macrobeats lasting for the duration of two sixteenth note microbeats. Yet for uniformity of the study, choosing a consistent approach based on the time signature and not deviating from it may prove to be more beneficial.

Choksy, Chevé, Perron, and Feierabend have also established similar taxonomies of rhythms that infer teaching sequences and progressive note density. Lois Choksy advocated “arrangement of the subject matter into patterns that follow normal child abilities at various stages of their growth.”135 Although teachers can present rhythms sequentially following the logical progression of whole notes, half notes, quarter notes, and so on, this can be very difficult for beginning students who have not yet learned to feel the basic beat.136 Therefore Choksy opted to link rhythmic instruction with what children already know:

In terms of rhythm, moving rhythms are more child-related than sustained ones. The quarter note may be related to children’s walking pace, the eighth note, to their running. These are the rhythms of the child’s day-to-day living. Singing games are largely made up of quarter- and eighth-note patterns in duple meter. They are a

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136 Ibid., 9.
more reasonable starting place for teaching rhythm concepts to children than whole notes.\textsuperscript{137}

Not only must children be able to recognize and name note values, but they must also be able to read the rhythms. In the traditional Kodály approach, children use rhythm syllables, which express their duration.\textsuperscript{138} In discussing rhythm syllables, Choksy implied a basic sequence illustrated in figure 3.

Figure 3. Choksy’s rhythm patterns, syllables removed. Choksy, \textit{The Kodály Method I}, 13.

In an earlier work, \textit{The Kodály Context: Creating an Environment for Musical Learning}, Choksy presented additional systems of duration syllables. The French theoretician Émile-Joseph-Maurice Chevé developed a system from which readers can infer another sequence. See figure 4.


\begin{itemize}
\item \textsuperscript{137} Choksy, \textit{The Kodály Method I}, 10.
\item \textsuperscript{138} Ibid., 13.
\end{itemize}
The second system and implied sequence comes from Canadian music educator Pierre Perron. His common meter rhythm patterns appear in figure 5.

Figure 5. Perron’s common meter rhythm patterns, syllables removed. Choksy, *The Kodály Context*, 191.

Perron’s compound meter rhythm patterns appear in figure 6.


These systems imply a foundational level of rhythmic contrast based on speech and simple folk songs using quarter notes and eighth notes. The rhythm content then elongates, adding half notes, whole notes, dotted notes, and tied notes as the curriculum progresses. Finally, it divides into increasingly complex rhythmic units.
In *Conversational Solfege*, John Feierabend presented a similar sequence. The first level consists primarily of macrobeat and microbeat contrasting material: quarter note and beamed eighth note pairs in simple time, dotted quarter notes and beamed eighth note triplets in compound time, and quarter note and single eighth notes in compound time. He then introduced elongations in the form of half notes, dotted half notes, dotted quarter, and dotted eighth notes followed by increasingly complex divisions and syncopations. See figure 7.

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Like Choksy, Feierabend advocated the use of rhythm syllables. James Froseth and Edwin Gordon developed the rhythm syllables in Feierabend’s elementary singing method, *Conversational Solfege*. As Gordon’s taxonomy would predict, the rhythm syllables first contrast macrobeats and microbeats, or long and short sounds. Next, they show notes versus rests, or sound and no sound. Following this, readers see elongations as half notes and tied quarter notes. Subsequently, there are further divisions, such as sixteenth notes, and increasingly complex
rhythmic patterns. Figure 8 illustrates the first set of Feierabend’s rhythmic patterns. The columns in this figure show how different meters contain the same rhythmic concept.

Figure 8. Example of Feierabend’s rhythm patterns, syllables removed. Feierabend, *Conversational Solfege Level 1 Teacher’s Manual*, 275.

Focusing on the earliest levels of music training, Gordon, Choksy, and Feierabend sensibly adopted a predominantly vocal or linguistic approach to music education. They began with what students know, such as speech and chant, and led them into music study. They modeled their approach on language patterns. Shinichi Suzuki theorized and showed how instrumental music learning can follow a similar linguistic path. Michelson demonstrated how this can also be the foundation of a guitar curriculum.
It bears mentioning that the nature of some musical instruments precludes this approach. Beginning brass and woodwind students, for example, lack the technical ability to articulate rhythms well. Therefore, they adhere to a subject-logic approach. Choksy described the subject-logic approach where, “[r]hythmically, [instruction] begins with the whole note and then proceeds to halves and quarters—a mathematically reasonable progression….”\textsuperscript{140} Most beginning band method books use this approach. During the initial whole and half note phases of instruction, these musicians are developing their ability to produce a good tone and articulate basic rhythms. Once these fundamentals are mastered, students then move on to simple tunes and eventually to solo and band literature. The index of Grover Yaus’s \textit{101 Rhythmic Rest Patterns in Unison for Band} presents a subject-logic approach note-hierarchy model. Figure 9 illustrates how Yaus sequenced fundamental rhythm patterns.

\textsuperscript{140} Choksy, \textit{The Kodály Method I}, 9.
Because it is logical in nature, Yaus asserted, “Each section advances from the elementary level and can be used in the elementary grades as well as in high school or college.” Yaus also includes 6/8 time, 2/2 time, syncopation, and advanced studies but does not include examples in his index chart.

Intravaia developed a music classification form to help teachers identify and grade/rate challenges based on different aspects of repertoire. He employs a difficulty scale of one to five. His scales for rhythms and tempo are of particular interest for this study. From easiest to most difficult, Intravaia’s scale for rhythms is: 1) Whole, half, and quarter notes exclusively; 2) Dotted

half and quarter note simple syncopation; 3) Alternations of rhythms and contrary rhythms; 4) Dotted eighth-sixteenths, triplet eighths, eighth-sixteenths-sixteenths notes; and 5) Variety of difficult rhythm patterns. From easiest to most difficult, the scale for tempo is: 1) Slow tempi with few eighth notes; 2) Slow [tempi] sixteenth notes; 3) Moderate [tempi] with eighth and sixteenth notes; 4) Moderate fast [tempi] with figurations; and 5) Awkward figurations at moderate to fast [tempi], vivace.

Both subject-logic and developmental approaches to rhythm pattern sequencing have implications for note density. In methods following a subject-logic approach, it is expected that note density steadily increases as students progress through the repertoire. In developmental approaches, it is expected that note density begins slightly higher, then dips before resuming an upward trend. While rhythm pattern composition is central to this study, there are many other factors that go into selecting and sequencing repertoire.

Nicole Sonbert addressed the problem of finding high quality repertoire representative of her students’ culture and interests—specifically, African-American art song. In addition to being written in the African-American tradition, the music had to be suitable for developing voices. In her 2017 doctoral project, she noted how repertoire lists and grading systems were of little help in finding suitable repertoire:

A systematic and consistently used tool for grading repertoire is still not widely accepted in the field of vocal pedagogy. There are well-respected repertoire lists that are given by state music associations for students who want to participate in solo vocal competitions[;] however, explanations of why these songs were chosen are hard to find and rarely accompany these lists. These graded and ungraded lists

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142 Intravaia, Building a Superior School Band Library, 57.
143 Ibid., 58–59.
are usually updated annually by an approved committee, and often accompanied by vague selection criteria.\textsuperscript{144}

Her study primarily focused on evaluating repertoire and developing difficulty “levels” along with broadening repertoire knowledge.

Hinsley noted that in teaching large guitar classes, it is imperative that the music strictly adhere to designated technical specifications. He and his colleagues at GuitarCurriculum.com, a project of Austin Classical Guitar, wrote their music with these nine skill levels in mind: 1) “Open string reading with ‘fixed’ fingers in the right hand and minimal [left-hand] rote elements”; 2) “Reading on strings 1, 2 and 3 in first position with right hand fingers still fixed”; 3) “\textit{i-m} alternation and string crossing with no new notes”; 4) “Bass notes on strings 4, 5 and 6”; 5) “Combined skills of Levels 1–4 with complexity, add simple slurs”; 6) “Simple arpeggios”; 7) “Complex arpeggios and barring”; 8) “Moderate upper position reading and rest stroke”; and 9) “Advanced upper position reading.”\textsuperscript{145} With the establishment of well-defined criteria, the composers for GuitarCurriculum.com created guitar ensemble pieces comprising individual parts at different levels. This allows guitarists with different skill sets to play together in the same ensemble.

To evaluate the repertoire, Sonbert established rubrics for foundational song elements, musical elements, and textual elements. Each of these elements contained sub-elements. For example, the rubric for \textit{foundational elements} included \textit{range & tessitura, rhythm & meter, tempi, and duration & form}. She then analyzed each sub-element according to the rubric and


\textsuperscript{145} Hinsley, “Classroom Classical Guitar,” 32–33.
assigned a value from 1 to 5. The rubric for rhythm & meter contained the following criteria: 1) “Whole notes, half notes, quarter notes, eighth notes with easy repeated rhythm patterns[,] [simple meter], no meter changes”; 2) “Basic and dotted rhythms with easy repeated patterns[,] [simple meter] with one meter change”; 3) “Triplets with varied repeated rhythm patterns[,] Simple or complex with one meter change[,] syncopation”; 4) “Syncopation with many notes per bar, less repeated rhythm patterns[, complex meter] with one- or two-meter changes[,] moderate syncopation”; 5) “Syncopation and hemiola with many notes per bar, few repeated patterns[,] [complex meter] with numerous meter changes[,] advanced syncopation.”

Summing the values for all sub-elements yields a value that the evaluator can use to grade the song. In Sonbert’s rubric, a score of 12 to 26 indicated “beginner level,” 27 to 41 indicated “intermediate level,” and 42 to 55 indicated “advanced level.” As long as criteria are clear, rubrics provide straightforward and objective evaluation instruments.

