IMPROVISATION IN THE STRINGS CLASSROOM: COMPOSITIONS AND ARRANGEMENTS FOR TEACHING CREATIVE MUSIC MAKING

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Abstract

In a traditional classroom, string instrument education is often taught using written, classical music. Teachers must instruct on how to play violin, viola, cello and bass, as well as how to read music and play as an ensemble. Rarely are string students provided the opportunity to improvise in any style of music. Several pieces were composed that incorporate improvisation in a harmonic context as well as essential string techniques. The pieces progress from easy to challenging in their technical requirements and improvisation language. The compositions help fill a gap in the music for strings that encompass improvisation.

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Chapter 1: Introduction

The strings classroom is a place of infinite learning and music making. The immense difficulty of playing the violin, viola and cello require committed students and capable teachers whose patience is endless. Repertoire for string players of all levels is abundant due to the historical prominence of these instruments in Western European symphony orchestras, chamber groups and as soloists. Thus, there is a vast amount of great classical work available to string teachers through which all string specific techniques can be taught. Works by Bach, Mozart and Vivaldi are not only great music, but they contribute to a student's cross-subject learning in that by understanding music of a specific composer, they are also understanding a part of history, society and geography.

Jazz has a rich history and a complex development from its beginnings to where it has evolved to today. What many great jazz recordings have in common is innovative and expressive solos, thus linking the notion of jazz with improvisation.

Compositions and arrangements[1] that incorporate improvisation in a non-classical style intended for the elementary to high school level string classroom must meet musical, educational and technical criteria. Method books ranging from the *Suzuki Method* to *Strictly Strings* introduce technical skills needed to play a stringed instrument. In these books, skills are taught progressively and systematically build upon each other. Pieces such as "Twinkle Twinkle Little Star" and "Long Long Ago" are taught not only for an easily recallable melody, but also for the integrated string techniques such as string crossings and bow division. The continued acquisition of techniques lead to more challenging pieces that build upon the techniques learned in previously mastered etudes and pieces. It should be noted that techniques specific to double bass

[1] The term 'arrangements' refer to any piece of music based on or incorporating pre-existing material

such as pizzicato technique, shifting and walking basslines are not addressed in this thesis. Compositions intended for teaching improvisation in a string classroom not only must introduce string specific techniques and skills, but also approach improvisation in a similar accumulative manner.

The aforementioned areas create a specific intersection of context. The notion of improvisation on a string instrument and in classical music in general is not a novel idea, rather is rooted in the building of Western European classical music. Derek Bailey claims that rigid structures and a reliance on direction through musical notation results in little room for the 'accidental or unexpected' in classical music[2]. However, Bailey also argues that the derivation of contemporary, western tonality stemmed from the development of monks' Gregorian chants and composers onward in history[3]. Despite a widespread belief that classical music is devoid of improvisation, it has, in fact always been present through choice of ornamentation, experimentation through phrasing and gesture, as well as actual spontaneous music through cadenzas. Often, reading music off a sheet is thought to be an inhibitor of improvisation[4]. This inevitably leads to the question of what is improvisation, and to what degree does a person have to create something out of nothing in order for it to be considered truly improvised?

There are numerous definitions of improvisation. For example, Christopher Azzara defines improvisation as "the spontaneous expression of meaningful musical ideas"[5]. Grove Music Dictionary defines it as "the creation of a musical work, or the final form of a musical work, as it is being performed"[6]. Both definitions are vague and are open to interpretation.

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[2] Derek Bailey. *Improvisation: Its Nature and Practice in Music* (Boston: Da Capo Press, 1993), 19
[3] Ibid.
[4] Ibid., 10
[5] Christopher Azzara, *Developing Musicianship through Improvisation* (Chicago: GIA Publications, 2006), iv
[6] Bruno Nettl, et al., "Improvisation." *Grove Music Online*, (*Oxford* University Press, accessed June 7, 2017)

Improvisation is not a fixed idea, rather a scale in which spontaneous acts of music making range from fully 'free' to testing the boundaries within written music. A notated musical passage often comes to be played through trial and error and analytical thought and thus a new way of expression has been spontaneously created despite the notated music. In other words, classical musicians decide on how they are to express a certain passage through improvisation and the process of trial and error. However, in orchestras of all levels, individuality of sound and expression is sacrificed for the collective musical phrase at the direction of the conductor. There is little spontaneity, rather well-rehearsed, perfectly executed, none the less meaningful music[7].

In the music classroom, repetition of parts, learning to listen and work as a group and improving a piece to a high standard has irreplaceable value as a learning experience. Learning classical pieces in the classroom not only introduces students to masterful works of music by the great composers, but it aurally introduces them to harmonic rhythm and progressions, musical style and as well, furthers their ability to read music[8]. However, it is argued that the aforementioned skills could be learned with greater comprehension if improvisation was used in conjunction with classical music[9]. In other words, the creative process should always be present when learning any of the arts.

The string classroom is a fairly recent innovation, as private lessons for students learning a string instrument dominated over group classes until the late 1800s[10]. Organizations such as the American String Teachers Association (ASTA) and the Music Educators National Conference (MENC) have acknowledged the difficulty music teachers face in teaching string instruments.

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[7] Bailey, *Improvisation: Its Nature and Practice in Music*, 19
[8] Azzara, *Developing Musicianship through Improvisation, iv*
[9] Ibid.
[10] Amanda Hall, *A Review of Beginning Heterogeneous String Class Method Books for Compatibility with the Baseline Learning Tasks of the American String Teachers Association String Curriculum (MA Thesis, Bowling Green State University, 2013), 3*

Such groups have developed curriculum or defined skills that all students learning a string instrument should be taught and in doing so, have created a systematic approach to string instrument pedagogy[11]. In string classrooms and private studios across the world, there are standard pieces that most string students learn to play.

It is the environment of acceptance and learning from accidents and mistakes that creates an initial level of improvisation in the string classroom. Most often, it is quickly instilled in music students at all levels that mistakes are bad and to be avoided at all costs. There are numerous reasons why the notion of perfection is so highly valued. One such reason that is a recent phenomenon is the expectation of perfection largely due to the recording industry and its ability to fix human errors in the mixing process. Listeners are familiar with 'perfect' music and often the music listening student expects the same from him or herself. Gronow and Saunio claim that the notion that after a recording has been made it is 'the performer's thankless task to try to reproduce the sound of the record on the stage' leads many musicians to believe that music must and should be reproduced as opposed to changed or experimented with over time[12]. Though the idea that all musicians are trying to reproduce what has already been recording is extreme, it is believed that artists feel pressure to play perfectly and often sacrifice musical risk taking for an absence of mistakes. Furthermore, in orchestra auditions, players are judged on their abilities to play without any error. Areas such as intonation, rhythm, tone quality, phrasing and articulation must be as close to perfect as possible. It is understood that there is no universal perfection in music, however the auditioning musician who wins the orchestra position plays with the absence of mistakes.

[11] Ibid., 14
[12] Pekka Gronow and Ilpo Saunio, *International History of the Recording Industry (*London: Cassell, 1998), 215

Recently, there has been a recognition of the importance of improvisation in music classrooms of differing levels. The benefits of improvisation for students include creativity and innovation[13]. While pedagogical instruction for teachers instructing improvisation in a band classroom are plentiful, such instruction specifically for a strings classroom is rare. Perhaps due to the lack of abundance of instructional and pedagogical material, string teachers who do not have a background in improvisation struggle to find ways in which to introduce it to their students[14]. Jamie Abersold states that "Teaching young musicians how to improvise and play jazz gives them independence and promotes self-worth. Jazz teaches the importance of mastering scales, chords, articulation and theory. It also stirs up one's own imagination and opens channels of creativity. And it often allows them [students] to continue playing music long after the classroom has disappeared"[15]. It is apparent that students who play a string instrument can benefit from learning to improvise as much as those in band and that more improvising material directed at string players is necessary for a well-rounded music education.

The interest in improvisation in the strings classroom is another way of approaching a general issue of what is important to learn in a music class. For some teachers and students, the purpose of a strings class is to instruct and learn how to play a string instrument and perform the chosen pieces in a concert. It is understood that teaching groups of students of differing ages and sizes how to play a string instrument is an immense challenge, in part due to the technical difficulties presented by the nature of the instruments. However, there are transferable skills learned in music class, as well as an understanding and interest in the arts that can be

[13] Darrin Stohlberg. *Creativity Through Improvisation for Strings* (Masters of Science in Education, Fine Arts Thesis University of Wisconsin, 2012), 4
[14] Ibid., 5
[15] Ibid., 15

incorporated in the strings classroom. It is suggested that improvisation is a means to instill this love of music in students.

This thesis presents a brief overview of the history, current concepts and future direction of instruction in improvising for string players. The composed pieces that accompany this thesis encompass music education concepts, string instrument pedagogy and improvisation specific to string players. Seven chapters delve into a brief historical overview of improvisation in classical music and in particular, string instruments, the rise of improvisation in music education, elements of musical improvisation, necessary skills for general string playing and non-classical string playing and finally, a guide to the compositions in the appendix of the thesis.

Chapter 2: Brief Historical Overview of Improvisation on String Instruments

Middle Ages to Early 20th Century

Improvisation on a string instrument went from being customary in the Baroque era to sporadic throughout the late classical period. It has recently experienced a resurgence through jazz and non-classical music. The history of improvisation is important as it heightens our understanding of why it is necessary in music education. The contemporary music environment often requires improvisation at some level for the professional string player. Whether one is creating an entire film score by improvising music while watching silent images on a screen or creating a musical gesture on the spot to help fulfil a composer's vision, a basic knowledge or flexibility of improvisation for a string player is essential. Currently, few violinists, violists or cellists who feel comfortable soloing over chord progressions or participating in a free improvisation session.

Improvisation is linked with musical exploration and experimentation. During the Middle Ages, musical notation was beginning to develop and therefore musicians were not stuck in the rigidity of notation as we know it today[16]. Bailey claims that Gregorian chants were a result of 'working the music out' and its early practices were improvised[17]. This experimental mindset continued into the 17th century, in which entire schools of organ music were developed through extemporization and the acceptance of the accidental[18].

Basso continuo was commonplace for improvisation in the 17th and 18th century, in particular in opera and chamber music[19]. The bass line was 'figured', in that numeric symbols

[16] Bailey, *Improvisation: Its Nature and Practice in Music*, 19
[17] Ibid.
[18] Ibid.
[19] Christopher Wilson, "Continuo," *Grove Music Online,* (Oxford University Press, accessed January 4, 2017)

were placed below the staff indicating the intended harmony and was considered 'realized' when the musician responsible for the bass line filled out the harmony that was indicated[20]. Due to the shorthanded notation of a basso continuo and the counterpoint melodies incorporated within the figured bass, the performer responsible for it was required to create a musical line in order to fulfill the harmony and style intended by the composer.

Furthermore, all performers were expected to improvise ornaments to embellish the notes written on the page[21]. Accomplished musician and director of Baroque ensembles, Lionel Salter, furthers this point by exclaiming, "Start from the view point that the music as written down was only a kind of memory jogger. It represents a skeleton of what was played so that a violinist, for example, would expect to have to ornament what was on his part; to that extent, there's some improvisation"[22]. In 1728, J.D Heinichin's books on figured bass touch upon the role of improvised ornamentation of notes. He divided embellishments into two groups; The first group was comprised of a single, unchanging execution, such as a mordent, trill or appoggiatura whereas the second group included devices used in harmonic based improvisation such as scalar phrases, arpeggios and melodies[23]. Such techniques were used, for example, in a piece structured in an ABA form, in which a soloist such as a vocalist or violinist would be called to demonstrate virtuosic technique through heavily decorated notes during the reprise of 'A'[24].

Another crucial example of improvisation in classical music and often on a string instrument is the cadenza. Cadenzas are defined as "a virtuosic passage inserted near the end of a concerto movement or aria" and are included with the intent to bring brilliance to the end of a

[20] Ibid.
[21] Bailey, *Improvisation: Its Nature and Practice in Music*, 19
[22] Ibid., 20
[23] Ibid., 23
[24] Ibid., 22

piece[25]. Cadenzas were left to the creative discretion of the performer and these 'embellished endings' were to be an improvisation based on the main themes of the piece[26]. The art of the improvising embellishments came to a climax in the mid 18th century, where the popularity of a performer largely depended on his or her ability to improvise a spectacular, impressive and dramatic musical moment[27]. In the 18th century with the rise of the conductor and the sophistication of musical notation, performers were required to take less liberties with improvisation in ornamentation and cadenzas[28]. Both Mozart and Beethoven would write out the cadenzas for their concertos[29] though both composers were known to have frequently improvised cadenzas and pieces in their entirety. Although improvisation was not commonplace after the late 18th century, it was still present and relied upon for inspiration. Violin virtuoso, Niccolo Paganini was quoted saying "My duties require me to play in two concerts each week and I always improvise with piano accompaniment. I write this accompaniment in advance and work out my theme in the course of improvisation"[30].

Improvisation slowly crept back into the classical music world in the mid 1950s with the rise of experimental, chance music. American musician, Earl Brown said "I am vehemently against considering improvisation as chance music…" in reference to John Cage's composition, the need for musicians and composers to explore music beyond notation was apparent[31]. Composers attempted to reintegrate improvisation into their compositions and experimented with this technique[32].

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[25] Eva Badura-Skoda, et al. "Cadenza." *Grove Music Online*. (Oxford University Press, accessed January 4, 2017)
[26] Ibid.
[27] Ibid.
[28] Bailey, *Improvisation: Its Nature and Practice in Music*, 20
[29] Badura-Skoda, Eva et al. "Cadenza."
[30] Bailey, *Improvisation: Its Nature and Practice in Music*, 19
[31] Bailey, *Improvisation: Its Nature and Practice in Music*, 59
[32] Ibid.

The composition, "Ode to Jamming" in the appendix (page 66) is an homage to classical music improvisation. The theme to Beethoven's, "Ode to Joy" is a popular melody to teach young string students. The easy theme allows for thematic embellishments and improvisation.

Blues and Jazz

Perhaps the resurgence of improvisation in classical music had a great deal to do with the birth of jazz in the early 1900s. While it is well known that jazz and its subgenres were built upon improvisation from its very beginning, it is less known that the violin had a role in its evolution. In the 1920s and 1930s, African-American violinists such as Robert Robbins, who were both formally trained and self-taught played on blues recordings in Chicago and New York[33]. Their role was to create melodies or obbligatos to support and highlight vocalists such as Bessie Smith, Leon Abbey, Clarence Black and Leroy Pickett[34]. In the late 19th century violins were often showcased in ragtime orchestras[35]. Parts were written for either one or two violins, who, like a clarinet or trumpet, were responsible for melodic lines and harmonious long tones[36]. Gradually, brass and wind instruments took preference over strings. This was held over into the 1920s, for example, in the Paul Whiteman Orchestra, led by Matty Malnec[37].