Likewise, Janette Ralston recognized the need for a calculated method for repertoire selection. Echoing the dangers of miseducating students, she cautioned that “inappropriate musical selections can, at best, diminish the efficiency of students’ learning and, at worst, damage students’ psychological abilities to perform music.” She described a four-part process reminiscent of the Vygotsky’s ZPD:

Teachers can make critical decisions about repertoire by following four commonly used basic steps: determining the student’s physiological and musical capabilities, identifying the objectives and techniques that may be drawn from the music to benefit and appropriately challenge the student, identifying the technical characteristics of the music, and matching the music to the student.

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147 Ibid.
149 Ibid., 164.
Ralston recognized the value of graded and ungraded repertoire lists in helping teachers choose instructional material. She also recognized their shortcomings, writing, “Although the ungraded repertoire lists are valuable resources and are intended to help match a singer’s strengths and weaknesses to the demands of the music, none provides enough information to accomplish this with any precision.”

Ralston offered similar concerns to those of Sonbert:

While the majority of these lists are updated annually through a process involving committee action, the use of these lists varies from state to state, with little or no agreement on the number of graded levels incorporated. Additionally, the vague definitions of criteria on which a grade is based are typical of the global rating systems available.

To remedy this, she designed “a valid and reliable instrument, the Ralston Repertoire Difficulty Index (RRDI), to measure the difficulty of solo vocal repertoire by rating the difficulty of each of the technical characteristics of the music.”

The RRDI examines seven unique elements present in choral music: range, tessitura, rhythm, phrasing, melodic line, harmonic foundations, and pronunciation. According to the RRDI, “Grading scales for each of the seven characteristics… were organized in bipolar adjective scales ranging from 1 to 3 (‘Easy’), 4 to 6 (‘Moderate’) to 7 to 9 (‘Difficult’).” For example, the scale for evaluating rhythm includes: Easy—Rhythm is uncomplicated and symmetrical; Moderate—Rhythm has moderate complexity, including alternating meters; and Difficult—Rhythm is complex, including compound meters and alternating meters. Of the seven criteria, she found that rhythm, melody, and pronunciation

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151 Ibid., 165.
152 Ibid., 165–166.
153 Ibid., 166.
154 Ibid., 167.
were the most determinant. Ralston then tested the RRDI using teachers with varying levels of experience. By using a calculated method, she concluded that “the RRDI can be used with consistent results by voice teachers of few or many years’ experience.” While her focus was on grading repertoire, she emphasized it was also important to match student capabilities.

Because of his interest in Canadian solo trombone literature, Dale Sorensen developed a comprehensive annotated bibliography of such pieces written from 1952 to 2012. He blended several scholars’ models for establishing the difficulty of music and included them in a chart developed by yet another scholar. The resultant chart and annotations provide a useful textual representation of the works.

Fields used by Sorensen include: composer name, composer dates, gender, region, work title, date of composition, instrumentation, duration, availability, copy quality, range, level of difficulty, notation, special techniques, equipment/mutes, overview, technical characteristics, musical characteristics, pedagogical/performance value, musical examples, commission/dedication/premiere, CD recording, other recording, score sample, inclusion in other bibliography, syllabus listing, and ITA Journal review. Criteria for assessing the level of difficulty include: range, key, meter, dexterity, rhythm, articulation, phrasing, dynamics, and special effects. His six-point difficulty scale for rhythm is: 1) “Easy... whole, half, quarter, eighth[,] dotted half, [dotted] quarter[,] ties within bar[,] little pattern change[, and] slow to

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156 Ibid., 169.
157 Ibid., 170.
159 Ibid., 18–19.
moderate tempos”; 2) “Medium… sixteenths (in moderation)[,] triplet eighths[,] dotted [eighth.] ties over bar line[, and] simple syncopation”; 3) “Difficult… all note values[,] dotted rhythms[,] triplets[,] subdivisions of beat[,] more syncopation[,] and] some use of fast tempos”; 4) “Undergrad, year 1–2… complex rhythms and rhythmic relationships [and] frequent changes of rhythm and/or tempo”; 5) “Undergrad year 3–4… more complex rhythms and rhythmic relationships [and] more frequent changes of rhythm and/or tempo”; 6) “Graduate, professional… very complex rhythms and rhythmic relationships [and] very frequent changes of rhythm and/or tempo.”

Sorensen explains that while [the perceived inadequacy of a 6-point grading system]

may imply that a grading system is entirely superfluous, in reality any grading system—even if imperfect or subjective—does help the reader narrow their focus to a more manageable list of repertoire… and should be considered an essential component of a useful annotated bibliography.

The annotated bibliography model developed by Sorensen provides invaluable insight about the repertoire. Considering the applicability of this study to the problem of undertrained guitar teachers, evaluating new literature in this way requires a level of expertise and familiarity with the repertoire that many guitar teachers may not possess.

Finally, the author’s 2017 study provides the basis of an analytical technique that may prove useful for sequencing guitar literature. That work analyzed four collections of pedagogical material for different keyboard instruments, with the objective of aligning them based on a common metric. The underlying motivation for the research was the assertion that “[w]hile it is

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160 Sorensen, “Canadian Solo Trombone Recital Repertoire,” 18–19.

161 Ibid., 20.
expected that musicians specialize in a single area, like piano, a complete keyboard education should also incorporate experiences on all keyboard instruments.”

A common element among accordion, electronic keyboard, organ, and piano is how the right hand interacts with the keyboard. Therefore, “[r]ight hand key strikes-per-beat ratios… were calculated for each composition in the sample….“163 For analysis, “[s]catter plots and regression models [gave] general overviews of the progressive complexity of each series.”164 Based on the regression models, the study calculated approximately where a piano student, for example, might find music of a comparable technical level in an organ or accordion method book. The study concluded with the hope that this type of analysis could be used to improve the repertoire selection process:

Given a body of graded musical works—such as the Guild Repertoire, National Federation of Music Clubs Bulletin, Royal Conservatory of Music Syllabi, and other prescribed music lists—metrics can be generated that objectively quantify compositions into ranges. Not only might this help [repertoire selection committees] through the addition of new material, but it stands to give additional resources to instructors who wish to supplement their lessons with equivalent repertoire not on a list.165

Since this guitar study compared individual compositions to other individual pieces, rather than comparing multiple collections of compositions to each other, it did not require advanced regression modeling. Additionally, regression modeling is beyond the day-to-day use of most music teachers. The basic calculation for note density established in the 2017 keyboard study may prove useful to novice and experienced guitar teachers to help grade and sequence guitar teaching repertoire.

163 Ibid.
164 Ibid., 41.
165 Ibid., 56.
Literature Review Summary

Many music teachers unexpectedly find themselves teaching class guitar. Few universities adequately prepare pre-service music teachers for teaching guitar. Despite a growing number of comprehensive guitar curricula, options remain limited. As long as guitar teachers lack a thorough knowledge of the techniques and literature written for the instrument, the rigor of guitar programs will continue to lag behind band, choir, and orchestra. This literature review discussed numerous tools that music educators can use to select, grade, and sequence repertoire. Yet few guides exist for guitar music and fewer exist to guide teachers with limited knowledge of the instrument. Therefore, an easily calculated method for sequencing would improve guitar teachers’ abilities to augment existing curricula or develop their own. Note density shows promise as a metric that can help guitar teachers in this process. No other study has yet examined the validity of note density for sequencing teaching repertoire.
CHAPTER THREE: METHODS

Introduction

Most school guitar teachers in the United States have little or no formal training on the instrument. A review of the literature revealed few resources to guide them in supplementing existing guitar curricula or developing their own. Available annotated bibliographies of guitar music provide little help. Authors tend to write them for scholarly audiences, focus them too narrowly on specific composers or musical time periods, and/or include repertoire beyond the abilities of new-to-guitar teachers and the students they teach. Furthermore, few scholars have produced written material pertaining to guitar repertoire and pedagogy for very young students.

Sonbert’s study, “Evaluating Appropriate Repertoire for Developing Singers: An African-American Art Song Anthology,” demonstrated how music teachers can develop rubrics to grade compositions effectively. Sorensen’s study, “Canadian Solo Trombone Recital Repertoire: An Annotated Bibliography,” illustrated how a thoroughly annotated bibliography can aid the repertoire selection process. Neither of these studies directly apply to guitar literature without substantial modification. Additionally, neither of them addresses sequencing repertoire for optimal learning, particularly at the earliest stages.

Gordon and Choksy presented foundational works on sequencing vocal music from early childhood. Their theories have direct application to some early-stage instrumental music, where the repertoire relates to folk songs. As guitar students progress further into literature written for the instrument, particularly two- and three-voice pieces, the vocal model of repertoire sequencing becomes less helpful.

Ralston, in “The Development of an Instrument to Grade the Difficulty of Vocal Solo Repertoire,” established a calculated method for repertoire selection. Yet the instrument still
relied on a partially subjective analysis. Music teachers may never eliminate all subjectivity from the repertoire selection process; however, there are additional, objective metrics, such as note density, that may help.

The author’s 2017 study, “A Relational Analysis of Pedagogical Methods for Accordion, Electronic Keyboard, Organ, and Piano,” established note density as a metric to align repertoire collections for different keyboard instruments. The metric was useful for evaluating beginning and advanced keyboard repertoire. Unfortunately, the advanced mathematics limits the everyday usefulness of the analytical method.

The problem that this study aims to resolve requires comparisons between individual pieces rather than entire collections. To address the guitar repertoire sequencing problem, guitar teachers need an evaluative procedure designed for guitar music. Furthermore, any procedure should apply to guitar music written for all skill levels and be accessible to all guitar teachers. The note density metric has not been thoroughly explored. It offers a promising new dimension for analyzing and sequencing repertoire.

**Design**

This study utilized explanatory sequential mixed methods. The primary research question was addressed through quantitative research. These results were then used to construct a qualitative study to answer the secondary research question. The second, qualitative research question explained data that did not support the primary, quantitative hypothesis.

The first research question was characteristic of quantitative correlational design, as it sought to establish a relationship between each piece’s note density and its ordinal placement within a graded repertoire. Creswell described correlational design as one “in which investigators use the correlational statistic to describe and measure the degree (or relationship) between two or
more variables or sets of scores."166 The best way to address the second research question was with a qualitative, grounded theory design.

Questions and Hypotheses

**Note density** was examined within two graded repertoire collections to establish *predictive probability* for repertoire sequencing. The research questions for this study were:

Primary research question: Does *note density* predict the *ordinal placement* of individual pieces in graded guitar repertoires?

Secondary research question: What factors influence *ordinal placement* for pieces not predicted by *note density*?

A foundational assumption of this study was that pieces in a progressive, sequential repertoire present increasing challenges throughout the series. A cursory glance at the repertoire revealed that songs appearing later in a sequenced repertoire series are longer, have more notes, and have a higher *note density* than earlier songs. There is more ink on the page. Therefore, it was hypothesized that:

Primary hypothesis: Yes, *note density* significantly predicts the *ordinal placement* of individual pieces in graded guitar repertoires in terms of *Suzuki Guitar School, Volumes 1–9* and *New Dimensions in Classical Guitar for Children*; that is, a significant number of pieces will have a higher *note density* than the pieces they follow.

Secondary hypothesis: Factors that influence *ordinal placement* for pieces not predicted by *note density* can include the introduction of new notes, new placement of known notes

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on the fretboard, the introduction of new rhythm patterns, and/or the introduction of new techniques for the right and left hands.

**Identification of the Variables**

For the primary, quantitative research question, the sample comprised the printed guitar music in *Suzuki Guitar School* and *New Dimensions*. The objective was to establish a non-causal correlation between two variables: note-to-beat ratio and each piece’s ordinal placement in the repertoire collection. Because the correlation was non-causal, the variables were not labeled as dependent and independent. See Appendix A for an ordinal list of the pieces in *Suzuki Guitar School* and Appendix B for an ordinal list of pieces in *New Dimensions*. *Ordinal numbering* was the first variable for each collection.

The second variable, note-to-beat ratio, had to be calculated. Data for calculation comprised the following for each piece of music: the number of beats in each measure as designated by the numerator of the time signature, the definition of a beat as designated by the denominator of the time signature, the total number of measures including repeated sections, and the total number of notes sounded.

*Beats per measure* were multiplied by the number of measures to arrive at the total beats in the piece. Initial rest beats, indicative of an accompanied piece, were not counted. The total notes sounded in the piece were divided by the total beats in the piece to yield the note-to-beat ratio. In common time, for instance, a piece with a quarter note sounding on every beat has a note-to-beat ratio of one, and a piece with eighth notes throughout has a note-to-beat ratio of two.

For pieces in compound time, this study assumed that a dotted quarter note was the macrobeat and that the macrobeat comprised three eighth note microbeats. To calculate the note-
to-beat ratio for pieces in compound time, the same procedure as common time was followed with the additional step of dividing the numerator in the time signature by three. In this way, a piece in 6/8 time was considered to have two macrobeats.

**Instrumentation**

Additional collected data included: a series designator of “M” for Michelson or “S” for Suzuki, Michelson level number or Suzuki book number, each piece’s ordinal position within each book, a field showing pieces that appear in both collections, a field indicating pieces excluded from analysis, title of composition, composer/origin, and a memorandum field. A copy of the data-gathering instrument appears in figure 10 below.

<table>
<thead>
<tr>
<th>Sequence or ID</th>
<th>Series (M or S)</th>
<th>Book or Level</th>
<th>Sequence at Level</th>
<th>In both collections</th>
<th>Exclude from Analysis</th>
<th>Title</th>
<th>Composer / Origin</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Total Measures</th>
<th>Total Notes</th>
<th>Total Beats</th>
<th>Note-to-Beat Ratio</th>
<th>Memorandum</th>
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Figure 10. Blank instrument

Figure 11 exemplifies how the instrument was completed based on the material in *New Dimensions* Level I. The shading for *Total Beats* and *Note-to-Beat Ratio* indicates calculated fields.
Row and column labels are visible in figure 12. The first entry was for “Cuckoo.”

Column A was a unique identifier for each song in the collection that corresponded with each piece’s ordinal sequence. Column B contained “M” for Michelson. Column C shows this was a Level I piece. Column D specifies this song was the first piece at Level I. Column E would contain a 1 if it was in both the Michelson and Suzuki collections. Column F would contain a 1 if the piece was excluded from analysis. Column G contains the title. Column H contains the composer or origin.

Column I contains the numerator of the time signature. Column J contains the denominator of the time signature. Column K contains the total number of measures in the piece, including repeats, if applicable. These were counted manually from the score. Column L contains
the total number of notes to be sounded in the piece, including repeats, when applicable. These were also counted manually from the score.

Column M was a calculated cell that displays the total number of beats in a piece. The formula used here was: \( =IF(F2=1,0,IF(J2=8,(I2*K2)/3,I2*K2)) \). It reads, if there was a 1 in cell F2 (Exclude from Analysis), then Total Beats is zero. Otherwise, the calculation continued with a new “if” statement: If the Denominator (J2) was 8, representing compound meter, then the number of beats in the piece was (Numerator I2 times Total Measures K2) all divided by 3. Otherwise (if Denominator J2 was not 8), or not compound meter, then the number of beats in the piece was (Numerator I2 times Total Measures K2).

Column N was a calculated cell that displays the Note-to-Beat Ratio. Simply put, it was Total Notes (L2) divided by Total Beats (M2). To avoid a zero-in-the-denominator error for pieces excluded from analysis, an “if” statement was added. The formula used was \( =IF(M10>0,L10/M10,"N/A." ) \). If Total Beats (M2) was greater than zero, then calculate the ratio. Otherwise, “N/A” appeared in the cell, and it was not analyzed further. Column O was a memorandum field for observations and notes.

Procedure

The following procedure was used to complete the research instrument. Only repertoire pieces were recorded. Exercises, preparations, and tonalizations were not recorded. Footnoted variations that do not appear on the reference recordings, such as Suzuki’s Perpetual Motion Variation with sixteenth notes, were not recorded.

Columns A through J were completed for each piece on its own row in the spreadsheet. Common time was recorded as 4/4 and alle breve time as 2/2. Each score was examined to
determine if repeated sections exist. This was either explicitly indicated with repeat and D.S. markings or implicitly by the inclusion of lyrics with multiple verses.

The total number of measures in each piece was counted, including all repeated sections. This number was recorded in column K. Theme and Variation pieces were treated as a single work. Multiple movements of a greater work that refer to each other were also treated as a single piece. For example, Bach Gavotte II indicates “Gavotte I D.C.” Otherwise, multiple movements of a greater work were considered individually. Unwritten, aurally learned material, such as the partially written variations of “Twinkle, Twinkle Little Star” were calculated and included.

The total number of notes to be played was then counted, following the same guidelines as counting measures. That number was recorded in column L. Grace notes and other ornaments were counted, as well. Optional voicings appearing as footnotes were not counted. Non-printed performance traditions, such as the commonly played version of J.C. Bach’s “Tanz” with added bass notes, were not counted. Column O was a memo field containing decisions made regarding the number of repeats and initial observations regarding first presentations of new material.

Data Analysis

The sample (N=133) comprised elementary material from New Dimensions in Classical Guitar for Children (N=56) and beginning-through-advanced material from Suzuki Guitar School, Volumes 1–9 (N=77). Only one piece, Michelson’s “Twinkle Rhythms,” was excluded from the sample. Three pieces in Suzuki Guitar School, Volume 9, contained multiple time signatures. The pieces were “Capricho Arabe,” “Fantasia,” and the Sor “Variations on a Theme of Mozart.” Fortunately, their time signatures had denominators in common and this allowed for manual calculation.
In each collection, the note-to-beat ratio (NTBR) for each piece was compared to each subsequent piece. If the subsequent piece had a higher NTBR, then the data supported the primary hypothesis. The number of times the primary hypothesis was supported in each set was then divided by the sample size of each set to determine the validity of the primary hypothesis and to answer the primary research question. The process was then repeated for subsets based on level, in the case of Michelson, and volume, with Suzuki.

Whereas the primary research question was quantitative, the secondary research question was qualitative in nature. Microsoft Excel was used to generate scatter plots of each subset with lines and markers. Each piece’s ordinal sequence appeared on the X-axis. NTBR appeared on the Y-axis. The slope of the line between each piece was then evaluated to identify pieces to examine for assessing the validity of the secondary hypothesis and provide further insight into the secondary research question. The findings from these analyses appear in the following chapter.
CHAPTER FOUR: RESEARCH FINDINGS

Findings by Collection

Raw data for *New Dimensions* appear in Appendix C, and raw data for *Suzuki Guitar School* appear in Appendix D. Figure 13 represents the note-to-beat ratios for all the repertoire in *New Dimensions in Classical Guitar for Children*. Although note-to-beat ratios trend upward as the series progresses, the graph shows many upward and downward variances. The correlation coefficient is 0.15, indicating a very weak overall correlation between ordinal sequence and note density.