One of the compositions in this thesis, "Ghost Blues" (page 75), reflects the melodic nature of blues played by string instruments and requires the performers to feel the syncopated melody across the steady rhythm of the bass line accompanied by long tones in supporting sections.

[33] David Boyden, et al., "Violin." *Grove Music Online*, (Oxford University Press, accessed January 4, 2017)
[34] Ibid.
[35] Ibid.
[36] Ibid.
[37] Ibid.

During the 1930s, virtuosic violinists such as Stuff Smith, Eddie South, Joe Venuti and Stephane Grappelli emerged on to the jazz scene. They helped promote the violin as an improvising, jazz instrument[38]. These players were technically advanced on the instrument and demonstrated an immense understanding of the language of jazz improvisation. Each player brought new techniques to the sound of jazz violin. For example, Stephane Grappelli relied on his classical training to create a rich, vibrant sound with a delicate aesthetic in his work with Django Reindhardt and the Quintette du Hot Club de France[39]. Joe Venuti, who like Grappelli was classically trained and favoured fast tempos to exemplify his superior technique, invented a new way of using the bow. He experimented with extended techniques, such as unscrewing the bottom of his bow and reattaching it with the strings in between the hair and the stick. This allowed for a different way of playing chords, as well as a wild and experimental tone[40]. As well, Stuff Smith was one of the first violinists to experiment with amplification[41]. The transition from swing to bebop shifted jazz away from dance oriented songs played in dancehalls for the sake of entertainment towards compositions that often had fast tempo tunes and improvisations full of chromaticism that required a listener's full attention[42]. The bebop era seemed to leave jazz violinists behind in the swing styles they had already mastered. While Grappelli continued to influence the world of gypsy jazz, there is little evidence of any string player delving into bebop.

[38] David Boyden, et al. "Violin." *Grove Music Online*. (Oxford University Press, accessed January 4, 2017)
[39] Ibid.
[40] Johannes Dietrich, *The Violin in Pre-Bebop Era Jazz* (Cincinnati, OH: University of Cincinnati), 35–42
[41] Mark Keresman "Smith, Stuff" [Online]. Available: http://www.jazz.com/encyclopedia/smith-stuff-hezekiah-leroy-gordon. [2017 April]
[42] Eric Porter, What Is This Thing Called Jazz?: African American Musicians as Artists, Critics, and Activists. (Berkeley, Calif: University of California Press, 2002).

Subsequently, there have been string players who are drawn towards rock and jazz and the experimentation of sound through their instruments. Violinist Jean-Luc Ponty is famous for not only improvising with groups such as the Mahavishnu Orchestra in the 1970s, but also for using an electric violin and pedals most commonly associated with electric guitar[43]. Ponty, as well as fellow violinists Jerry Goodman and Michael White have paved the road for contemporary jazz string players who seek to emulate the techniques developed by early jazz players and to continue their tradition.

Furthermore, violin improvisation was occurring coincidentally outside of the realm of jazz in bluegrass and old time music. Through a completely different musical language, bluegrass violinists, more aptly termed 'fiddlers', would improvise on a tune using a jazz-like approach. Vassar Clements was a prominent bluegrass fiddler who played with Bill Monroe and his Bluegrass Boys and learned the art of improvisation from Monroe. Clements stated that "…even in front of thousands of people, he'd [Monroe] pull a new tune out of the hat and when it would come time for my break they'd all just turn around and I'd do something"[44]. Improvisation was expected of all fiddle players in bluegrass groups for both solo and accompaniment roles.

World Music

It is important to note that improvisation on a string instrument occurs outside of North American or Western European cultures as well. One of the most complex improvisational environment comes from India, specifically in the Hindustani music of North India and the Carnatic music of South India[45]. It is suggested that the prevalence of improvisation in Indian

[43] Barry Kernfeld, "Ponty, Jean-Luc." *Grove Music Online*, (Oxford Music Online accessed April 11 2016)
[44]Matt Glaser, "Vassar Clements: Fiddle" (New York: Oak Publication, 1978) 9
[45] Bailey, *Improvisation: Its Nature and Practice in Music*, 1

music stems from its tolerance of change and development learned through thousands of years of invasion of the country[46]. Indian secular music is based on improvisation and the unfixed variables that create a *raga.* A *raga* is a varying framework in which *svara*, a set of ascending and descending pitches, *tala*, the rhythmic cycle and *sruti,* the smallest yet fluctuating intervals are combined to create a distinctive piece[47]. Within the *raga,* musicians are using their knowledge, past experience and personal preference to make spontaneous musical choices to create expression. For example, the size of the *struti* is varied based on the aforementioned factors to not only manipulate emotive intention, but to create a distinctive *raga* as well[48]. Viram Jasani furthers this idea by stating "…a musician is trying to use whatever liberty he has within the raga to extend the limits of that raga without destroying its basic features"[49].

The notion of pushing musical boundaries is apparent in all music in which improvisation is practiced. Perhaps this can be attributed to the ideology of embracing the accidental. Though the history of musical improvisation could arguably be dated back to the emergence of Homo sapiens[50], researchers and educators have only recently began conducting formal studies on improvisation. In different forms, improvisation on string instruments has been occurring across the world for hundreds of years and its longevity speaks to the necessity of it in any musical culture or genre.

[46] Ibid.
[47] Bailey, *Improvisation: Its Nature and Practice in Music*, 2
[48] Ibid.
[49] Bailey, *Improvisation: Its Nature and Practice in Music*, 10
[50] Colin Barras, "Did Early Humans, or even Animals, Invent Music? [Online]" Available: http://www.bbc.com/earth/story/20140907-does-music-pre-date-modern-man [2016 November]

Chapter 3: The Rise of Improvisation in Music Education

There is a growing amount of research supporting the inclusion of improvisation in music classrooms starting from elementary school through high school. Music educators, cultural theorists, musicologists, ethnomusicologists and music education researchers have prompted an increased emphasis on improvisation in all aspects of music education[51]. While there is discussion about the benefits of improvisation for a child's overall education as well as music education specifically, there has been little change in the way that music is taught in Canada. Much focus is put on reading and writing musical notation[52] and while the necessity for these skills is undoubted, it is argued that there is room in the string classroom for the addition of creative, spontaneous, non-notated music as well.

Improvisation in the classroom started appearing in the 1970s in the USA, as jazz was becoming a legitimized genre of music fit for classroom study[53]. Since the 1990s, more and more school boards in both Canada and the USA have made improvisation in all the arts part of the elementary and high school curriculum[54]. School boards have recognized the benefits of improvisation in all the arts and curriculum documents across North America have included it as a necessary skill for all students. For example, in the *Ontario Curriculum*, students are expected to know how to improvise rhythmic or melodic phrases over a variety of ostinati by grade 5, and improvise a melody over the twelve bar blues by grade 8[55]. The question is not whether to foster the ability to improvise in a music classroom, but how to teach and develop it in students despite

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[51] Ajay Heble and Mark Laver, *Improvisation and Music Education: Beyond the Classroom.* (New York; London: Routledge, 2016) 4
[52] Ibid.
[53] MaudHickey, "Can Improvisation be 'taught'?: A Call for Free Improvisation in our Schools*". International Journal of Music Education* 27(4):285-299 (2009): 289
[54] Ajay Heble and Mark Laver, *Improvisation and Music Education: Beyond the Classroom.* (New York; London: Routledge, 2016) 4
[55] Ontario Curriculum, "The Arts: Grades 1-8" [Online]. Available: http://www.edu.gov.on.ca/eng/curriculum/elementary/arts18b09curr.pdf [2016 January] 114-141

the varying backgrounds of the teachers. Furthermore, we must ask ourselves what skills specific to improvisation are most able to transcend subject boundaries and provide the most benefits for students.

Research on the Benefits of Musical Improvisation

It is through research that the belief of the importance of improvisation in a music student's education is advocated. With the growing interest in the field of improvisation and cognitive function, several studies have been conducted to explore the relationship of improvisation and the brain. For example, researchers Charles Limb and Allan Braun looked at the effects on the brain of musical improvisation[56]. Six jazz pianists were asked to play memorized scales and pieces as well as improvisations on scales as well as improvised pieces while in a Functional Magnetic Resonance Imaging (fMRI) scan[57]. Limb and Braun found that certain parts of the brain were activated or deactivated while the study participants played the memorized music and reciprocally, these areas of the brain displayed the opposing activation levels when the participants were asked to improvise[58]. In particular, the dorsolateral prefrontal cortex was deactivated while the pianists were improvising[59]. This area of the brain is responsible for controlling one's problem solving and conscious monitoring of performance suggesting that while improvising, a musician is more likely to take risks and feel the freedom to push his or her boundaries[60]. Similarly, a study by Aaron Berkowvitz of Harvard University and Daniel Ansari of the University of Western Ontario examined the brain scans of classically

[56] Noa Kageyama, "Why Improvisation should be a part of every Young Musician's Training" [Online], *The Bullet Proof Musician*. Available: http://www.bulletproofmusician.com/why-improvisation-should-be-part-of-every-young-musicians-training/ [2016 January]
[57] Ibid.
[58] Ibid.
[59] Ibid.
[60] Ibid.

trained pianists who were asked to play a piece from memory and then improvise a piece while in an fMRI[61]. Like Limb and Braun, this study found that certain areas of the brain were activated or deactivated depending on whether the participants' music was memorized or improvised. Areas of the brain responsible for sensory input commands, space negotiation of the body and the understanding of production of language were activated during improvisation[62]. While these studies point towards certain outcomes, it is noted that fMRI results are a tool and not a concrete conclusion into the benefits of musical improvisation. The results are, however, a point of conversation and provide additional reasons for increased investigation of the benefits of formal improvisation training in music education.

Literature on Improvisation in the Music Classroom

In addition to the numerous studies put forth by researchers, there is a body of literature that addresses improvisation in music education that advocates for it as well as provides materials for the introduction of it in classrooms. Christopher Azzara, a professor at Eastman School of Music and a frontrunner of improvisation and the music learning process wrote books such as, *Developing Musicianship through Improvisation*, *Creativity in Improvisation* and *Jump Right In: The Instrumental Series*. His research, lectures and publications aim to bring attention to the benefits of improvisation in education. His belief that through improvisation, students can learn to read and write music with great comprehension while fostering their creative process and imagination dictates the student exercises in the book[63]. Additionally, Ajay Heble and Mark Laver provide a Canadian outlook on improvisational pedagogy in their book, *Improvisation and*

[61] Amanda Rose Martinez, "The Improvisational Brain", *Seed Magazine ,* December 14th, 2010, http://seedmagazine.com/content/article/the_improvisational_brain/
[62] Ibid.
[63] Azzara, *Developing Musicianship through Improvisation,*1

Music Education: Beyond the Classroom. The book includes perspectives on improvisation put forth by musicians, educators, ethnomusicologists and musicologists and suggests a greater emphasis be placed on improvisation in music education in order to foster well rounded, thoughtful and imaginative students. The authors and contributors share the belief that there is a direct profit of improvisation in students, including the betterment of communication skills, human empathy and socio-cultural awareness[64]. Improvisation can improve listening skills that go beyond the music classroom. As well, understanding the feeling of vulnerability that can occur when improvising can aid in the understanding of what others are going through.

Another book that promotes the value of improvisation is cellist Eugene Friesen's, *Improvisation for Classical Musicians*. Friesen guides readers through exercises for becoming comfortable improvising on a string instrument. He discusses the use of scales, modes and chords in improvisation and guides non-improvisers in developing the skills necessary for soloing over changes and free improvisation. His exercises are not meant only for the masters of classical string playing, but are relevant to beginning students. Friesen states, "I thought that you had to be classically trained. But I don't believe that anymore. Because I've seen kids who don't know anything about classical music pick up the cello and do amazing things with it. They can play it dirtier, they can play it bluesier, they can play with a greater swing feel and rock harder than anybody who studied classical. I don't think that's 100% true anymore"[65]. The inclusion of improvisation in music education from an early age can open minds to various styles of playing a string instrument and introducing students to music that inspires them.

[64] Heble and Laver, *Improvisation and Music Education: Beyond the Classroom,* 4
[65] Yara Alsayes, (2014), "Who Doesn't Love Those Big Violins?" [Online]. Available: http://whatwomenwant-mag.com/2014/10/01/who-doesnt-love-those-big-violins/ [Accessed April 11th, 2017]

Barriers to the Inclusion of Improvisation in the String Classroom

A recognized barrier for including improvisation in a music classroom is the need for quantifiable information to assess how a student is progressing. Emphasis is often placed on the ability to read and write musical notation[66]. As is the case in all the arts, criteria on which to place marks have little to do with the creativity of a student, rather it is based on objective test scores and participation. Performance examinations test a student's ability to recognize and play pitches and rhythms of which there is a reachable 'perfect' score. Theory tests, including note and rhythm identification as well as information on key signatures, musical terminology and harmony also provide an easily objective grade for each student. There is no doubt that learning proper musical notation conventions is a necessary skill. However, it is suggested that improvisation can aid students in gaining comfort with reading music and developing confidence in their ability to translate visual to aural. In Azzara's 1992 study, "The Effect of Audiation-based Improvisation Techniques on the Music Achievement of Elementary Instrumental Students", sixty-six grade 5 students were asked to prepare three studies. One was learned by the student only, the second was learned with the help of a teacher and the third was sight-read. Half of the students were placed in a control group and half were placed in an experimental group. Both groups were taught the same instrumental technique instruction in the classroom as well as notation reading lessons. The experimental group was led through a series of improvisational exercises over the twenty-seven week study timeline. At the end of the experiment, students from both groups were asked to perform the three etudes and were rated based on their accuracy in tone and rhythm, as well as expression by four independent judges. The data showed that the

[66] Christopher Azzara, "The Effect of Audiation-based Improvisation Techniques on the Music Achievement of Elementary Instrumental Students" (PhD Thesis, University of Rochester Eastman School of Music, 1992), 9

fifth graders who participated in improvisation exercises scored higher than the control group. While it is recognized that further research is necessary for any conclusive results, the results of this study suggest that improvisation helps students read music and express themselves.