![Note-to-Beat Ratios in New Dimensions](image)

Figure 13. Note-to-beat ratios in *New Dimensions in Classical Guitar for Children*

Of the 56 pieces included in this sample, only 24 (43%) had note-to-beat ratios greater than the piece that they follow. This only moderately supports the primary hypothesis. Figure 14 represents the note-to-beat ratios for all the repertoire in *Suzuki Guitar School, Volumes 1–9*. Like *New Dimensions*, the graph for the Suzuki data does not show an easily discernable, upward-trending pattern. The collection shows many peaks and valleys with wider variances. The correlation coefficient is 0.54, indicating a moderate correlation between ordinal sequence and note density.
Figure 14. *Note-to-beat ratios in Suzuki Guitar School 1–9*

Of the 77 pieces included in this sample, only 37 (48%) had *note-to-beat ratios* greater than the piece that they follow. As with *New Dimensions*, this only moderately supports the primary hypothesis.

Therefore, the answer to the primary research question is, no, *note density* alone does not significantly predict the ordinal placement of individual pieces in a graded guitar repertoire. Examining subsets of pieces revealed patterns that challenged the underlying assumption that pieces in a progressive, sequential repertoire present increasingly difficult challenges throughout the series. The remaining analysis addressed the secondary research question: What factors influence ordinal placement for pieces not predicted by *note density*? To make the sample easier to understand, repertoire was grouped by level, with *New Dimensions*, and by book, in the case of *Suzuki Guitar School*. Note that the Y-axis scales differ for each graph.

**Findings from the Michelson Collection by “Level”**

*New Dimensions in Classical Guitar*, Level I

Figure 15 displays *note density* for the nine pieces in Level I of *New Dimensions*. The first two songs, “Cuckoo” and “One, Two, Tie My Shoe,” are simple two-note *sol-mi* pieces on string 2 with identical rhythms. The only difference is the latter has more repeats. “See-Saw” and
“Star Light, Star Bright” offer students more practice with slightly more-complex patterns of quarter notes and beamed eighth note pairs.

Figure 15. *Note-to-beat ratios for New Dimensions, Level I*

A significant drop in *note density* in “Mill Wheel” correlates with the introduction of new material: open E on string 1 and the half note. “Rain, Rain” integrates the material learned in “Mill Wheel” with a *note density* approximately in line with the previous three pieces. “Ring Around the Rosy” introduces another new note, open G on string 3, which corresponds to a slightly lower *note density*. End-of-bar quarter rests appear in “Strawberry Shortcake” without instructional comment; otherwise, no new material appears in this piece. Michelson introduces the technique of damping strings for rests in Level V. The data for this level support the secondary hypothesis that *note density* will not increase when new challenges first appear.

*New Dimensions in Classical Guitar, Level II*

Level II material appears in figure 16. “Hot Cross Buns” introduces the new notes A and B on string 3 using fingers 2 and 3, respectively. “Bye Bye Baby,” with a slightly lower NTBR than the previous piece, presents the challenges of a descending B to G major third within beamed eighth notes and an ascending A to D perfect fourth. With higher NTBRs, the next two
pieces develop previously presented material. “Merrily We Roll Along” and “Let Us Chase the Squirrel” present no significant new material.

![Figure 16. Note-to-beat ratios for New Dimensions, Level II](image)

In “I See the Moon,” there is a notable drop in note density accompanying the introduction of the dashed ligature that indicates “hold finger down.” “Bought Me a Cat” has an even lower NTBR. It is lengthy, has navigational challenges, and introduces an unpaired eighth note. “Rocky Mountain” and “Here Comes the Bluebird” provide new contexts for previously learned material. “Fais Do Do,” with the lowest NTBR of this section, introduces 3/4 time. “Mama, Buy Me a Chiney Doll” introduces sixteenth notes, yet the note density for it and “Ida Red” continue at the level of “Who’s That?,” “Merrily,” and “Let Us Chase the Squirrel.” The NTBR data for this set follows a rise-fall-rise-fall-rise pattern that seems to balance the challenges presented by the material. High challenges correspond to low NTBRs. Therefore, the secondary hypothesis is supported.

*New Dimensions in Classical Guitar, Level III*

Level III of *New Dimensions* begins with the theme and variations of “Twinkle, Twinkle Little Star.” See figure 17. In this piece, students are introduced to the note C on string 2.
Although this piece has the highest *note density* of all Level III pieces, that does not necessarily reflect its difficulty level. Using the rote rhythmic patterns on the “Twinkle” pitches makes playing of this piece easier because it gives students more time to execute note changes. The lower octave “Twinkle” has an appropriate NTBR for Level III, yet a lower number was hypothesized since so many new pitches are being introduced here. Because the book resumes in the usual higher octave, perhaps Michelson intended this piece to be an ear-training exercise using a known tune.

Figure 17. *Note-to-beat ratios for New Dimensions, Level III*

Following, the density of the initial “Twinkle,” “Aunt Rhody” seems to be a simpler tune to practice using the new note C. “Frere Jacques,” with a higher NTBR, introduces no new material but is challenging because the student must change notes on four successive sixteenth notes during the lyrics “*sonnes les matines*.” “Lightly Row” introduces 4/4 time and whole notes, accompanied by a low NTBR. *Note density* spikes with “Hush Little Baby,” which is the most rhythmically complex piece yet encountered. “Little River Flowing” poses little challenge. The NTBR dip of “Michael, Row the Boat Ashore” can be attributed to introducing the dotted quarter note. “Michael, Row the Boat Ashore” challenges students to accurately count the elongations of dotted quarter, half, and whole notes. The density of “Looby Loo” can be attributed to its 6/8
time signature and eighth note microbeats. This piece also introduces a dotted half note elongation that feels like two macrobeats. “Song of the Wind” follows with an elevated NTBR. It coincides with the introduction of high G, but the piece is otherwise unremarkable. “Lavender Blue” presents the dotted half note elongation again, this time in 3/4 time as three macrobeats. The remaining pieces in this level reinforce 3/4 patterns.

In Level III, some new material corresponds to lowered note density, yet others do not. This section only partially explains variances in NTBR based on challenges. Therefore, the secondary hypothesis is only partially supported with this Level III repertoire.

*New Dimensions in Classical Guitar, Level IV*

Apart from the high spike in “Jim Along Josie” and the dip in “English Song,” Level IV material supports the primary hypothesis. See figure 18. In “May Song,” students are first directed to use finger 4 on high G. “Jim Along Josie” has the highest NTBR of this group and challenges students with rhythms based on eighth-sixteenth-sixteenth and sixteenth-sixteenth-eighth patterns. Although “Come Little Children” has a lower NTBR than “Jim Along Josie,” the song merely expands on previously learned material. The lower NTBR for “Come Little Children” is due to the unusually high NTBR of the previous piece.

![Figure 18. Note-to-beat ratios for New Dimensions, Level IV](image-url)
“Simple Gifts” introduces a new note, F# played on string 4 with finger 4, yet its NTBR remains in the vicinity of neighboring pieces, contrary to the secondary hypothesis. “Moon Magic” progresses in note density and revisits notes first presented in the lower octave of “Twinkle.” It is the first piece written in a minor key. Students play “Moon Magic” with the thumb using free strokes. This new technique does not coincide with a dip in NTBR, contrary to the secondary hypothesis. “Love Somebody” reinforces previously presented material. “Sometimes I Hear A Song” is a brisk 3/8 tune with no significant new challenges. With the lowest density in this set, “English Song” introduces F# on string 1 and the descending G major scale. “Kookaburra” contains denser rhythm patterns but no new material. The analysis of the material in Level IV supports both the primary and secondary hypotheses.

New Dimensions in Classical Guitar, Level V

On first examination of the chart for Level V, figure 19, there seems to be a general progression from “Turn Again, Whittington” up to “Green Holm Jig” with the outliers “I’ll Be a King,” “Who Built the Ark?,” and the final three pieces. “I’ll Be a King,” in 3/8 time, has no new material and continues with nearly equivalent note density as “Kookaburra” from Level IV. “Turn Again, Whittington” is in 3/4 time. If the research instrument had counted eighth notes as macrobeats in compound time, then “Turn Again” would be denser than “I’ll Be a King.” “Cotton Eye Joe” and “Baker’s Shop” are nearly identical in density, although the latter presents the dotted eighth-sixteenth pattern and staccato. “Five Hundred Miles” introduces the sixteenth-eighth pattern and sixteenth pick-up notes. Its higher NTBR does not support the secondary hypothesis.
Figure 19. Note-to-beat ratios for New Dimensions, Level V

The NTBR for “Round Up Four” dips, as it introduces eighth-quarter-eighth syncopation. Written similarly to “Round Up Four” but in *alle breve* time, “Alabama Girl” reinforces syncopation in cut time. Sounding rhythmically like “Alabama Girl,” “Who Built the Ark?” has an elongated syncopation in 4/4 time. This piece also introduces damping the strings on rests and includes a tie. Having a natural continuation with the same feel as the previous piece and written with similar note values, its lower NTBR results from the difference in denominators in the time signature.

Written in 6/8 time, “Green Holm Jig” has the highest NTBR other than the “Twinkle” variations. “Freight Train” presents little challenge and likely serves to balance the difficult “Green Holm Jig.” The Mozart “Minuet,” with a significantly lower NTBR, introduces students to high A on string 1. Bach’s “Minuet in G” rounds out the collection with an accessible, low NTBR piece with which students can work on phrasing. The data from this collection generally support the primary and secondary hypotheses. The wide variations between “I’ll Be a King” and “Turn Again, Whittington” and between “Alabama Girl” and “Who Built the Ark?” result from intentional notational similarities with different denominators in the time signature.
Summary Analysis of *New Dimensions in Classical Guitar* Data

A closer examination of the *New Dimensions* material revealed that, despite the low correlation between NTBR and ordinal position within the repertoire collection, *note density* tended to reflect the overall difficulty of a piece of music. Like *New Dimensions*, a closer look at the *Suzuki Guitar School* repertoire revealed trends and exceptions that lend further credence to the primary and secondary hypotheses and helped answer the secondary research question more fully. In the figures and analysis below, the Suzuki repertoire was considered in the context of the volume in which each piece appears.

**Findings from the Suzuki Collection by “Volume”**

*Suzuki Guitar School, Volume 1*

*Suzuki Guitar School, Volume 1* can be considered having three sections: the introductory material through “Twinkle,” “Lightly Row” through “Perpetual Motion,” and “Rigadoon” through “Meadow Minuet.” Rest stroke is taught throughout. The volume begins with “Twinkle, Twinkle, Little Star Variations.” The Suzuki version of “Twinkle” has a different *note-to-beat ratio* than the Michelson version. Michelson’s theme is based on eighth notes, while Suzuki’s is based on quarter notes. The variations also differ rhythmically. As explained in the Level III of *New Dimensions*, the “Twinkle” variations reflect an unusually high NTBR. Since students learn these as aural patterns and apply them to a known tune, this arrangement facilitates learning of the piece rather than creating an overly difficult challenge.

Looking at figure 20, the expected slope of the first half of the book can be established by drawing an imaginary line between “Lightly Row” and “Perpetual Motion.” The low NTBRs for “Aunt Rhody,” “May Song,” and “Allegretto” beg explanation. Often taught aurally to young students, “Lightly Row” is in cut time and consists entirely of quarter notes and half notes. Were
it written in common time, its NTBR would be less than “Aunt Rhody.” When taught aurally, the notation on a tune this simple is arbitrary.

Figure 20. Note-to-beat ratios for Suzuki Guitar School, Volume 1

The overarching technical goal of the first half of this volume is to develop the G major scale and to give students opportunities to practice playing melodic third intervals. “Lightly Row” features the first half of the ascending G major scale. With “Go Tell Aunt Rhody,” the NTBR dips significantly. The piece is written in 4/4 time and comprises eighth, quarter, and half notes. One of the challenging rhythmic aspects of this piece is the shifting rhythm patterns exemplified in the first two measures: quarter-eighth-eighth-quarter-quarter versus quarter-quarter-eighth-quarter-quarter. Dynamics, *forte* and *piano*, appear in print for the first time. The B to G figure at the end of the first and third lines can be thought of as introductory arpeggios. The density of “Song of the Wind” is nearly the same as “Lightly Row.” The piece introduces high G, the use of finger 4, and the repeat sign.

“May Song” registers a lower NTBR and coincides with the introduction of the first dotted elongation in a dotted quarter-eighth-quarter-quarter note pattern. A further dip in NTBR appears with the single-voice version of Giuliani’s “Allegretto.” A two-voice version appears in the second volume. This piece introduces 3/4 time and has elongations in the form of half notes.
and dotted half notes. The elongations in “Allegretto” appear throughout the melodic line, not just at the ends of phrases as with previous pieces. “Perpetual Motion” is a common time composition comprising eighth notes played throughout outlining the G major scale. High F# is introduced in this piece. This capstone piece features alternating i-m fingering throughout, extensive melodic thirds, and the complete G major scale.

Beginning with “Rigadoon,” students work on proper left-hand shape in position II. The piece requires shifting and introduces the notes D, E, and F# on string 4. All material up to this point has been in the key of G major. “Are You Sleeping, Brother John?” introduces the key of D major and the first six notes of that scale. This piece provides reinforcement for position II and introduces B on string 3 and open A on string 5. “French Folk Song” introduces C# on string 2, completing the D major scale. Continuing in position II, the Füerman “Tanz” introduces high A on string 1, completing the first five notes of the upper-octave D major scale. This piece has the lowest NTBR in this volume. The Bach “Tanz” presents the first finger shift and the first formal a-m-i fingering pattern.

“With Steady Hands” offers students the first two-voice repertoire piece in which thumb and fingers alternate eighth notes. The piece features a string 5 pedal point on A and a modal tonality. This volume concludes with the two-voice “Meadow Minuet,” in which students shift from position II to position VII for the first time. New notes include high G#, high B, and high C# on string 1. Elongations appear in the form of ties. The data for Suzuki Guitar School, Volume 1 tend to support the secondary hypothesis.

Suzuki Guitar School, Volume 2

Suzuki Guitar School, Volume 2 begins with “Long, Long Ago.” In this piece, played primarily in second position, the thumb plays a more active role in providing a rhythmic bass to
counter the melody. “Long, Long Ago” introduces fretted E on string 2 and the closed form of the A major scale. Suzuki’s “Allegro” has bass and treble notes sounding simultaneously for the first time. Additionally, “Allegro” has the first fingered bass note, low C#, and the first fermata. “A Toye” has moderate rhythmic demands in 6/8 time. Students must use transverse fingering parallel to the fret for A and C#. The dotted eighth-sixteenth-eighth note pattern is a new rhythm. Carcassi’s “Andante” challenges students to differentiate between eighth notes and dotted eighth-sixteenth patterns. Low G# first appears in the bass, and students encounter their first upward slur. The Paganini “Andante” in D major has students shifting to position VII for more extensive passages and introduces high D on the first string, completing the upper half of the upper-octave D major scale.

The version of Giuliani’s “Allegretto” in Suzuki Guitar School, Volume 2, contains the melody from Volume 1 along with harmony played a third below. This is the first instance of fingers m and i playing together, requiring students to use free strokes. The rest of this volume focuses on mastering free stroke. The NTBR is lower for this piece than the pieces on either side of it in the repertoire sequence. See figure 21. “Corrente” is a longer piece with more repeats, including D.C. al Fine, and comprising extensive harmonic thirds. In the C and D sections, players shift from position VII to position IX to play high E. The first downward slur and grace note appears. The Carcassi “Andantino” in C is the first three-voice piece. The Carulli “Allegretto” in C has upward and downward slurs, low A# and B, and a D.S. al Fine. This is the first piece that requires players to mute a string. It represents a substantial technical challenge for players at this level. The Calatayud “Waltz” in E minor presents harmonics G, B, and E at fret XII. It features a melody, two inner voices, and a bass line. A challenge for this piece lies in
balancing the voices. Though not stated on the score, students are encouraged to use rest strokes for the melody and free strokes for the other lines.

![Figure 21](image.png)

**Figure 21. Note-to-beat ratios for Suzuki Guitar School, Volume 2**

All the pieces in this volume have something new to teach students encountering them for the first time. In attempting to determine the validity of the secondary hypothesis, the pieces that have lower densities are the most telling, i.e., numbers 4, 6, 8, 9, and 10 on the graph. It is not clear what technical challenges justifiably account for a lower note density. Although Carcassi’s “Andante” feels appropriately sequenced, it does not seem like the material presented in this piece justifies a lower NTBR. “A Toye” and the Paganini “Andante” are both in compound time. This likely explains their elevated NTBRs.

The Giuliani “Allegretto,” Carcassi “Andantino,” and Carulli “Allegretto” all seem to have challenges that would justify a lower NTBR than the pieces they follow. Additionally, the scale is growing wider than in previous subsets. The difference in note density between the Giuliani “Allegretto” and Paganini’s “Corrente” is enormous. The elevated NTBR of “Corrente” is probably the result of an anomaly of the research instrument in the treatment of certain time signatures, 3/8 in this case. Based on note density, the Calatayud “Waltz,” seems too easy to be placed at the end of this volume. Its placement likely reflects an editorial decision by the Suzuki
Guitar Committee to balance the preceding piece. The data tend to support the secondary hypothesis; however, as is the case with qualitative analysis, interpretation tends to be subjective.

*Suzuki Guitar School, Volume 3*

Figure 22 represents *note density* for repertoire in *Suzuki Guitar School, Volume 3*. The graph shows an implied slope from “Nonesuch” through “Packington’s Pound” up to the Paganini “Waltz.” Compared to that imagined line, “Greensleeves,” “Ghiribizzo,” and the Paganini “Andantino” seem to have low *note densities*. Conversely, a more horizontal line could be drawn from “Nonesuch” to “Celeste y Blanco” that would imply the pieces in the middle are inappropriately difficult.

![Graph](image)

*Figure 22. Note-to-beat ratios for Suzuki Guitar School, Volume 3*

The first three pieces in this volume are in the key of A minor. The primary challenge of “Nonesuch” is the left-hand reach from string 2 with finger 4 to string 5 with finger 3. Finger *a* plays a prominent role in the melody. “Greensleeves,” demands an even wider finger 3 and 4 reach from string 1 to 5 and string 2 to 6. “Packington’s Pound” is written with increasingly complex 6/8 rhythm patterns. Ornamentations of repeated sections are written into the score. Paganini’s “Ghiribizzo” in A major affords students the opportunity to play moving thirds in a major tonality. Students also encounter first and second endings.
According to the research instrument, the Paganini “Waltz” in 3/8 is the most note-dense piece in this volume. As a compound meter piece, it was assumed in this study that dotted quarter notes were to be macrobeats rather than eighth notes. Had it been the other way around, this and the other compound meter pieces would have lower NTBRs. As it is, “Waltz” is rhythmically varied and requires guitarists to move in tenths and octaves on new areas of the fretboard. Carulli’s “Andantino” focuses primarily on \( p-i-m-a, p-m-p-i, \) and \( p-a-m-i \) finger patterns. It has the most notes to be played of any piece yet encountered.