Reasons for the Lack of Improvisation in String Music Education

Despite the numerous research studies whose outcomes point towards the benefit of improvisation for the individual, it is not always applied in the music classroom. Paul Goldstaub wrote in the *Music Educators Journal* in 1996, "Certainly the time has come for every institute that trains music teachers to take an active role in developing programs that promote and teach improvisation. Sadly, very few schools are doing this"[67]. The failure to include improvisation in music lessons alludes to both the instructor's hesitancy towards it as a pedagogical tool, as well as the impracticalities of it in a classroom setting. The term 'improvisation' ignites a wide range of meaning that varies from individual to individual and is lacking an official definition that references any specificity whatsoever. Thus, what improvisation is, and how it translates from curriculum document to a classroom setting is left to personal interpretation. Furthermore, the implicit nature of improvisation is that of self-exploration and can be seen as "a practice that is best understood as being learned, not taught"[68]. Students guiding their own learning experience is a departure from the traditional top-down teaching methods and thus requires confidence in a new approach from the instructor.

Evaluation in the arts is difficult due to their subjective nature. It is believed that students should be graded on process-based criteria. Ideas for evaluation include grading students based on how many new improvisation skills they try during a solo, or following the numbers of bars in

[67] Heble and Laver, *Improvisation and Music Education: Beyond the Classroom,* 8
[68] Ibid., 4

a solo section to show they are not getting lost. As well, evaluation can be based on the use of techniques that are taught in the classroom and striving for coherent, thoughtful improvisations.

Different instructional approaches are necessary for the successful integration of improvisation in a music classroom. As mentioned, the ability to let go of full control of the classroom yet still maintain order is not an easy task. One important reason that improvisation has not been implemented in all music classrooms is the lack of training in improvisation for the music teachers themselves. There is a lack of confidence or know how in how to lead spontaneous music making[69]. Azzara likens the acquisition of improvisation to the acquisition of language; To learn a language requires a step by step process of listening to those speaking, imitating those who speak the language, experimenting with words and sentences, gaining association of words and names until creating one's own sentences and improvising in speech comes naturally[70]. Given the imitation driven learning process, it is understandable that a music teacher who is untrained in improvisation would be hesitant to teach it in his or her classroom. Furthermore, it is suggested that improvisation should not be taught from an uninformed perspective. Tammy Schnittgrund's dissertation has explored firsthand the process of including improvisation in her string class lessons. Coming from a classical piano background, she had no training in improvisation yet recognized the benefits of including it in her classes. Schnittgrund researched ways in which to incorporate improvisation into her classes with method books such as Julie Lyonn Lieberman's *Techniques for the Contemporary String Player*, yet still felt unprepared and without a solid knowledge and pedagogical base[71].

[69] Ibid.
[70] Azzara, *Developing Musicianship through Improvisation,*1
[71] Tammy Schnittgrund, "Middle School String Improvisation and Composition: A Beginning" (Masters Thesis, University of Montana, 2007), 9-11

Schnittgrund and many other music teachers in her position are faced with a catch 22 scenario; Teachers without improvisational training are asked to teach improvisation and not only are there limited literary resources in which to learn how to improvise, it is suggested that learning from a book is ineffective. How are new teachers expected to teach improvisation when they were not taught it in primary and secondary school and how do we start a new cycle of passing down improvisation from teacher to student? It is apparent that improvisational instruction at the teaching certification level must be implemented to fulfil the expectation of improvisation being taught in elementary and high school.

It is clear that though improvisation is becoming more accepted as a necessary part of the music curriculum, there are multiple, legitimate factors that skew the implementation of it in classrooms. Despite the growth in teaching resources, there is still a need for increased research on not only the benefits of improvisation in music education, but as well how to successfully integrate it into classrooms of teachers with varying musical backgrounds. Kanellopoulos and Wright describe improvisation as "a way of placing musical imagination at the centre of the educational process" and in doing so, highlight the broad goal of nurturing creativity in the arts[72]. The increased focus on improvisation in music education can be attributed to a greater awareness of the importance of imagination, creativity and student-led exploration in the classroom.

[72] Heble and Laver, *Improvisation and Music Education: Beyond the Classroom,* 6

Chapter 4: Essential Techniques in String Education

When composing pieces for varying levels of string classroom ensembles, it is necessary to keep the educational focus in mind. Both string specific techniques and improvisational ideas must be included in a composition. It is the goal of the compositions accompanying this thesis to provide an organic approach to string instrumental instruction in that students will learn the essential techniques of string playing while learning to improvise. The essential skills of string playing are addressed through a review of method books as well as guidelines set by educational organizations. Furthermore, with the growing popularity of non-classical string genres, new techniques have been developed that further the repertoire of sounds available on string instruments. Key players have developed these techniques as essential to alternative styles of playing. Contemporary string techniques found in non-classical music will be explained and introduced in the compositions and performance notes will aid in their execution.

Method Books for the Classroom Setting

Firstly, there are numerous method books available for teachers who instruct various levels of string ensembles. Traditionally, these books start by introducing how to hold the instrument and bow and progressively introduce new techniques. These method books are usually divided into differing levels by book number, so that book one is comprised of simple songs played in unison by all instruments, while book two and beyond introduces pieces with independent parts and increasingly difficult techniques. One of the most well-known method books is Shinichi Suzuki's publications for violin, viola and cello. Suzuki believed that any child could excel in music with a creative learning environment, parental participation, an early

beginning, recordings and graded repertoire[73]. He published eight books for violin including pieces ranging from "Twinkle Twinkle Little Star" to intermediate violin concertos[74]. His violin books were so popular that they were transcribed for viola and cello, as well as piano, bass, recorder, harp and various other instruments[75]. Furthermore, Suzuki believed that basic violin, viola and cello technique should be acquired before learning note reading[76]. The emphasis placed on early ear training and the learning of songs by rote lends itself well to improvisation studies. Developing a good ear is essential to all musicians in any style of music and especially in collaborative improvisation.

Another staple in the string ensemble based method books is Samuel Applebaum's *String Builder* (1961). Applebaum also believed in the necessity to teach beginning ensembles by ear and thus his first book focuses on the acquisition of technique and simple folk melodies[77]. In his three method books for the string classroom, Applebaum progresses from simple tunes learned in unison, accompanied by harmonies played by the teacher to separated parts that includes increasingly difficult technique. Additional publications address changing positions, duets for particular instruments and solo pieces for each instrument accompany the *String Builder 1, 2* and *3* books.

String Explorer: An Explorer's Guide to Teaching Strings by Dabczynski, Meyer and Phillips (2002) is another example of a method book aimed at engaging students through images accompanied by information about composers and cultural music as well as introducing skills

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[73] Amanda Hall, *A Review of Beginning Heterogeneous String Class Method Books for Compatibility with the Baseline Learning Tasks of the American String Teachers Association String Curriculum, 8*
[74] Ibid., 9
[75] Ibid.
[76] Suzuki Association. (2017), "About the Suzuki Method" [Online]. Available: https://suzukiassociation.org/about/suzuki-method/ [Accessed February 17, 2017]
[77] Amanda Hall, *A Review of Beginning Heterogeneous String Class Method Books for Compatibility with the Baseline Learning Tasks of the American String Teachers Association String Curriculum, 7*

didactically through increasingly challenging exercises[78]. The authors introduce new right hand skills separate from left hand skills and once mastered, combine the two together.

Other well-known method books for string classroom pedagogy include *Strictly Strings: A Comprehensive String Method* by Dillon, Kjelland and O'Reilly (1992), *Spotlight on Strings* by Gazda and Stoutamir (1997), *Essential Elements 2000 for Strings: A Comprehensive String Method* by Allen, Gillespie, and Tellejohn Hayes (2004) and *Simply Strings: A Standards-Based, Comprehensive String Method* by Odegaard (2007). In mentioning these publications as well as the books by Suzuki, Applebaum and Dabczynski, Meyer and Phillips, focus is brought to a number of common technical skills that all books address. As well, it is apparent that most string teachers feel that new skills can only be introduced when the mastery of preparatory skills occurs. It is suggested that skills in both string and improvisation technique are taught concurrently.

ASTA and MENC Curriculums

According to the American String Teachers Association (ASTA), string teachers need an organized, sequential guide for efficient and effective instruction for students. The *ASTA String Curriculum* was developed by Benham, Wagner, Aten, Evans, Odegaard and Lieberman in 2011 and includes a precise curriculum of over 200 specific learning tasks[79]. Three main categories of executive skills, musicianship and artistic skills arose out of the research comprising the curriculum[80]. For each of the categories, the document outlines step by step learning points and specific benchmarks to recognize the successful learning of each skill[81]. The three categories are

[78] Ibid., 40
[79] Ibid., 1
[80] Ibid., 15
[81] Ibid.

broken down into content areas, including body format, left hand skills and knowledge, right hand skills and knowledge, tonal aural skills and ear training, rhythmic aural skills and ear training, creative musicianship, music literacy, ensemble skills, expressive elements, historic and cultural elements, evaluation of music and music performance. Thus, under the section 'Executive Skills and Knowledge' and the subsequent category of 'Body Skills and Knowledge', a learning task may be 'Establishing Basic Posture'. Items of prior knowledge are listed, as well as 'sequence of activities' for both seated and standing positions. Furthermore, 'Indicators of Success' are listed, citing specific areas teachers must watch for, such as a centered and balanced posture and one that is mobile, not frozen. The curriculum guides teachers through the essential skills that comprise an excellent string education and was referenced when creating the accompanying compositions for this thesis.

In addition to the ASTA curriculum, the Music Educators National Conference (MENC) published a curriculum of its own for a string classroom. The 1991 document highlighted six essential topics that must be introduced to string students. The six categories include tone quality, rhythm and bowing, finger patterns and scales, ear training, music reading and vocabulary and music theory and history. Each category is separated into six levels from beginner to advanced, accompanied by teaching suggestions and indicators of success for each level[82]. This publication, like the ASTA curriculum is intended to aid teachers in the development of their own curriculum as well as unifying the string education community with standards of excellence.

Based on the curricula of ASTA, MENC and the numerous method books for string ensemble pedagogy, it is clear that improvisation pedagogy lends itself effectively to the

[82] Ibid., 14

acquirement of fundamental skills in string playing. While areas such as rhythm and bowing, posture, right hand finger patterns, bow arm technique and music reading and vocabulary are transferred laterally from the learning of classical to non-classical improvisation pieces, areas such as ear training, articulation, expressive elements and music theory may be taught with a broader and more meaningful impact. For example, analyzing a piece of music to discover its underlying harmony is a useful exercise, however analyzing harmonies to understand what notes to play in an improvisation solo is personal and useful. Understanding topics such as triads and chords makes even more sense when students can hear them, play them, and make up music with them. Furthermore, the explorative nature of improvisation fosters an environment in which students can learn essential techniques through their own learning style and in their own time.

Chapter 5: Elements of Music Improvisation Pedagogy

The practice of improvisation and in particular in jazz has been passed down through the generations via various pedagogical means. Jazz is a relatively recent genre compared to European classical music and folk music from around the world. The way in which jazz is taught to students has evolved quickly over the past century and has morphed from an informal passing down of knowledge into an institutionalized, formal system. The institutionalization of jazz and improvisation is now included in academic programs in elementary and high schools, universities and conservatory programs as well as numerous how-to books. Authors and educators explored the necessary skills that one must learn in order to improvise and thus overtime, a number of common skills emerged that are now considered to be essential.

Traditional Jazz Improvisation Education

In the early period of jazz, musicians learned their craft not with formalized education, but by forming casual apprenticeships with the musicians in their communities[83]. Don Sickler stated, "Many jazz players grew up with great players in their neighborhoods. Jackie McLean was telling me not long ago about how, when he was a young kid, Bud Powell was always dropping by the house and playing with him, encouraging him to develop and inviting him along to gigs" alluding to the importance of relationships between novice and veteran players[84]. Musicians learned from each other through informal musical gatherings known as jam sessions[85], and listening to each other at concerts[86]. The constant exchange of knowledge and ideas was not limited to professionals, rather 'students and teachers alike are involved in an ongoing process of

[83] Paul Berliner, *Thinking in Jazz: The Infinite Art of Improvisation*, 35
[84] Ibid., 38
[85] Gunther Schuller,"Jam session", *Grove Music Online*, (Oxford University Press, accessed February 22, 2017)
[86] Paul Berliner, *Thinking in Jazz: The Infinite Art of Improvisation*, 42

artistic development and the exchange of knowledge is a mutual affair'[87]. The culture of learning jazz prior to its institutionalization was a social one; A teenaged Barry Harris was known to have organized musical gatherings at his house with the intent of sharing and experiencing music together with his peers[88]. In these sessions, young artists would rehearse together, perform for each other and discuss music[89]. Thus, while no formal academic system existed for young jazz musicians, there was an intense education that aspiring jazz musicians experienced through the mentorship of more experienced players.

Henry Martin suggests that learning to improvise in a jazz idiom is either pedagogical or analytical. In pedagogical learning, a student gains 'musician-based' skills such as rudiments and technique whereas analytical learning refers to 'listener-based' skills focusing on elements of structure, style and musical connections[90]. It is argued that the early stages of jazz education in which apprenticeships were formed between novice and experienced players was rooted in the second of the two pedagogical styles, as connecting with the listener was the main goal and the technique that was learned was a means for this connection.

Method Books for Learning Improvisation

Over the past sixty years, there has been a movement towards institutionalizing jazz and improvisation and a shift away from the informal apprenticeships that formed between well versed and novice jazz musicians. While the method books discussed in this thesis describe ones that were influential early on, there have been many more written since then. The move towards canonizing jazz can be seen in the outpouring of 'how to' books on improvisation and soloing

[87] Ibid., 41
[88] Ibid., 38
[89] Ibid.
[90] Henry Martin, "Charlie Parker and Thematic Improvisation", (Lanham, Scarecrow Press, 1996)

over chord changes. In 1952, Bugs Bower's *Complete Chords and Progressions* book set the precedent for the essential material covered in most instructional jazz improvisational jazz books[91]. Bower's book stresses the importance of the acquisition of short, recognizable rhythmic motifs known as licks, and learning them in all keys[92]. As well, he provided exercises on different chord types ranging from triads to thirteenths. Seven years later, John Mehegan built upon Bower's work to create a set of four volumes of books entitled *Tonal and Rhythmic Principles*. Unlike Bower's work, Mehegan introduces rhythmic counterpoint, as well as rhythmic exercises for the student. As well, he talks about his suggested three types of swing comprised of melodic swing, harmonic swing and rhythmic swing. Mehegan's book also explains modal-chordal relations and Roman numeral notation in harmonic progressions in tunes[93]. While there had been numerous books published on learning jazz improvisation, Jerry Coker's books, *Improvising Jazz* in 1959 and *The Jazz Idiom* in 1975 overlapped with many of the same areas as Mehegan's work. However, Coker pays greater attention to ear training, group exercises and mastery of patterns using the framework of chord/scale relations by outlining multiple exercises for the reader. It is obvious that there is an extreme departure from the traditional, non-notated way of learning jazz to the rigidly notated instructional books written in the latter half of the 20th century.