Sagreras wrote “Calliope (Lesson 61)” as a bass melody piece. It has a challenging section in the fourth line, but otherwise seems to balance the previous two challenging pieces. The Carulli “Etude” reinforces right-hand techniques taught in previous works. Corresponding to a low NTBR, the Coste “Etude” teaches half of the third octave A major scale in position IX. This piece also features block chords, a fingertip bar, and chords on non-adjacent strings.

Küffner’s “Arietta Theme & Variations” is a lengthy piece that expands on the skills developed in previous pieces in this volume. It is primarily written in A major with one variation written in the parallel minor. “Celeste y Blanco,” the first Latin American piece in the collection, feels like an easy conclusion to the volume. It is the second E minor waltz players encounter in the collection. The left-hand reach required for “Greensleeves,” the moving thirds of “Ghiribizzo,” the length and right-hand work required in “Andantino,” the position IX work in the Coste “Etude,” and the scope and scale of “Arietta” all tend to support the secondary hypothesis.

*Suzuki Guitar School, Volume 4*

The chart for *Suzuki Guitar School, Volume 4* shows a general rise from “Siciliana” to “Meissonier Waltz;” slight dips for the Giuliani “Allegro” and Carcassi “Waltz Allegro;” and substantial drops for “Lesson for Two Lutes,” “Bourrée,” and “La Folia.” See figure 23. Many of
the works in this volume expand on previously learned material rather than present substantially new concepts. “Siciliana,” written in A minor and A major, features previously presented rhythm patterns. The piece gives players additional opportunities to practice downward slurs and shifting harmonic thirds. The Giuliani “Allegro” is a thumb-melody composition where students learn a new right-hand pattern, \( p-i-m-i-a-i-m-i \). The low NTBR of this piece likely corresponds to the high amount of previously learned techniques it requires.

![Suzuki Guitar School, Volume 4](image)

Figure 23. Note-to-beat ratios for Suzuki Guitar School, Volume 4

Sor’s “Lesson” has extensive sequential slurring that prepares students for “La Volta” in the next volume. Sor’s “Etude, Op. 60, No. 9,” is a pre-tremolo study that uses extensive a-m-i fingering. The Meissonier “Waltz” combines block chord work, string muting, and an expanding utilization of slurs. Carcassi’s “Waltz Allegro” combines previously learned skills. Both “Waltz” and “Waltz Allegro” in 3/8 display uncharacteristically high NTBRs, which is consistent with other 3/8 pieces encountered thus far.

“Lesson for Two Lutes” drops substantially on the chart, yet offers few new challenges for this level other than a wider bar. Its inclusion here likely serves to balance the difficulty of the previous two pieces. The Baroque era “Bourrée” contains more counterpoint and independent voices. “Variations on La Folia” presents many fingering challenges. As the drops in note density
do not seem to be associated with the introduction of substantially new techniques or concepts, the analysis of *Suzuki Guitar School, Volume 4* supports neither the primary nor secondary hypothesis.

*Suzuki Guitar School, Volume 5*

*Suzuki Guitar School, Volume 5* contains moderately advanced material. Many of the works in the rest of the collection are there to expand on previously learned material rather than to provide the context for learning a new skill. A thorough analysis of every composition in the collection was beyond the scope of this study. With advanced pieces, the ever-increasing number of details to consider would muddle the central point of the second research question. Therefore, analysis of the remaining volumes mainly focused on perceived outliers and was limited to the primary challenge(s) contained therein.

The NTBR graph for *Suzuki Guitar School, Volume 5*, seen in figure 24, supports the primary and secondary hypotheses. *Note density* predicts ordinal placement 67% of the time in this subset. Note the expanded Y-axis scale.

![Suzuki Guitar School, Volume 5](image)

*Figure 24. Note-to-beat ratios for Suzuki Guitar School, Volume 5*

Following the relatively dense “Valse Español,” NTBR drops for “La Volta” and gradually rises to a peak in “Sueño.” “La Volta” presents substantial new techniques for students to master. There is extensive slurring in the treble voice and a rest stroke ostinato in the bass.
This is also the first piece in drop D tuning. The negative NTBR slope from “Valse Español” to “La Volta” is likely another idiosyncrasy of how the research instrument treats pieces in 3/8 time. If “Valse Español” was considered having three macrobeats instead of one, it would be nearly on the same level as “La Volta.”

Subsequent works through “Gavottes I & II” present progressive difficulties implied by their low NTBRs. The unusually high NTBR in “Sueño” reflects the extended passages of thirty-second notes that accompany the introduction of tremolo technique. This series concludes with the Giuliani “Allegro Vivace” with an NTBR slightly less than the “Gavottes.”

*Suzuki Guitar School, Volume 6*

In *Suzuki Guitar School, Volume 6*, NTBR is only 50% predictive of ordinal placement of repertoire in the sequence. This does not support the primary hypothesis. The graph in figure 25 shows only one substantial outlier, Narváez’s “Guárdate las Vacas.”

![Graph showing note-to-beat ratios for Suzuki Guitar School, Volume 6](image)

*Figure 25. Note-to-beat ratios for Suzuki Guitar School, Volume 6*

This Renaissance piece presents a substantial challenge to students. Yet the NTBR for “Guárdame las Vacas” is on the level of material from the first volume. Written in 6/4 time, this piece would likely be better considered as having two macrobeats instead of six. This is an additional peculiarity of the research instrument. As it is, the secondary hypothesis is not
supported. The *note densities* of both Sor pieces, being slightly lower than the pieces they follow, correspond with increased difficulty and do support the secondary hypothesis. Overall, the data for this set only partially support the secondary hypothesis.

*Suzuki Guitar School, Volume 7*

Like the previous volume, *Suzuki Guitar School, Volume 7* contains only one outlier and a few minor deviations. See figure 26. Except for the “Largo,” the sequence shows a gradual rise in NTBR throughout the series, with a slight dip for the Bach “Prelude.” The “Largo” is the second of three movements in Vivaldi’s “Concerto for Lute Soprano and Strings, RV 93.” The dense “Largo” is the easiest of the three movements, followed by movements III and I, respectively.

![Figure 26. Note-to-beat ratios for Suzuki Guitar School, Volume 7](image)

This volume continues as expected, not including the Bach “Prelude,” and supports the primary hypothesis. “Canarios,” the piece that precedes “Prelude,” contains many hemiolas. This piece also introduces *rasgueados*, which, like other pieces with block chords, inflate the *note-to-beat ratio*. It may also be that the NTBR for the Bach “Prelude” is lower in accordance with its technical demands. It is a high-level Bach work. With 67% predictability, this sequence moderately supports the primary hypothesis and moderately supports the secondary hypothesis.
Suzuki Guitar School, Volume 8

The repertoire in Suzuki Guitar School, Volume 8 shows two instances where note density decreases: “Sakura, Theme and Variations” and “El Testament D’Amelia.” Furthermore, the high NTBR of the Bach “Gavottes” seems to be out of place in comparison to the rest of the subset. See figure 27.

Cimerosa’s technique-building “Sonata in A Major” has an NTBR similar to the final title of the previous volume. The high technical and stylistic demands of “Sakura,” including *i* tremolo and extensive use of harmonics in Variation II, coincide with a lower NTBR supporting the secondary hypothesis. Likewise, introducing right-hand harmonics in “El Testament D’Amelia” justifies its lower NTBR and supports the secondary hypothesis. The Bach “Gavottes” were originally written for lute and are, therefore, more idiomatic for guitar than previously encountered Bach works. The high NTBR for these pieces are likely because of their *alle breve* time signatures, which effectively doubled note density for what otherwise seems to be straightforward works. The data support the primary hypothesis 60% of the time. The secondary hypothesis is partially supported.
Suzuki Guitar School, Volume 9

Each piece in Suzuki Guitar School, Volume 9 is challenging in its own way. Figure 28 demonstrates that only one piece’s NTBR is higher than the piece it follows. Therefore, these data do not support the primary hypothesis. Although “Capricho Arabe” is technically and stylistically demanding, its comparatively low NTBR can be attributed to the unusually high NTBR of “Recuerdos de la Alhambra.” The extended thirty-second note tremolos in “Recuerdos de la Alhambra” cause it to be a true outlier in this analysis. This does not support the secondary hypothesis.

Figure 28. Note-to-beat ratios for Suzuki Guitar School, Volume 9

Mudarra’s “Fantasia que contrahaza la harpa en la manera de Luduvico” is the first piece in the collection to use the Renaissance practice of tuning string 3 to F#. Compared to the first two pieces in this collection, the technical demands of “Fantasia” do not explain the lower NTBR. This, too, does not seem to support the secondary hypothesis. Finally, Albéniz’s “Asturias (Leyenda)” has a lower NTBR than the Sor “Variations on a Theme by Mozart.” The Sor piece is a dense Classical period theme and variation. While the Albéniz piece does introduce a new pizzicato effect, its placement seems to be an editorial decision. Six of the nine
volumes of *Suzuki Guitar School* conclude with slightly easier pieces than the penultimate compositions. “Asturias” follows this trend and does not support the secondary hypothesis.

**Summary Analysis of Suzuki Guitar School Data**

Examining the Suzuki repertoire within the context of each volume revealed insights that were not readily apparent in the review of the entire collection. Of the nine volumes, data for three provided moderate-to-strong support of the primary hypothesis. These were advanced literature volumes: numbers 5, 7, and 8. Analysis of instances where the primary hypothesis was not supported, 52% of the pieces, revealed that approximately half of those support the secondary hypothesis.