Two of the most influential authors on jazz improvisation include David Baker and Jamey Abersold. Baker's most prominent book, *Jazz Improvisation: A Comprehensive Method of Study for All Players* echoes the emphasis placed on drilling 'foundation' technique, such as

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[91] Robert Witmer and James Robbins, "A Historical and Critical Survey of Recent Pedagogical Materials for the Teaching and Learning of Jazz". Bulletin of the Coucil for Research in Music Education. Vol 96. (Champaign: University of Illinois Press, 1988)
[92] Robert Witmer, "Lick", *Grove Music Online*, (Oxford University Press, accessed February 22, 2017)
[93] Witmer and Robbins, *A Historical and Critical Survey of Recent Pedagogical Materials for the Teaching and Learning of Jazz,* 10

chords, scales and arpeggios in patterns and differing rhythms[94]. Like Mehegan and Coker and the numerous authors who came before him, Baker advocated for what he felt was of importance and drew focus to the skill of transcription. The book advocates for melodic transcriptions for every jazz student. Furthermore, suggested readings and listening are found at the end of each chapter. While Baker goes into depth on transcriptions, group rhythmic interaction and interactive exercises for the student, he, like the authors before him, puts most emphasis on chord/scale relationships and the memorization of melodic patterns and licks[95].

Another author of instructional jazz books is Jamey Abersold. Abersold has published over thirty books and accompanying play-along recordings of rhythm section songs over which a student can practice improvising[96]. *A New Approach to Improvisation* was first published in 1967 and like Coker, Baker and several other authors, approach improvisation from a scale to chord relationship perspective. What truly set Abersold's publications apart from those that had come before is the included play along recordings of professional rhythm section players playing the majority of standard tunes. Students are able to practice the exercises included in the book along with the recordings which allows for not only greater stylistic awareness but greater enjoyment as well. Practicing scale patterns, arpeggios and licks when played with a rhythm section opens up the opportunity for musical playing no matter what the content.

While most instructional books on jazz improvisation stress scale and chord relationships, pitch choice and a mastery of patterns and licks, there are publications which take a different approach to learning improvisation. For example, John La Porta published *A Guide to Improvisation* in 1968 and diverged from the presumption that music students must know all

[94] Ibid., 14
[95] Ibid.
[96] Ibid.

scales and arpeggios and have a handful of licks they have memorized in all keys[97]. Rather, La Porta stresses making simple gestures sound 'right' so that students start with short, straightforward improvisations of no more than two bars[98]. He suggests call and response ear training as well as the introduction of the pentatonic scale in Bb as pitch material[99]. Students gradually learn more complex scales and improvisational material throughout the book. La Porta's notions on improvisational pedagogy are reflected in the composition, "The Long and Short of It" in appendix 2. Students performing this piece are assumed to have limited technique and knowledge of their instruments. However, the piece allows for improvisational experimentation with the technique the students have learned.

While there are certainly many different perspectives on how one begins to improvise, there are pros and cons to each method and aspects of each that would work more effectively not only in a strings classroom, but in any music classroom at varying stages of musical education. For instance, beginning strings students most often learn scales, arpeggios, etudes and pieces in one key before moving onto a different one. Finger dexterity and placement requires time and practice and thus it is unreasonable to expect beginning students to learn several scales in different keys and apply them to improvisation. Furthermore, young string students are excited to play short, recognizable songs. Often, they do not yet have the endurance or patience to play through a long piece or practice scales for a longer period of time. One major critique of many instructional books is that there is a separation between technique and musicality and of the two, technique is the focal point[100]. In Ramon Ricker's 1977 book, *New Concepts of Linear Improvisation*, he brings this issue to focus by stating, "This book does not deal with the

[97] Ibid., 16
[98] Ibid.
[99] Ibid.
[100] Ibid., 15

aesthetic aspect of jazz, nor does it cover rudimental jazz theory…it merely presents a method of studying scales and chords"[101]. It is believed that any music student studying only the technical aspect of music is lacking a well-rounded education and that ideally, both technique and musicality are acquired at the same time. Aspects of La Porta's pedagogical approach, such as short improvisations and simple note choices would lend itself to practicing both technique and musicality as well as work well in a beginning string classroom. Furthermore, traditional jazz pedagogical ideas such as understanding chord/scale relationships and practicing specific patterns or licks would work better in a high school or more advanced student setting.

The Institutionalization of Jazz Education

It is suggested that techniques and skills covered in instructional jazz improvisation books reflects how it is taught in academic institutions, in particular at the post-secondary level. Jazz made its way into conservatories and universities in the 1950s, after which formal jazz studies became increasingly popular and prevalent[102]. The influx of formal jazz programs in post-secondary education established the style as legitimate and it began to gain equal footing to the esteemed classical music studies. Universities dedicated to jazz studies included the Schillinger House in Boston, which later became Berklee College of Music and the Lenox School of Jazz in Massachusetts directed by John Lewis[103]. In 1968, the National Jazz Educators Association formed as a part of the Music Educators National Conference[104]. The organization helped increase the support for the study of jazz beginning in high school in the US[105].

[101] Ibid., 16
[102] Paul Berliner, *Thinking in Jazz: The Infinite Art of Improvisation*, 55
[103] Ibid., 56
[104] Ibid.
[105] Ibid.

Topics such as rhythm, scales and pitch, harmony, ear training and listening and transcription skills are not unique to improvised music. It is argued that all music on earth has some or all of the aforementioned areas of music. String players most often learn these skills in the context of classical music, especially when learning in a classroom setting. The question of what, if anything, has to change within the teaching system of learning a string instrument when integrating improvisation over chord changes in a strings classroom is one to be explored.

String players' rhythm is expressed physically through a combination of the right bow hand and left hand responsible for creating different pitches. When beginning, it is argued that the bow is mainly responsible for sound production and rhythm, until slurs are introduced. In classical instruction, students are asked to play notes with a repeated value of rhythm evenly and similarly between a down bow and an up bow. The bow is to be controlled so that a listener would not be able to hear a difference in direction of the bow movement. A main concern in teaching jazz in a beginning string classroom is the swing rhythm. The uneven eighth notes are difficult to accomplish in separate bows, especially when a student is at the early stages of bow arm technique development. However, uneven bowing or 'notes inegale' has existed since the 16th century in France[106]. Musicians played notes inegale by alternating long and short values despite being written as equal rhythms[107]. Furthermore, this uneven pushing and pulling of the bow is found in Irish, Scottish and Celtic fiddle tunes which in many tunes, have a lilt in the feel of constant eighth notes. The unique feel of any swinging or lilting style is difficult to master and to achieve a natural sounding result. Thus, even at an intermediate level, dedicated practice to achieving a true swing feel through bow control and careful listening would be necessary for string students. It is suggested that beginning players first learn to improvise using straight

[106] David Fuller, "Notes inégales." *Grove Music Online*, (Oxford University Press, accessed February 22, 2017)
[107] Ibid.

eighth notes, but be introduced to the concept of swing once their bow arm technique starts to become natural.

As previously mentioned, it takes a considerable amount of time for the dexterity and certainty in finger placement to develop in beginning string players. It is understood that as students achieve musical and instrumental education, they will accumulate expertise of all scales, including major, minor, blues, and pentatonic. However, because of common strings on a violin, viola and cello, strings students are usually taught in the key of D major. Some of the pieces composed for this thesis adhere to La Porta's framework for improvisation, in that the pieces require students to create simple solos based on what they are already familiar. A D major scale translates well into a D major pentatonic scale, as well as an E minor that could be altered into an E minor blues scale with addition of only one new note. Instead of demanding that students know several different scales and modes and what chords these scales work with, it is believed that students can be creative and spontaneous using these tools, small as they may be, and derive pleasure, creativity and excellent playing out of the improvisational experience.

It is argued that perhaps one of the greatest contributions improvisation could have on a string student's education is in the area of harmony. Due to the mainly single pitch nature of string instruments, they are usually given melodic lines or pitches that are combined with different sections of an ensemble to create a chord. Unlike pianists or guitarists, harmony is not necessarily at the forefront of focus for a violin, viola or cello player. Most string classroom method books discuss key signatures, but do not give an explanation of the underlying harmony that the pitches outline and how notes fit into a chord. Upon reaching high school, string students are introduced to classical harmony, often in an analysis framework that seems detached from the music they are playing. Simple progressions that are prevalent in pop music such as I-

IV-V-I or a II-V-I can be taught through improvisation and in an interactive and engaging manner. Starting from an early point in a string student's education, an introduction to triads and chords would help them understand the music they hear not only in strings class, but the music they hear in their daily lives.

Furthermore, ear training is an area of musical training that often gets omitted in the music classroom. While it is touched upon in rhythm training with the phonetic association of note values and sounds such as ta, ti ti and tika tika, the skill of hearing music in one's head by reading it off a page is not prevalent in the classroom setting. The lack of time spent on ear training is not surprising though, as it is understood that an instrumental music classroom has numerous topics to cover, some of which must be excluded due to lack of time. Ideally, students can hear the pitches written on a page before they play them on their instruments. As Julius Ellerby states, "Students must train themselves to hear a piece's intervals, that is, to imagine their precise sounds, at differing pitch levels"[108]. For string players, the ability to hear notes before physically playing them is necessary as intonation is not defined by pushing a key or valve, but also has to be developed along with the physical technique of playing an instrument. As mentioned in La Porta's book, call and response games and exercises are a good way in which students can practice ear training and improvisation.

Several of the jazz improvisational method books dedicate sections to ensemble playing. It is believed that for a classroom full of string players, two levels of ensemble playing must be considered when learning to improvise in a jazz style. Firstly, students must be able to play together, meaning uniform bowing, articulation and bow division as well as playing the correct pitches at the same time. This is a skill that is taught in any string classroom despite the style of

[108] Paul Berliner, *Thinking in Jazz: The Infinite Art of Improvisation*, 66

the music being played. As in a jazz band, symphony orchestra or folk ensemble, being able to play together is a necessary skill and is a difficult task for beginning students. Secondly, music students who are learning to improvise must learn to interact with each other while spontaneously creating music[109]. Drawing from their ear training skills, improvising students learn to identify what is being played around them and interact musically with other players in a spontaneous manner. In a string classroom specifically, exercises can focus on specific skills, such as articulation, scales, open strings or rhythms so that students are listening critically to one another and then reacting based on what they hear and what they know. While it overlaps with traditional training, a student's autonomy in his or her own musical invention adds another level of creative and analytical thinking.

Lastly, instructional jazz improvisation books by Coker, Baker, Abersold and many others strongly advocate for the practice of transcription. Though 'transcription' refers to several ways in which music is written down from a variety of sources, for the purpose of this thesis it is defined as "the act of fixing in notated form music that is entirely or partly improvised, or for which no written score exists; also the resulting notated version itself"[110]. It is suggested that many string students, in particular novice ones, are not familiar with the great jazz artists and their works. As well, asking any string student ranging from elementary to high school to transcribe jazz solos could seem daunting and a far cry from the work they are doing in their strings class. Transcribing accessible music, such as top forty pop or rock may prove to be equally rewarding in terms of developing students' listening skills as well as students' satisfaction of figuring out how to play their favourite songs. The act of writing music they hear

[109] Azzara, *Developing Musicianship through Improvisation,*v
[110] Mark Tucker and Barry Kernfeld, "Transcription (ii)." *The New Grove Dictionary of Jazz*, 2nd ed. ,(Oxford University Press, accessed February 1, 2017)

down on paper with the correct pitch and rhythmic notation is an important aspect of transcription, despite the type of song or piece. A further step in a student's transcription education is notating an improvisation and analyzing what speaks to him or her in the solo.

With the rapid developments in jazz improvisation pedagogy, there is still much room for experimentation, in particular in settings that have not had much experience with it. Due to the lack of improvisation instruction in traditional string classrooms, it is suggested that improvisation be introduced early on and in combination with the more typical, classical instruction. The two do not need to be exclusive, rather can benefit a classroom filled with multiple learning styles and differing musical backgrounds. It is important to honour the culture in which jazz was created and in doing so, draw on the teaching techniques of earlier eras of informal instruction. Multi-directional learning between teachers and students as well as creating an environment of open discussion about music and improvisation alludes to Barry Harris' gatherings in which students learned from each other and the music around them. The elements of improvisation are considered in all of the compositions accompanying this thesis. Furthermore, the essential skills that were drawn from the many jazz instructional publications must be adapted to string players of differing abilities and string education background while fostering a love of creating spontaneous music. The integration of improvisation into the string curriculum is an essential component of future music education.

Chapter 6: Integration of Improvisational Pedagogy into the String Classroom

Education

Through pieces and exercises, there are ways in which the fundamentals can be practiced in improvisation from an early stage in string instrument pedagogy. Though there is an overlap in the decidedly fundamental skills by ASTA and MENC, the techniques outlined in the MENC curriculum will be discussed for the sake of simplicity in terminology.

Articulation

Firstly, tone quality and rhythm and bowing are inextricably linked to the ability to control one's bow. It is suggested that each improvisation is placed with restrictions in order to develop bow control, techniques and ease of play. For example, beginning string players can partake in an open string improvisation. Each time a student improvises, the teacher explains a certain bow stroke in which all notes must be played. Thus, as the individual student improvises over the class accompaniment, he or she is focusing on a particular articulation and the open string being played. Examples of bow strokes that should be in any string players' vocabulary include detache, legato, marcato, martele and staccato.

Rhythm

Furthermore, different rhythms can be introduced into this exercise as well. Students can experiment with the tactile feeling of quarter note detaches versus eighth note legatos bowing. Exploration is a basic stage of improvisation albeit a necessary one[111]. It is believed that much of rhythmic accuracy is muscle memory in that one must physically feel a beat and the subdivisions in order to understand and execute a rhythm. Improvisation on a repeated rhythmic motif known as a groove can aid in the development of rhythm and how it translates to the bow.