**Summary of Findings**

Based on analysis of the data, the primary hypothesis was supported less than half (46%) of the time. Where the data did not support the primary hypothesis (54%), the secondary hypothesis was supported in just over half (53%) of the remaining pieces (i.e., 53% of 54%). Considered together, the primary and secondary hypotheses account for approximately 75% of repertoire sequencing. These results lend significant credence to the use of *note density* as an evaluative metric. During the analysis, other factors emerged that will help further refine the instrument for sequencing of repertoire using *note-to-beat ratios*. These are discussed in the next chapter. As mentioned at the start of this chapter, the answer to the primary research question is, no, *note density* alone does not significantly predict the ordinal placement of individual pieces in a graded guitar repertoire. The answer to the secondary research question is, factors other than *note density* that influence ordinal placement for pieces in a repertoire collection include the introduction of new technical challenges, balancing challenging and less challenging works, peculiarities of some right-hand guitar techniques, peculiarities of the evaluation instrument in
the treatment of dissimilar time signatures, and performance-influenced editorial decisions that consider each book as a recital sequence.
CHAPTER FIVE: CONCLUSION

Summary of the Study

This study examined the validity of using note density to explain the sequencing of musical repertoire. In cases that did not support the primary hypothesis, the study sought to understand why. Two well-established repertoire collections were evaluated based on note density and each piece’s ordinal placement within its collection. To better understand the results, pieces were also evaluated based on their placement within smaller subsets, according to level or book volume.

Summary of the Purpose

Recent studies reveal that most school guitar teachers never formally studied the instrument. This study sought to help them select and sequence music to use within a course of study. For those guitar teachers who already follow a curriculum or method, this thesis intended to show that note density can be used to help evaluate supplemental repertoire. Finally, it was important to close the gap that existed in the scholarly literature for teaching very young guitar students.

Summary of the Procedure

To determine note density for the quantitative portion of the study, data were gathered from the printed music. Data for the calculations included the time signature, the number of measures, and the total number of notes to be played in each piece. Data for every work were recorded on a spreadsheet. The spreadsheet formulae first calculated the total number of beats in each piece and then, from this, derived the note-to-beat ratio. For each collection, the author determined the number and percentage of times a piece had a higher note-to-beat ratio than the piece that preceded it. This addressed the primary research question.
The secondary research question sought to explain instances where pieces did not have higher note-to-beat ratios than preceding pieces. This required a qualitative evaluation of the sample. The author created graphs of the note-to-beat ratio data to better understand note density trends. Each collection was first graphed in its entirety. Then, density graphs were created for subsets based on level or book volume. Finally, the musical scores were scrutinized to determine whether the secondary hypothesis offered the most probable explanation for note-to-beat ratios incongruent with the primary hypothesis. In other words, the objective of the qualitative analysis was to determine whether occurrences of pieces with note-to-beat ratios lower than the pieces they follow corresponded with the introduction of a more challenging technique or musical concept.

**Summary of the Prior Research and Findings**

Previous research showed that most school guitar teachers never formally studied guitar and that they perceived there to be insufficient resources to support their teaching. Other studies illustrated ways that these under trained guitarists are taking charge of their own continuing education by attending guitar-teaching workshops and taking private lessons. The literature underscores the need for high-quality musical repertoire in the curriculum. Syllabi, festival bulletins, and prescribed music lists may help teachers add appropriate music to their curriculum. Frequently, these static lists do not have accompanying explanations and may be of little help. There are few resources to guide guitar teachers who choose to design their own curricula.

Studies showed several ways that repertoire can be analyzed. Rubric-based analyses can be developed to aid in grading the challenge of a piece. Annotated bibliographies of repertoire can also be created to help in evaluation. At the same time, an annotated bibliography may require advanced knowledge of the repertoire that school guitar teachers may not possess. Note
Density is a promising new dimension for understanding repertoire; however, the author’s 2017 study is the only other known instance of note density being used for musical analysis.

In the quantitative portion of this study, it was found that note-to-beat ratio predicted ordinal placement almost half of the time (46%) for both samples. For the qualitative portion of the study, where NTBR did not predict ordinal placement (54%), the “introduces a new challenge” hypothesis satisfactorily explained the reasoning just over half of the time (53% of the subset).

The NTBR analysis of the repertoire revealed additional explanations for instances where NTBR did not predict ordinal placement. The introduction and inclusion of elongations logically corresponded to lower note densities. Pieces that present unusually high challenges are often followed by pieces with lower challenges so that students will not get overwhelmed. The nature of some guitar music lends itself to higher note densities without making the piece substantially more difficult. These pieces usually feature repetitive right-hand patterns, tremolo, block chords, and so on. Preceding pieces may be artificially high due to the way the analytical instrument treated pieces in compound meters. With the Suzuki repertoire, entire books are traditionally performed in recital. Therefore, actual sequencing may balance teaching and recital programming.

It is important to remember that composers and editors may never have consciously considered note density when putting ink onto the page. Note density is simply a fresh way of looking at music. While note density cannot reliably be used in isolation to sequence repertoire, it has proven to be a valuable metric in the sequencing process. As teachers continue to use various methods for sequencing teaching repertoire, note density analysis should help them refine those methods and improve their curricula.
Limitations

In beginning repertoire for most instruments, folk melodies tend to appear more frequently than art music. Inconsistent pedagogical and editorial approaches in notating commonly used tunes can negatively affect the results of the analytical method used in this study. For instance, in Michelson and Suzuki’s two versions of the “Twinkle, Twinkle, Little Star” melody, students are presented with the same melody written two different ways with two different note densities. Compare figure 29 and figure 30.


Yet the performance of the music offers no difference in challenge to the player. This is especially true for pre-reading students who learn by ear. Therefore, care should be taken when
using this method to analyze adaptations from different sources. *Note-to-beat ratio* is contextual and only one of many variables that educators should consider when selecting and sequencing repertoire.

An additional limitation of this study concerns the treatment of pieces written in 3/8 and 6/4 time signatures. Seven pieces in the sample were written in a meter of 3/8, and one was written in a meter of 6/4. As calculated in the study, the *note-to-beat ratios* for these pieces seemed to be outliers compared to neighboring pieces. The NTBRs seemed too high for 3/8 pieces and too low for the 6/4 piece. In the study, 3/8 pieces were treated like other compound meter pieces, with the dotted quarter note considered being the macrobeat. If 3/8 pieces are instead considered as having three macrobeats per measure, then the NTBR falls into the expected range. This is illustrated in figures 31 and 32 which show the two treatments of Ferrer’s “Vals Español.”

![Figure 31. Ferrer’s “Vals Español” in 3/8 time, treated as having one macrobeat per measure](image)
The Suzuki edition of Narváez’s “Guárdame las Vacas” appears with a 6/4 time signature. In the study, the NTBR for this piece was calculated assuming six macrobeats per measure. In the analysis, its NTBR was significantly lower than its neighboring pieces. See figure 33. If the piece is reconsidered as having two dotted half note macrobeats per measure, then the NTBR rises into the expected range. See figure 34. The original correlation coefficient for the Suzuki data was 0.54. Reconsidering the six anomalous Suzuki pieces, as described above, yielded a correlation coefficient of 0.61. Reconsidering the two Michelson pieces with 3/8 time signatures yielded a new correlation coefficient of 0.06, down from 0.15. Although notable, these anomalies did not significantly affect the outcome of the study. Comparative charts for all eight of the anomalous pieces appear in Appendix E.
Figure 34. Narváez’s “Guárdame las Vacas” in 6/4 time, treated as having two macrobeats per measure

**Recommendations for Future Study**

The next logical step for evaluating *note density* is to analyze it alongside other commonly used metrics in a rubric. Further study should investigate *note density* as a function of *tempo*. While not analyzed, the *total number of notes* metric also appeared to have a predictive probability for repertoire sequencing.

Each piece in the Suzuki collection was included with a pedagogical purpose in mind. It can be inferred from the *note density* analysis that the Suzuki Guitar Committee relied on some criteria for evaluating *difficulty* when sequencing repertoire in their collections. For example, difficult pieces frequently appeared alongside less challenging pieces, each volume tended to have one particularly challenging piece toward the middle, and final pieces tended to be less difficult. Future studies could examine optimal sequencing practices of teaching repertoire within curricula.

Additional studies are needed to continue filling the literature gap on guitar pedagogy for very young students. As with bowed string instruments, luthiers and manufacturers build guitars in fractional sizes ideally suited for elementary school children. Typically, students abandon their elementary instruments (e.g., recorders, rhythm instruments, barred percussion, and ukuleles) as
they move to the secondary grades to specialize in band, choir, or orchestra. If guitar instruction was offered in primary and secondary programs, students would undoubtedly benefit tremendously. To this end, a comprehensive elementary and elementary-to-secondary guitar curriculum should be developed. More than most other instruments commonly taught in schools, guitar has the possibility of being taught at the elementary, secondary, and post-secondary levels and of becoming a true, lifelong endeavor.

Appendices F and G list the composers of the music included in the sample, sorted by birth year and country, respectively. These pieces were written almost entirely by male composers from European countries. Socially responsible and responsive curricula require that teachers actively negate gender and cultural biases in all aspects of teaching, including the repertoire. Therefore, additional studies should be conducted to highlight and analyze guitar music written by female composers and composers whose cultural background is underrepresented in the standard Euro-centric repertoire. Furthermore, studies of more contemporary repertoire would benefit the teaching profession.

The repertoire sampled for this study represents a robust body of work spanning five centuries. An annotated bibliography of the pieces, like Sorrensen’s analysis of Canadian trombone repertoire, would be an invaluable resource for guitar teachers. Other collections, like The Royal Conservatory of Music Guitar Series, merit scholarly examination. Doing so would bring music written by more contemporary composers and compositions representing more countries to the attention of guitar teachers.

Finally, further study should investigate occurrences and the scopes of university guitar methods classes for pre-service music educators. Since the Tanglewood Symposium, the
inclusion of guitar in music education has grown immensely. It is incumbent upon music teacher preparation programs to include guitar methods classes in their degree plans.

*Note density* has previously proven to be a meaningful metric when analyzing music written for accordion, electronic keyboard, organ, and piano. This study showed that *note density* is also useful for understanding classical guitar repertoire. This thesis may encourage further research by those wishing to apply this analytical method to repertoire for other instruments.

**Implications for Practice**

This study sought to help guitar instructors select and sequence music for teaching more effectively. Given the countless tried-and-true and trial-and-error methods in use today, *note density* analysis provides another tool that they can employ. For instance, if a teacher has selected ten pieces to teach a beginning guitar class during a term, they may begin by organizing the pieces in the order in which pitches are presented. For pieces that use similar pitch sets, further ordering by *note density* may yield the optimal teaching sequence.

A second example might be that of a teacher following a curriculum or method book and finding that students need more time to reinforce a technique before moving on to new material. The teacher, in this case, can determine the *note density* for the piece in which the technique first appears. They can then supplement the curriculum or method with a composition of equal or lower *note density*, affording the student additional opportunities to practice the technique without delving into more difficult music before they are ready.

Composers and arrangers can use *note density* as a parameter when creating works targeted at musicians in a certain stage of development. For instance, except for two works, pieces in *Suzuki Guitar School, Volume 3* have *note densities* between 1.06 to 3.62 notes per beat. Therefore, a developing intermediate guitarist who has completed *Suzuki Guitar School,*
Volume 3 should feel at ease playing comparable music written within that NTBR range. Should a composer wish to write denser music, with a higher NTBR, in one section of a composition, they can then balance it with less dense music, with a lower NTBR, in another section to keep total note density within the desired range.

Finally, contest and festival committees can use note density when classifying music into banded difficulty levels. Note density used alongside other metrics, such as length, tempo, and shifting, further refines the grading process and adds objectivity. As the repertoire grading process becomes more objective, it becomes easier to add additional works to leveled music lists. This affords students more opportunities to interact with new, appropriately graded music.

Summary

Since the guitar burst onto the American popular music scene in the mid-twentieth century, educators have sought ways to include the instrument in school-based music programs. Despite a heritage spanning centuries, its flexibility means that musicians can find their own paths to guitar enjoyment with little regard for classic techniques. As self-taught guitarists become teachers, poor technique and lack of familiarity with the literature mean that the rigor of school-based guitar programs frequently falls below that of band, choir, and orchestra. Yet guitar teachers rise to the challenge through professional development and continuing education.

This study sought to address the problem of selecting and sequencing appropriate teaching repertoire. Two time-tested collections of printed guitar music were examined to determine if note density would be a useful metric in that process. The study revealed that note density is a meaningful metric, despite supporting the primary hypothesis only 46% of the time. Where note density failed to predict ordinal sequencing, it was found that 53% of those instances corresponded with the introduction of new technical challenges. Taken together, roughly 75% of
the works’ placement within the ordinal sequence was predicted by or explained in terms of note density and the introduction of a technical or conceptual factor. Furthermore, the placement of many of the remaining works could be reasoned using note density and pedagogical decisions likely made by the editors.

The author first used note density to compare collections of music written for different keyboard instruments: accordion, electronic keyboard, organ, and piano. This study serves as proof of the concept that note density has significant meaning in the context of guitar music as well. As scholars and teachers continue to refine the process of repertoire selection and sequencing, they will continue to enrich students’ lives through meaningful interactions with high quality music.
BIBLIOGRAPHY


APPENDICES

Appendix A

Contents of Suzuki Guitar School, Volumes 1–9

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70. Minuet I & II from Suite in D Major BWV 1007—J. S. Bach
71. Prelude from Suite in D Major BWV 1007—J. S. Bach
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Appendix B

Contents of *New Dimensions in Classical Guitar for Children*

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10. Hot Cross Buns
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15. Let Us Chase the Squirrel
16. I See the Moon
17. Bought Me A Cat
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**Appendix C**

*Data for New Dimensions in Classical Guitar for Children*

<table>
<thead>
<tr>
<th>Sequence or ID</th>
<th>Series (M or S)</th>
<th>Book or Level</th>
<th>Sequence at Level</th>
<th>In both collections</th>
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<th>Title</th>
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Appendix E

Anomalies of 3/8 and 6/4 Time Signatures

As discussed in the “Limitations” section of Chapter Five, figure 35 and figure 36 demonstrate how the NTBR for “Corrente,” written in 3/8 time, falls in line with its surrounding pieces when calculated as having three macrobeats per measure.

Figure 35. Kuffner’s “Corrente” in 3/8 time, treated as having one macrobeat per measure

Figure 36. Kuffner’s “Corrente” in 3/8 time treated as having three macrobeats per measure
Similarly, figure 37 and figure 38 show the improved placement of Paganini’s “Waltz,” from Sonata No. 9, when the NTBR calculation assumes three macrobeats per measure.

Figure 37. Paganini’s “Waltz” from Sonata No. 9 in 3/8 time, treated as having one macrobeat per measure

Figure 38. Paganini’s “Waltz” from Sonata No. 9 in 3/8 time, treated as having three macrobeats per measure
Meissonnier’s “Waltz” and Carcassi’s “Waltz Allegro,” both written in 3/8 time, exhibit the same characteristics. See figure 39. Considering these pieces as having three macrobeats per measure brings the pair nicely into range with the rest of the subset. See figure 40.

Figure 39. Meissonnier’s “Waltz” and Carcassi’s “Waltz Allegro” in 3/8 time, treated as having one macrobeat per measure

Figure 40. Meissonnier’s “Waltz” and Carcassi’s “Waltz Allegro” in 3/8 time, treated as having three macrobeats per measure
Figure 41 shows the original NTBR plot for *Suzuki Guitar School, Volume 5*. With only two negative slope segments, this subset provided the best support of the primary hypothesis. Reconsidering Ferrer’s “Vals Español” as having three microbeats per meter yields a beautiful positive slope with a single, tremolo-effected outlier. See figure 42.

Figure 41. Ferrer’s “Vals Español” in 3/8 time, treated as having one macrobeat per measure

Figure 42. Ferrer’s “Vals Español” in 3/8 time, treated as having three macrobeats per measure
Figure 43 shows a significantly lower NTBR for Narváez’s “Guárdame las Vacas,” written in 6/4 time. Reconsidering this piece as having two macrobeats instead of six yields an NTBR that reflects the challenges this piece presents more accurately. See figure 44.

Figure 43. Narváez’s “Guárdame las Vacas” in 6/4 time, treated as having six macrobeats per measure

Figure 44. Narváez’s “Guárdame las Vacas” in 6/4 time, treated as having two macrobeats per measure
Two pieces in the Michelson collection were written in 3/8 time: “Sometimes I Hear A Song” and “I’ll Be A King.” In figure 45, the original NTBR for “Sometimes I Hear A Song” appears to be aligned with most of the other pieces at that level, save two outliers. When the NTBR is calculated as having three macrobeats per measure, as in figure 46, the note density seems to drop out of alignment with neighboring pieces. Compared to the other songs at this level, this is a sparse piece. Students are directed to play this song at a brisk tempo. The reference recording is performed with the dotted quarter note at approximately 72 beats per minute. In the case of “Sometimes I Hear A Song,” it seems more appropriate to consider the dotted quarter note to be the macrobeat rather than the eighth note.

---

**Figure 45.** Michelson’s “Sometimes I Hear A Song” in 3/8 time, treated as having one macrobeat per measure

**Figure 46.** Michelson’s “Sometimes I Hear A Song” in 3/8 time, treated as having three macrobeats per measure
Figure 47 shows the original treatment of “I’ll Be A King,” with one dotted quarter note macrobeat per measure. Recalculating the NTBR based on eighth note macrobeats lowers the piece into better alignment with the rest of the series. See figure 48. The reference recording shows the tempo to be approximately 52 beats per minute for dotted quarter notes or 156 beats per minute for eighth notes. Based on this being a Level V song and the tempo for the next song being approximately 132 beats per minute, it stands to reason that this piece, like the 3/8 pieces in *Suzuki Guitar School* and unlike “Sometimes I Hear A Song,” should be considered as having three macrobeats per measure instead of one.

![Original Treatment of New Dimensions Level V](image1)

Figure 47. Michelson’s “I’ll Be A King” in 3/8 time, treated as having one macrobeat per measure

![Modified Treatment of Dimensions Level V](image2)

Figure 48. Michelson’s “I’ll Be A King” in 3/8 time, treated as having three macrobeats per measure
Appendix F

Composers in Sample by Birth Year

In the Collection column, “M” refers to Michelson’s *New Dimensions in Classical Guitar for Children* and “S” refers to *Suzuki Guitar School*.

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<td>2011</td>
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Appendix G

Composers in Sample by Country

In the Collection column, “M” refers to Michelson’s *New Dimensions in Classical Guitar for Children* and “S” refers to *Suzuki Guitar School*.

<table>
<thead>
<tr>
<th>Composer</th>
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<th>Country</th>
<th>Collection</th>
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<td>Hector Ayala</td>
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<td>1989</td>
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