[111] John Kratus, "Growing with Improvisation". *Music Educator's Journal.* (78) 4. (1991): 36

As well, it echoes the notions suggested by Suzuki and Applebaum that beginning students should learn music by ear so as to master a technique without having to focus on written music. Like any other skill acquisition, these techniques should be introduced one at a time and progressively advancing. As students become more advanced and comfortable with bowing articulations, the teacher can change the type of restrictions for the soloing student. For example, instead of requiring students to focus on one articulation, a concept, such as 'contrast' can be set so that students must think critically about how to create contrast with bow articulations in a solo. Additionally, for many exercises, students will improvise one at a time, thus an accompanying part for the rest of the class must be in place. This can be beneficial for numerous reasons. The teacher can give individual feedback to the soloing student while the other students are still engaged and challenged in keeping a groove. Despite the role of the student, be it soloist or accompanist, they are constantly working on a given technique. Advancing in the degree of difficulty of a given task can only happen with further instruction and knowledge and therefore it is the responsibility of the teacher to aid students in their improvisational skills through instruction and demonstration[112].

Finger Patterns and Scales

The same, explorative, progressive approach in rhythm and bowing can be used in teaching finger patterns and scales. In a piece that includes improvisation, restrictions can be placed on the number of notes a student uses in his or her solo. As previously mentioned, beginning string students in a classroom most often learn the notes of a D major scale first. Many method books introduce one note at a time, for instance, the open D string and then first finger on the D string resulting in the note E. This process continues until the entire D major

[112] Ibid., 40

scale is learned. The same approach can be taken when improvising. Students can be asked to create a solo using interesting rhythms, but starting only with the notes D and E. As they become increasingly skilled, more notes can be added, a greater range of notes can be introduced, modes can be explored and vibrato can be included.

A benefit in teaching step by step skills in both left hand and right hand technique is the adaptability of the exercises into performance pieces. The pieces accompanying this thesis are intended as not only improvisational exercises such as the ones previously mentioned, but also as pieces for a strings class to perform in school concerts and recitals. In all classroom levels, students can develop their improvisational skills within one learned piece. Despite the repetition of working on the same piece for an extended period of time as classroom students often do in preparation for a performance, the incremental learning of new skills within a performance piece will keep students engaged.

Ear Training

As students become more familiar with their instruments, recognition of pitches and sounds and how they are expressed develop. Ear training exercises are innately built into improvisation exercises as it requires critical listening to what is happening in a player's surrounding musical environment. One particular exercise for students at any level of playing ability is trading improvised material. Often known in the jazz world as 'trading fours', students are placed in partners and participate in a improvised music conversation. One student plays four bars of improvised ideas and the other player responds with material drawn from the previous one. The length of bars and the number of people in a group can vary, thus making it adaptable for different sized groups and attention span. The exercise trains students to listen for a variety of distinctions to which they can respond musically. For example, a teacher can frame

the exercise in pitch or interval recognition, asking students to listen carefully for particular intervals or patterns that can be passed back and forth. In addition, rhythms and articulations can also be employed. Students are listening, experimenting, making mistakes and discovering solutions while at the same time being creative and spontaneous.

As previously mentioned, music theory is an area of string education that could greatly benefit from improvisation in a jazz framework. Understanding harmony not as a separate entity but as something that affects their choice of pitch and rhythm in students' own improvisation forces students to not only theoretically learn about theory, but also aurally and practically. Furthermore, the area of modes is rarely addressed in the strings classroom. Understanding the concepts as well as the sound of each mode is important for improvisation over harmonic changes. The composition, "The Kids are Coming" can be used as a tool to learn modal improvisation, as the solo sections are modal.

It is apparent that there is a great deal of overlap in the instruction of a traditional or classical approach to string technique pedagogy and an improvisational approach. As previously mentioned, the two should not be exclusive, but rather can be used simultaneously. This allows for more learning styles to be met and a broader understanding of topics in the class. As the director of the Dalcroze program, Marta Sanchez stated, "Improvisation is a music skill that should be developed along with performing, listening and analyzing because it synthesizes all these areas. Its practice, which can start at the earliest stages of music learning encourages exploration and discovery of music-making and gives the satisfaction of manipulating music elements without the restriction of the written page".

Chapter 7: Extended String Techniques for Non-Classical Music

Contemporary jazz string players such as Matt Glaser, Jeremy Kittle, Mark Summers, Christian Howes, Darol Anger, members of the Turtle Island String Quartet (TISQ) and numerous others have developed string specific techniques to create innovative sounds that define alternative genres in instrumental string music. These techniques are not wholly new but are borrowed from various styles of playing and developed into virtuosic skills that define the sound of string playing in jazz and contemporary, non-classical styles. Many of these techniques are included in the compositions in the appendix.

The Chop

The first example of such a technique is the chop, a percussive sound created by hitting the hair at the frog of the bow into the strings so that the friction created results a short, crunching sound. Subsequently, the bow can be lifted off the strings to create a short, pitched note or notes that suggest a harmony[113]. The first violinist to use the chop was Richard Greene in 1966[114]. Greene often played with Bill Monroe and his Bluegrass Boys throughout the late 60's and it was eventually noticed that Greene had a tendency to rush the tempos. Instead of playing melodic lines that fiddle players frequently used to embellish the vocals, Greene was put in charge of playing background rhythm. Greene explains that "[Monroe] asked me to not play any background fills or licks, just to play rhythm only and then to take my breaks, my solos on the vocal songs, and then play the instrumentals. But otherwise, only play rhythm. And the only rhythm I was aware of on fiddle at that point was a tapping on the backbeat with the tip of the

[113] Laura Risk,"The Chop: The Diffusion of an Instrumental Technique across North Atlantic Fiddling Traditions". Ethnomusicology 57: 3 428-454 (2013)
[114] Ibid.

bow"[115]. This tapping at the tip of the bow evolved into tapping at the frog due to the physical exhaustion that would incur while playing at the tip of the bow for entire shows. Greene explains that the modern chop developed further from his own physical limitations; instead of lifting the bow after he struck the strings, he would leave it on the strings until the next beat on which he would have to chop[116]. In other words, instead of the action revolving around a lift, it turned into a movement of collapsing. In the next few years, Greene combined his chopping technique with chordal and melodic ideas and developed the chop into a virtuosic musical skill that he incorporated into his solos[117].

Though Greene is considered the inventor of the chop, Darol Anger is the person most associated with the chop technique. While both residing in California, Greene taught the chop to Anger in 1975[118]. Years later when Anger joined the Turtle Island String Quartet, he saw a great use for the chop as a means of creating a rhythm section within the string ensemble. Anger states, "We really wanted to have a convincing sound. We wanted it to sound like the drums were there and the rhythm guitar was there" and suggests the need for a 'comprehensive accompaniment technique'[119]. Thus, unlike Greene who eventually used the chop to create interesting melodic solos ripe with percussive breaks, the Turtle Island String Quartet treated the chop as a means to mimic the sounds of a drum set in a jazz ensemble. Furthermore, Anger extended the motion of the chop by moving it back and forth along the string. Termed the 'Cyclical Slant' by fellow fiddler and chop master, Casey Driessen, the movement allows for sound manipulation and efficiency in movement[120]. As Driessen explains, "If you go back and

[115] Ibid.
[116] Ibid.
[117] Ibid.
[118] Ibid.
[119] Ibid.
[120] Ibid.

forth, it changes the tone and you can achieve much greater speed without fatigue"[121]. The 'Cyclical Slant' paved the way for more complexity in the skill, such as Driessen's invention of the 'Triple Chop', in which the bow skids backwards across the strings in a triplet rhythm[122].

Because the chop was a new technique in the realm of string quartet repertoire, a new symbol was created to notate it. As shown in figure 1, the image exemplifies the 'x' shaped note head as a direction to chop.

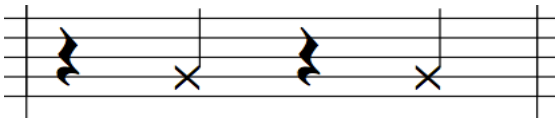

Figure 1: Chop Notation

In addition to the chop, other percussive techniques are used in the quartet to create different textures within a groove. Col legno is a technique in which a player turns his or her bow upside down and strikes the wood of the bow on the strings creating a dry, staccato effect[123].

Pizzicato

A second technique that has been developed from the classical tradition and into the repertoire of jazz for string players is pizzicato. Pizzicato, abbreviated as 'pizz', is a method of plucking the strings of a normally bowed instrument with the right hand fingers to create short, burst of pitched sound[124]. Furthermore, the plucking of the string usually takes place over the fingerboard and can be applied to single notes or double, triple and quadruple stopping[125]. Left

[121] Laura Risk,"The Chop: The Diffusion of an Instrumental Technique across North Atlantic Fiddling Traditions". Ethnomusicology 57: 3 428-454 (2013)
[122] Ibid.
[123] David Boyden, "Col legno." *Grove Music Online*, (Oxford University Press, accessed February 22, 2017)
[124] Sonya Monosoff, "Pizzicato." Grove Music Online, (Oxford University Press, accessed April 14, 2016)
[125] Ibid.

hand pizzicato is also included in much classical music, though often in flashy, complex passages such as in Paganini's 24th caprice[126]. Figure 2, from Mark Summer's, "Julie-O", is an example of notation of left hand pizzicato. The added '+' above the notes is used to indicate that the pizzicato is to be done with the left hand.

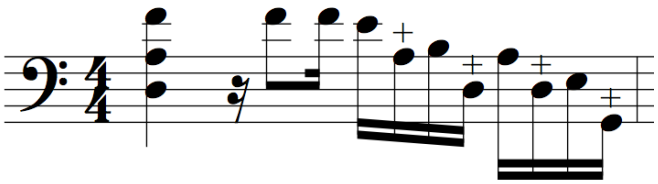

Figure 2: Left Hand Pizzicato Notation

Other advances in the pizzicato technique that artists such as the players from the Turtle Island String Quartet have experimented with originate from Bartok's music. Bartok introduced 'snap' pizzicato, in which the string hits the finger board after being plucked in the opposite direction[127]. As well, Bartok also included pizzicato glissandos in his works. The note slides up or down while the string vibrates from the initial pluck[128]. Cellists, such as Eugene Friesen in his work, "Shadowplay", have taken these ideas and created entire pieces by extending the technique both mechanically and musically.

As well as pizzicato stemming from a classical viewpoint, it also has an important place in jazz. The upright bass is a staple in any jazz rhythm section and its signature sound is a walking bass line produced by plucking the strings. The double bass has been a part of jazz

[126] Ibid.
[127] Ibid.
[128] Ibid.

ensembles since the 1890's, appearing first in New Orleans dance orchestras[129]. In early ragtime orchestras, the bass would play on the first and third beats of the bar and as jazz developed, the ragtime bassline evolved into a walking bass line[130]. Furthermore, the double bass was considered an accompanying instrument until Jimmy Blanton started taking solos while playing with Duke Ellington's band[131]. The booming sound of bass pizzicato along with the drums anchors any group and provides not only a rhythmic groove but a harmonic one as well. David Balakrishnan, the founder and main composer of the Turtle Island String Quartet states "One of the elements that we've had to deal with in our string quartet is the problem of assuming the various roles of a standard jazz band. We're playing a lot of jazz-influenced music where you would normally hear piano, bass, drums and a soloist…Mark Summer, the cellist, assumes the role of the bass player. We use a pickup on his cello, so that we can get a wider, lower sound out of the cello- so that it sounds more like a bass. He does a lot of pizzicato"[132]. The Turtle Island String Quartet's cellists have always possessed the theoretical background to construct a harmonically driven bass line, yet they also have the challenge of having to fulfil the role of the cellist of the group as well. Mark Summers, the cellist of the TISQ states, "One of the challenges of it for me is how quickly and completely I must shift gears between my pizzicato and arco playing. The pizz must sound as much like a bass as possible while the arco playing is more modeled after the sound of a tenor sax. Also, since I must drop my pizz or walking bass parts to play arco, this familiar jazz texture must be replaced by another solution"[133].

[129] Rodney Slatford and Alyn Shipton, "Double bass." Grove Music Online, (Oxford University Press, accessed April 14, 2016)
[130] Ibid.
[131] Ibid.
[132] Julie Lyonn Lieberman, "Improvising Violin", (New York: Huiksi Music, 1995), 7
[133] Chris White, (1997), "Interview with Mark Summer" [Online]. Available: http://www.cello.org/newsletter/articles/summer.htm [Accessed April 12th, 2016]

Rhythmic Bowing

Jazz and rock music composed or arranged for a string ensemble includes harmonic rhythmic patterns that mimic a rhythm guitar or piano in function. It is both a role and technique, in that those who are playing the rhythmic accompaniment are providing a rhythmic pulse as well as the harmony. The rhythmic accompaniment is rarely the focus point of the interlocking instrumental parts, rather it is both supportive and essential to groove based music[134]. Bowed instruments have had a long history of rhythmic accompaniment, for example in bluegrass music. A shuffle bow, which is an eighth note followed by two sixteenth notes repeated as much as needed acts as support to the player who has the melody or solo[135]. Though the rhythm seems simplistic, the nuances of articulation creates a distinctive sound. The first eighth note must be accented at the attack of the note, after which the pressure is lessened and the speed of the bow is decreased[136]. The two following sixteenth notes should be played with less pressure, letting the natural weight of the bow change depending on whether it is a down bow or an up bow[137]. One challenge in introducing varying styles of music in a string classroom is the authenticity in which each style needs to be approached. The different feel, articulations, intonations and traditions should be taught with the same vigor as any classical music topic. While it is understood that most music teachers are not experts at every style of music, the greatest amount of knowledge, understanding and technique should be gained by the instructor if teaching it to students is the intention.

[134] *Wikipedia* sv "Rhythm Guitar". Accessed April 12, 2016, https://en.wikipedia.org/wiki/Rhythm_guitar
[135] Andrew A Carlson, "A Guide to American Fiddling", (Missouri: Mel Bay Publications, 2001), 11
[136] Ibid., 12
[137] Ibid., 13

Glissandos

The unfretted fingerboard of violins, violas, cellos and basses make the glissando technique especially effective. Glissandos are defined as the 'Passing all or part of the way from one note to another on the same string, with the difference that the pitches passed through, instead of representing the fixed tones and semitones of a scale, are infinite in number'[138]. Glissandos are suitable for beginning students who have learned different finger placements, for example F naturals and F sharps played with second fingers on violin and viola. Glissandos are often associated with the blues, in particular, the slide from a flat fifth note to the natural fifth. String players can achieve a glissando with ease and students find learning the technique fun and easy to master.

Ghosted Notes

Part of the challenge with groove based music is maintaining a steady beat, which is aided by the consistent movement of the bow hand in a subdivided pattern. In other words, just as a guitarist would relentlessly strum a particular beat, so would a string player's bow stroke. Additionally, like a guitarist, string players possess the ability to alter the quality of the tone of the notes they are bowing. Notes that are not fully expressed in terms of tone are 'ghost' notes, named after their airy, whispery sound. These ghosted notes refer to the sixteenth notes of the shuffle bow, as they are played with less pressure. As Christian Howes explains in his online video, *Extended Rhythmic Techniques for Violin and Cello*, the subdivisions of any beat are expressed physically, if not aurally[139]. It is not uncommon for a violinist or violist to hold their

[138] "Glissando". *The Oxford Dictionary of Music*, 2nd ed. rev.. *Oxford Music Online*. Oxford University Press, accessed April 14, 2017, http://www.oxfordmusiconline.com.ezproxy.library.yorku.ca/subscriber/article/opr/t237/e4321

[139] Christian Howes, "Extended Rhythmic Techniques for Violin and Cello". (2015) https://www.youtube.com/watch?v=tMbEypondZk

instruments like a guitar and strum it with the same 'ghosting' of notes that they would using their bow. The same rhythms can be played in this manner, however a different sound will be produced. Figure 3 is an example of ghosting notation, indicated by the brackets surrounding particular notes. Though the player will move his or her bow on each note, the bracketed notes will not make a full sound.

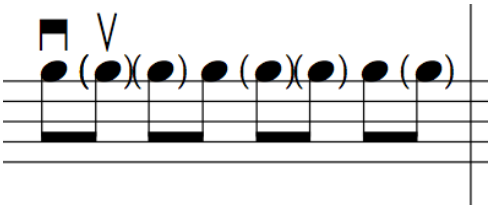

Figure 3: Ghosted Note Notation

Balakrishnan discusses the ability of players to take on roles that fall outside a traditional, classical string ensemble as he states, "Darol Anger is the rhythm violin virtuoso, and he's come up with ways of throwing the bow on the strings close to the bridge; it sounds like a snare drum, or a high hat cymbal. I do a lot of voicing, the harmonic underpinning on which the soloist needs to solo, and of course, all of us solo. So we really do work on portraying the sound of a jazz band inside the context of a string quartet and I think it works"[140].

It is worth reiterating the fact that these techniques were not invented by the great, contemporary jazz and alternative string style players, rather they were taken from older musical traditions and developed into complex musical skills. Col legno and pizzicato are commonplace in symphonic and solo classical pieces. As well, ghosting, shuffle bowing and chopping were originally found in bluegrass music. Often, the function of these techniques morphed into

[140] Julie Lyonn Lieberman, "Improvising Violin", (New York: Huiksi Music, 1995), 7

something completely different, depending on the type of music in which they are found. For example, col legno is commonly used as additional texture within the violin, viola, cello and bass sections in a symphony orchestra. The technique produces a quiet sound and thus does not act as a solo feature nor a binding rhythmic gesture. Instead, it sits on top of what the other instruments are playing and adds a different colour to the sound of the orchestra. Ensembles such as the Kronos Quaret and the Turtle Island String Quartet are able to use col legno as a percussive technique in which the striking of the wood of the bow can create a groove. Furthermore, pizzicato is also heavily used in orchestras and like col legno, changes the texture of sound produced by the strings sections. Pizzicato has been developed mostly by cellists, as the instrument allows for a more resonant pluck of the strings, as well as enables certain pizzicato techniques due to the physicality of the instrument. Contemporary, non-classical cellists such as Eugene Friesen, Mike Block and Mark Summer have contributed to the development of virtuosic cello pizzicato by experimenting with using multiple fingers (as opposed to the classical single-fingered pizzicato), hammer ons and pull offs, slapping the strings and even holding the cello like a guitar.

In this thesis' compositions for improvisation in a string classroom, the aforementioned, non-classical techniques can be introduced in the same way different pitches or different bow articulations are traditionally introduced. Improvisation sessions set with a purpose to explore these techniques can be used within the compositions. Furthermore, some compositions have these techniques built into the notation of the piece and revolve around the particular sounds that the techniques create. In these cases, techniques and notation are explained at the beginning of each piece in the performance notes. Furthermore, it is encouraged for string players of all levels to experiment and create their own sounds and create their own unique improvisational language.

According to Kratus, there are seven levels of improvisation and the highest level involves a player transcending improvisational styles to develop their own style and their own voice[141]. Fostering the explorative tendencies in beginning students and legitimizing their ideas can lead to confident musicians who push creative boundaries in their music making experiences.

[141] John Krauts, "Growing with Improvisation". *Music Educator's Journal.* (78) 4. (1991): 39

Chapter 8: Conclusion

The intersection of the areas of jazz, music improvisation education and string classroom pedagogy is a topic that needs further exploration and research. Improvisation on a string instrument has been around since the Baroque era, however after disappearing during the 1700s, it has seen a resurgence in the 20th century to the present day. The rise of jazz in the 20th century has brought to light the artistry of musical improvisation. Jazz has made improvisation as credible as reading music, an ability most associated with classical music.

It is hoped that the pieces in this thesis can facilitate the incorporation of improvisation in the string classroom. The pieces reflect areas addressed in this thesis, such as string technique curriculum, improvisation pedagogy, fostering exploration and curiosity in music students and contemporary, non-classical string techniques.

These pieces provide only a sample of what jazz can mean to a string player. Several types of jazz and world music that incorporate improvisation are not represented in the compositions. Further composing and pedagogical research must be done in order to provide string students with a broader sense of jazz and non-classical music.

While the compositions are intended to create opportunities for string classes to explore improvisation, they are also meant to serve as a launching point for students' curiosity. It is hope that string students who enjoy performing these thesis pieces continue to explore non-classical string playing on their own. This may result in listening to different genres of music, composing pieces on his or her own, jamming with instrumentalists of all kinds and creating music that is innovative and creative. The strings classroom does not end with the acquisition of instrument technique, rather it begins when students develop the love of learning and exploring music through their instruments.

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Appendix A: Compositions

The Long and Short of It

This composition is an introduction into improvisation in D major. Students should already know how to play a D major scale with good posture and familiarity with bow grip, bow arm and left hand technique. The composition is written like early Suzuki pieces, in that the piece is follows an A-B-A form and each section is comprised of four bars. The A section focuses on a martelé bow stroke, whereas section B focuses on a legato bow stroke.

The piece is a duet, with the first and second part written for all instruments. This was done for several reasons. Often in a string classroom, students progress at different rates and may be working on mastering different techniques. The melody part is slightly more difficult than the accompanying part. As well, the teacher can divide the parts among the instrument sections based on the make-up of the class. Lastly, the teacher can have all students learn both parts and then have the students decide for themselves which part to play, alluding to the improvisatory nature of the piece.

In the improvisation section, students who are not soloing are required to pizzicato with their right hand. Proper pizzicato technique should be enforced. The soloist should be allowed to explore different bow articulations, including martelé and legato as learned in the written section of the piece. Step by step improvisation can be instructed as well. For example, the teacher may limit the notes that students can use and increase the notes as they become more comfortable with improvisation. Furthermore, the teacher should remind students that rests create interest in improvisation and that space should be included in their solos.

Another recommendation for teachers is to have multiple students solo at the same time. This allows for students who are nervous to play a solo to improvise and experiment without the

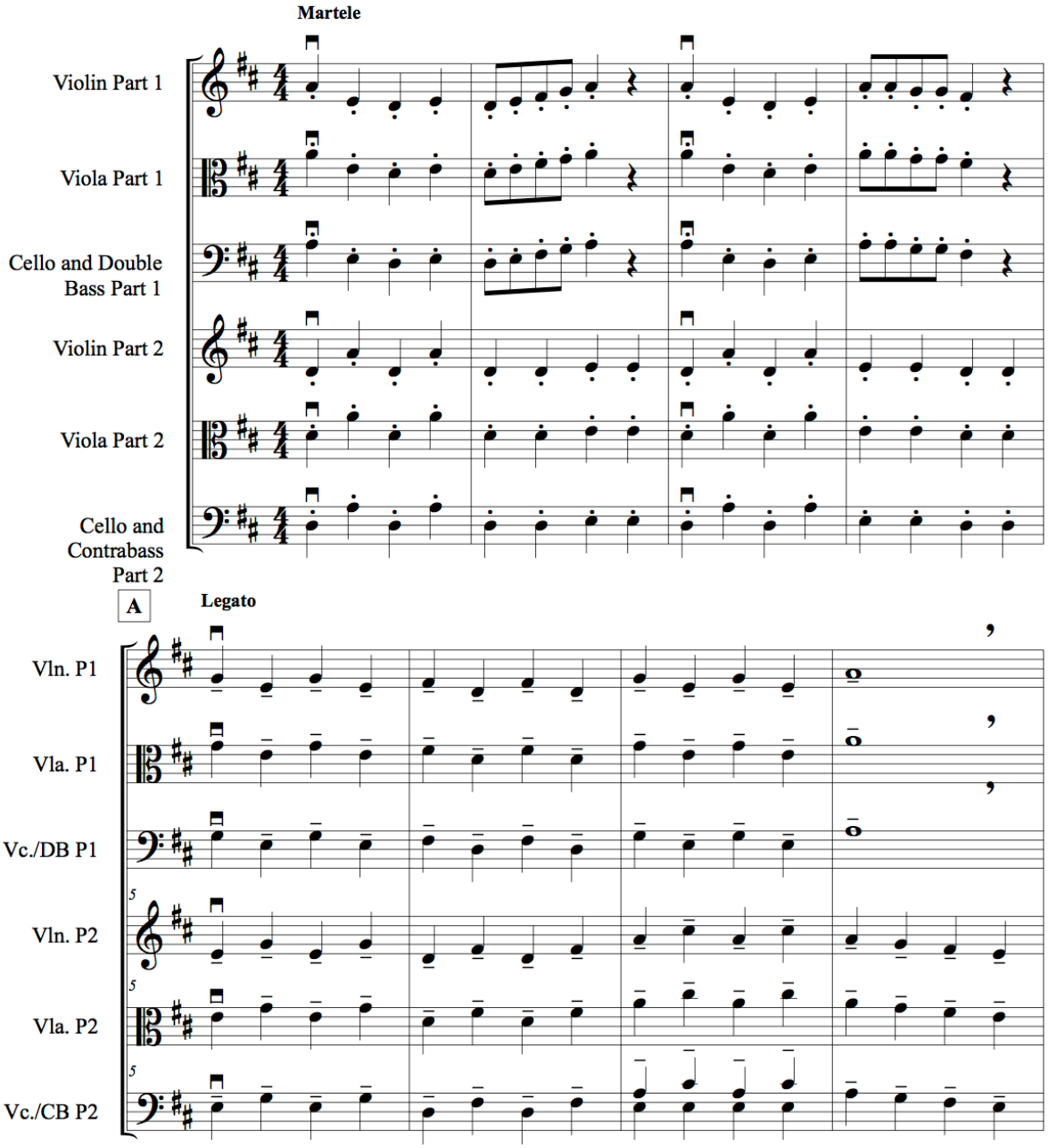
pressures of performance. As well, it allows for a greater number of students to improvise without extending the length of time playing the piece.

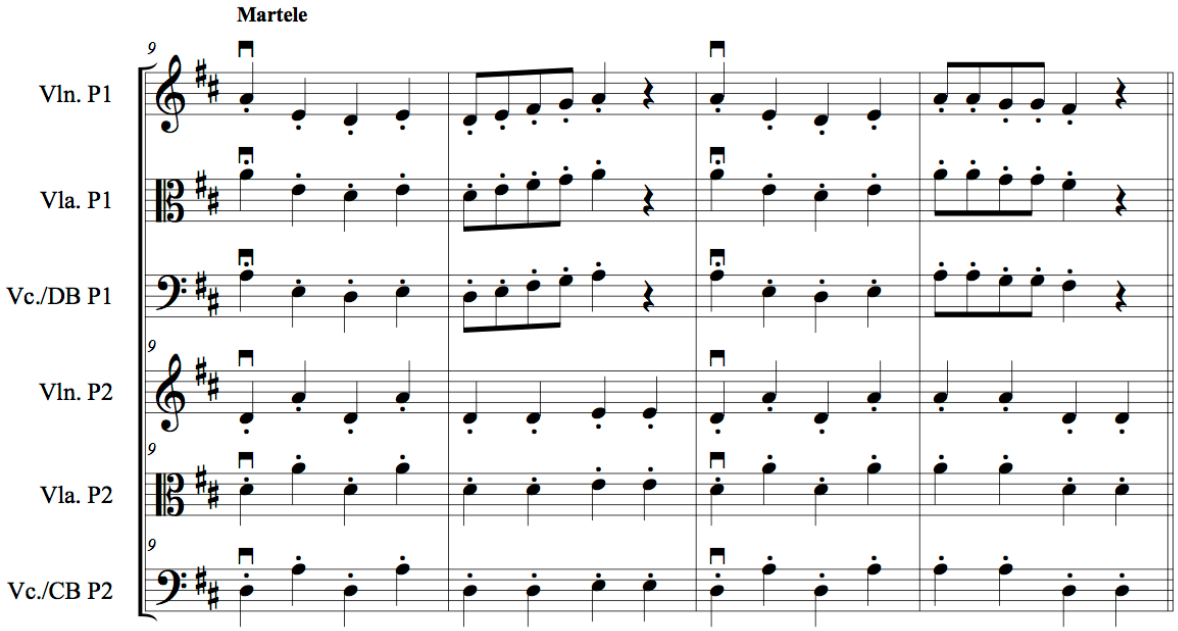
Essential String Instrument Technique	Improvisation Pedagogy	Extended String Techniques
Posture	**Rhythmic exercises**	
Right hand skills: **Bowing articulations ie: detache and legato, pizzicato**	Ear Training	
Left hand skills: D major scale finger pattern	**Chord Scale: D major**	
Reading Music		
Creative Musicianship		

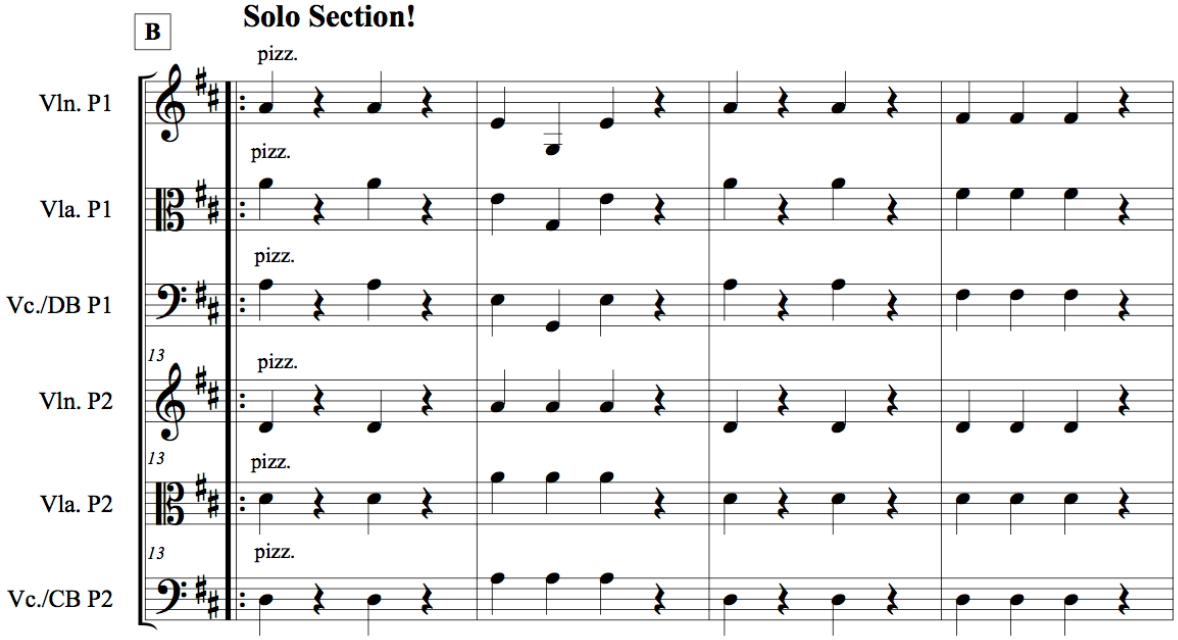
Score

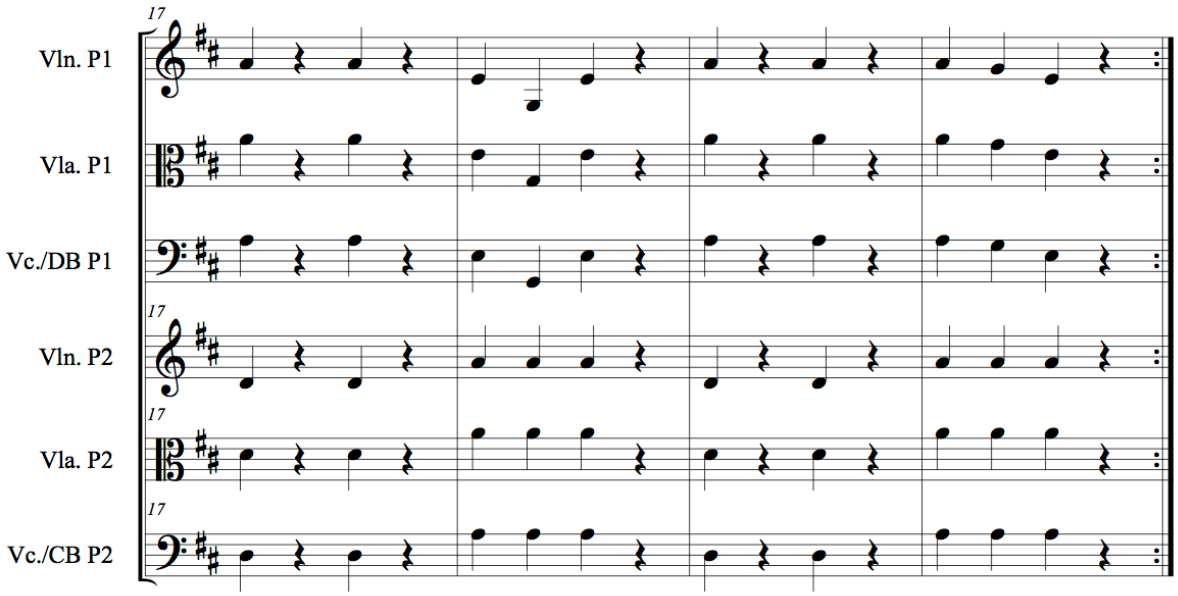
The Long and Short of It

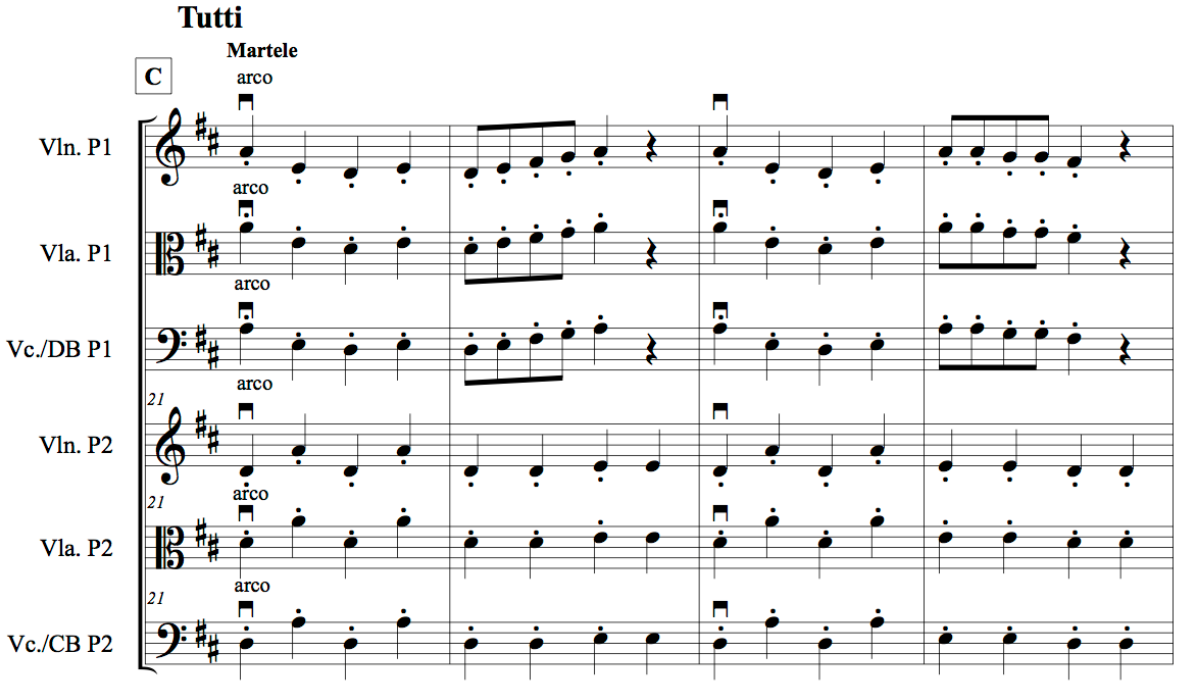
Meghan Cheng

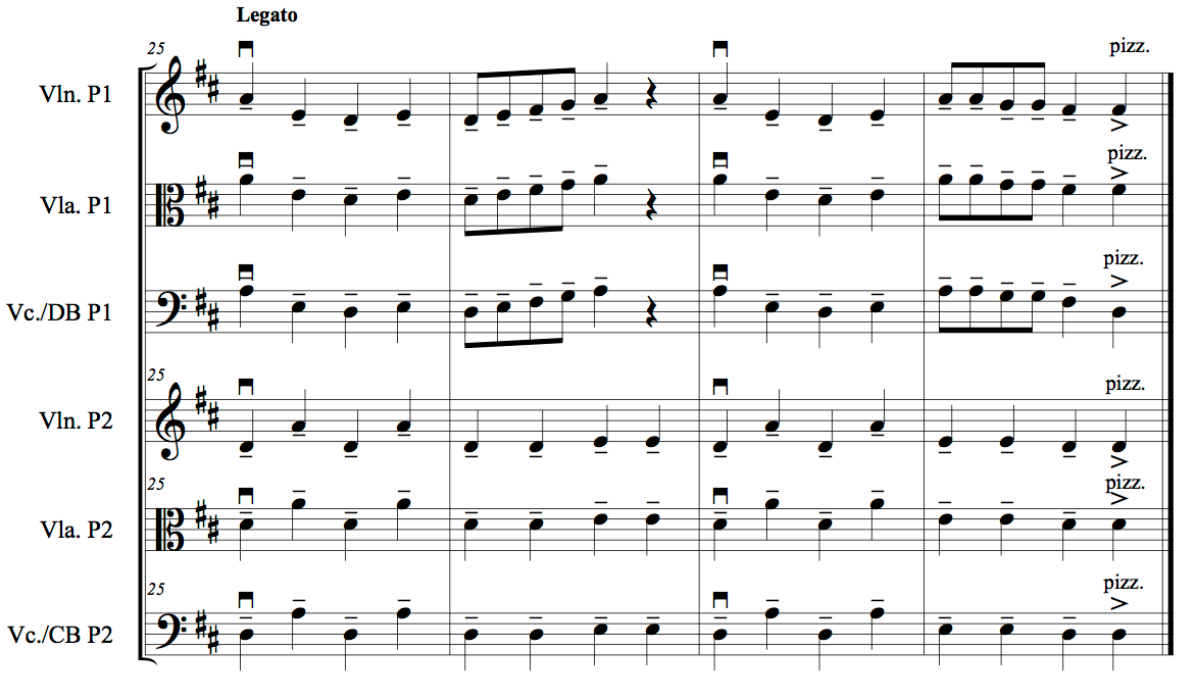



Martele
9
Vln. P1
Vla. P1
Vc./DB P1
Vln. P2
Vla. P2
Vc./CB P2


B
Solo Section!
pizz.
Vln. P1
Vla. P1
Vc./DB P1
13
Vln. P2
Vla. P2
Vc./CB P2


17
Vln. P1
Vla. P1
Vc./DB P1
17
Vln. P2
17
Vla. P2
17
Vc./CB P2


Tutti
Martele
C
arco
Vln. P1
arco
Vla. P1
arco
Vc./DB P1
arco
21
Vln. P2
arco
21
Vla. P2
arco
21
Vc./CB P2


Legato
25
Vln. P1
Vla. P1
Vc./DB P1
Vln. P2
Vla. P2
Vc./CB P2
pizz.

Ode to Jamming

The famous theme from Beethoven's ninth symphony is a popular piece to learn in a string class. It is fairly short with a simple rhythm and students are often already familiar with the melody. This arrangement of Ode to Joy incorporates the tune that students love to play as well as a groove-based improvisation section. The whole piece is swung, however, because the main theme is mostly quarter notes, this is not apparent from the beginning.

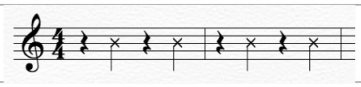
The melody is passed throughout the sections and therefore dynamics and awareness of what other sections are playing are important skills. While playing the melody, students should use a full bow with enough pressure to create a strong, forte sound. While on the accompanying parts, students should drop in volume by using less pressure.

The improvisation section sets a groove for the soloist to improvise upon. The syncopated rhythms can be taught by rote and by a breakdown of the eighth note beats. Chopping is introduced and despite the fact that only the second violins are chopping in this section, it can be taught to the entire class as it occurs in all parts later on in the piece. The chord symbols are written above each part so that any student can improvise. While students can solo in D major, the chords are meant to provide an introduction into soloing with harmonic rhythms in mind. Explanations of triads and chords can be explored as a class and practiced as a group.

Following the improvisation section, there is a call and response section. One student is asked to solo for one bar in D major while the other students chop. Fragments of the melody alternate with the bar of soloing. In this section, more students have the opportunity to improvise due to the number of solo bars.

The same approach as in 'The Long and Short of It' can be used when instructing improvisation in this piece. The teacher can ask the soloing student to focus on specific tasks,

such as starting low in pitch range and getting higher throughout the solo, playing with rhythms and rests or particular bow articulations. Eventually, the student can create a solo incorporating several of the learned ideas and expressing his or her self through a variety of musical elements.

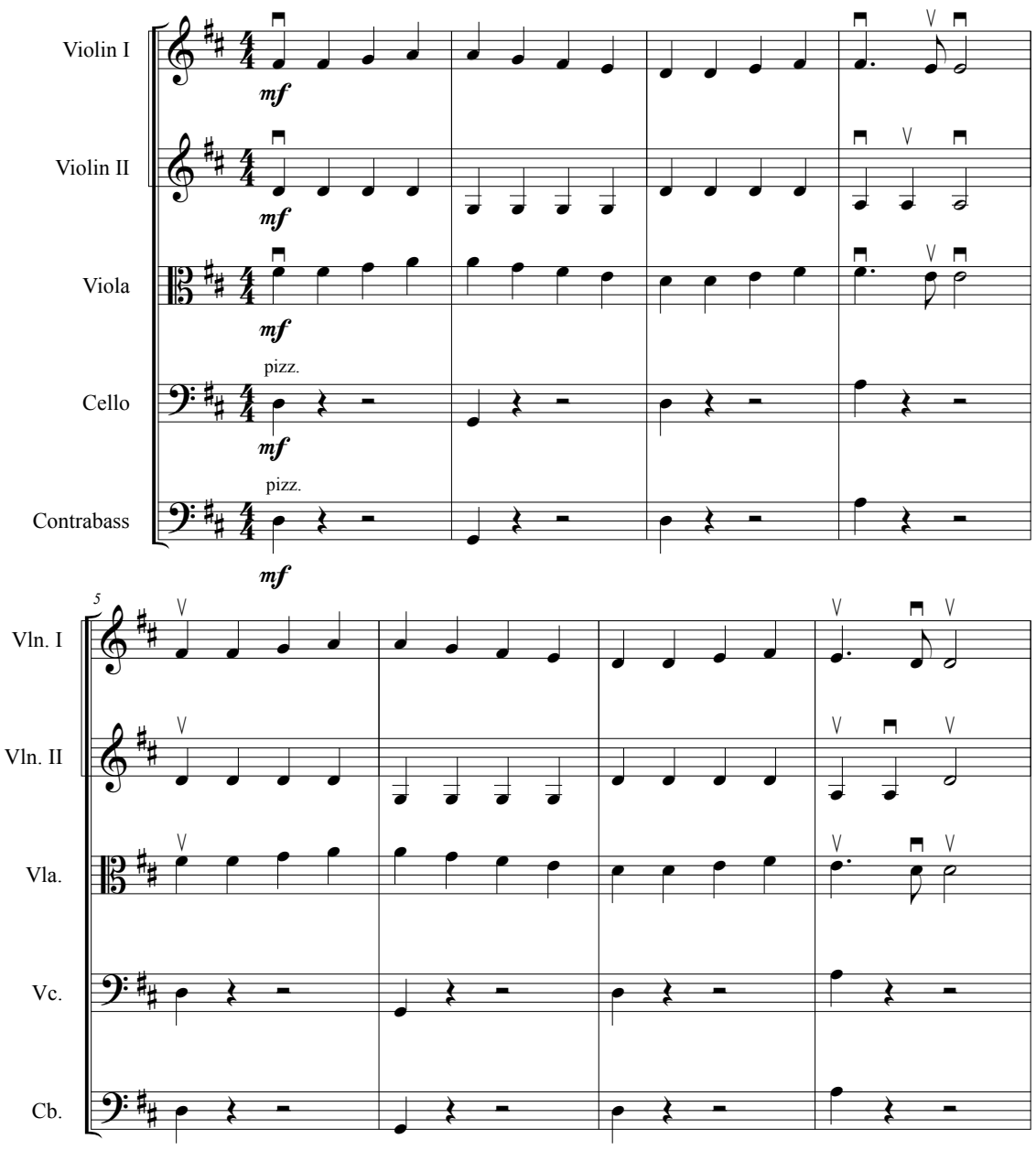
Essential String Instrument Technique	**Improvisation Pedagogy**	**Extended String Techniques**
Posture	**Rhythmic exercises**	The Chop
Right hand skills: Bowing articulations, pizzicato	Ear Training	
Left hand skills: **D major scale finger pattern**	**Chord Scales**	
Reading Music	Licks and Patterns	
Creative Musicianship		
Tonal and Aural Skills		

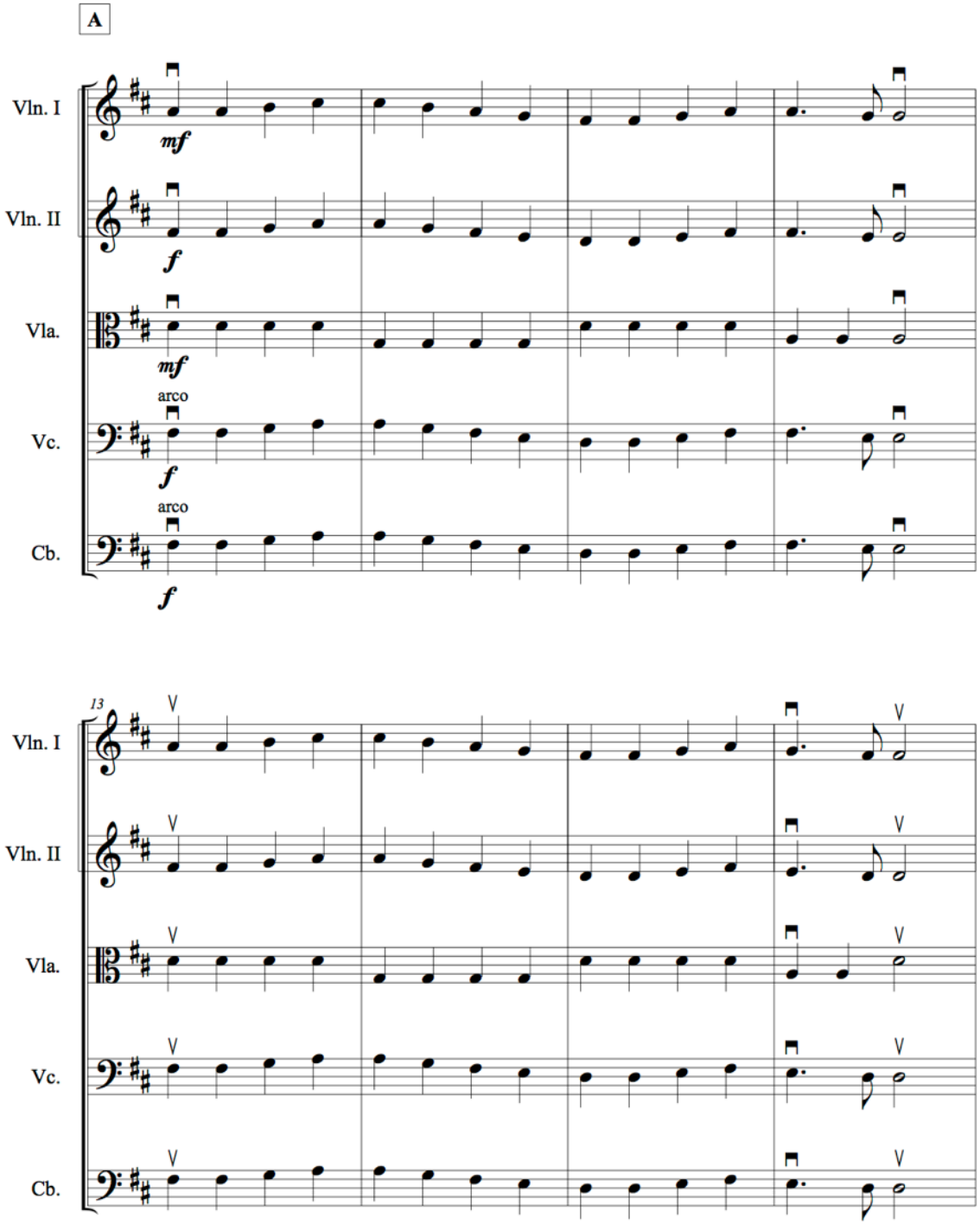
Score

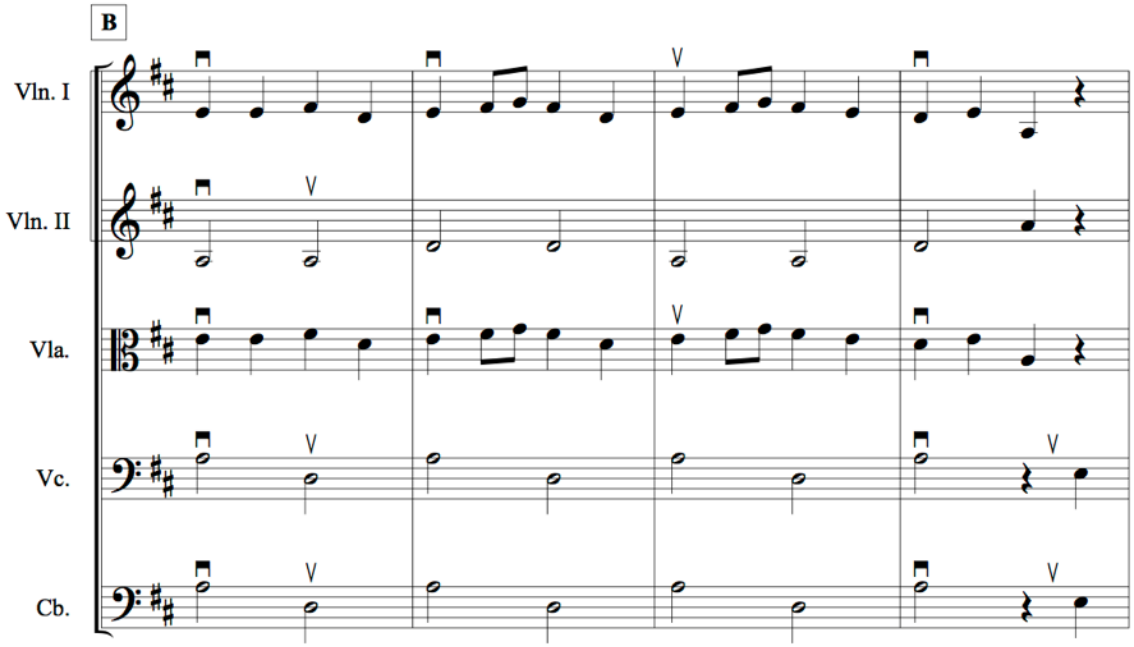
Ode to Jamming

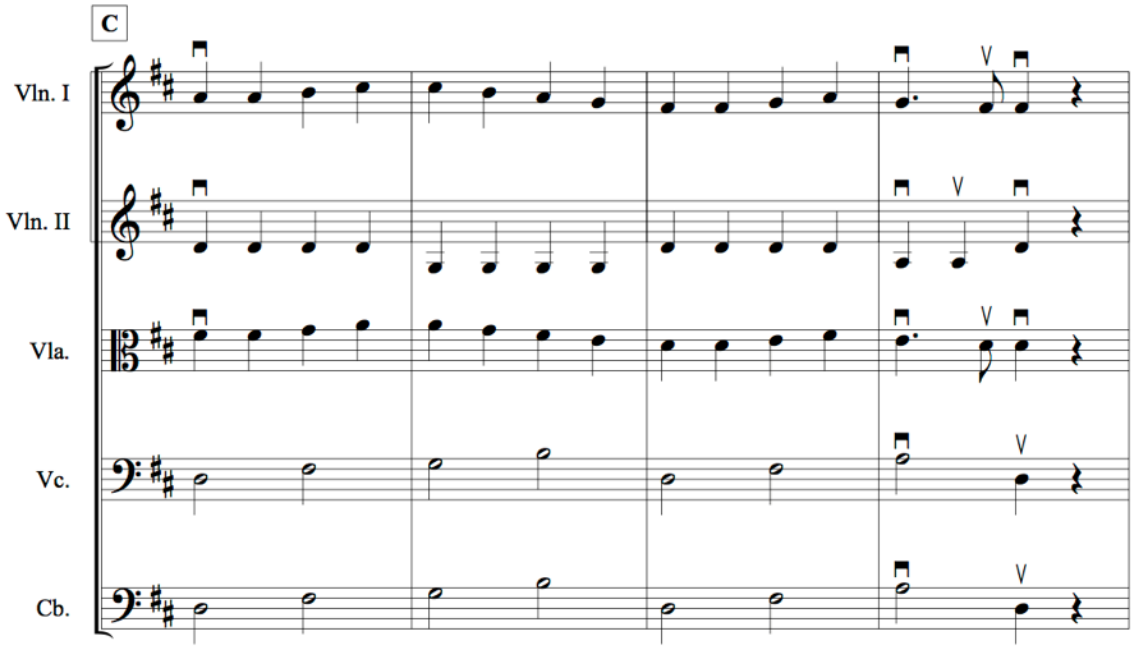
Meghan Cheng

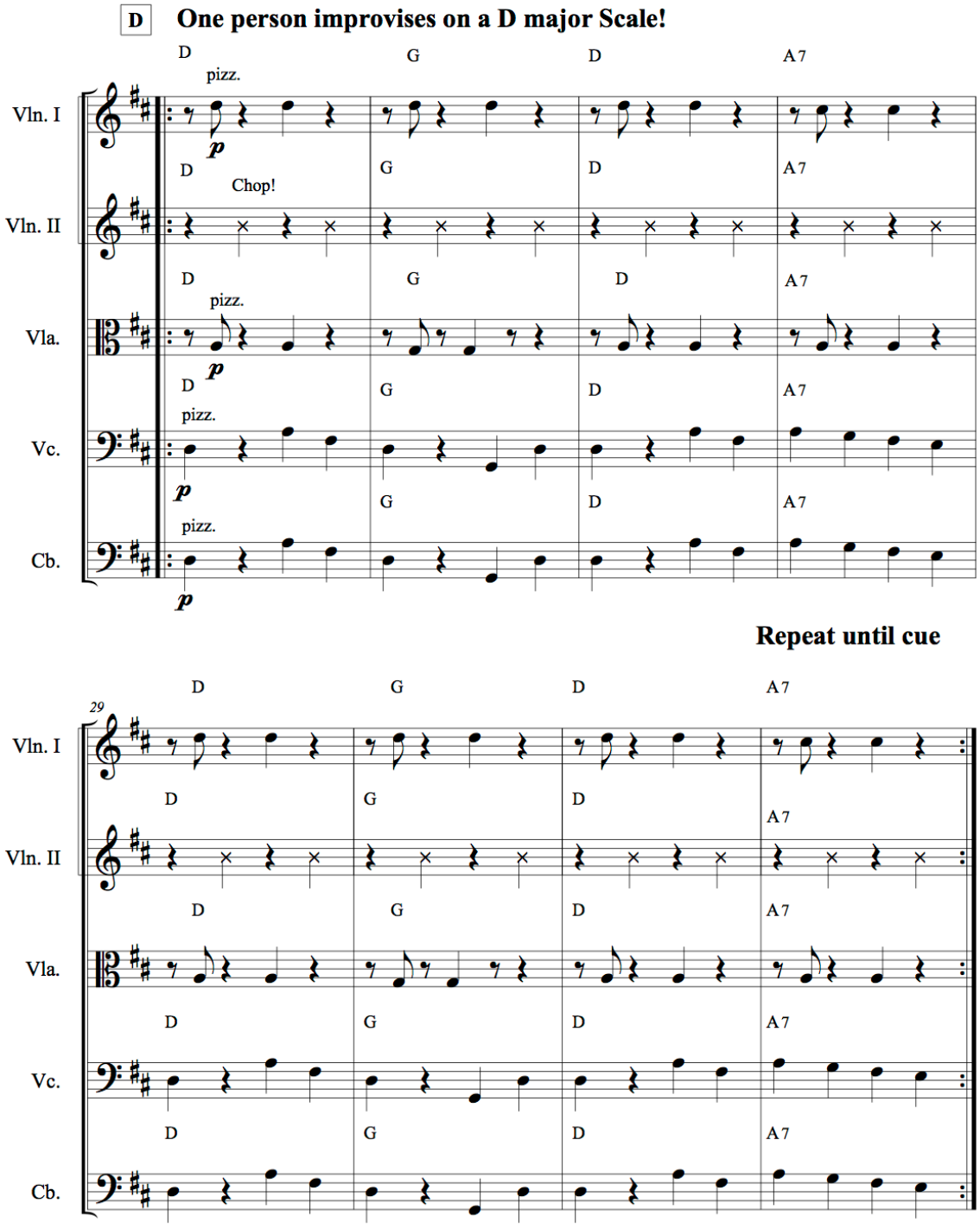
With a swing feel

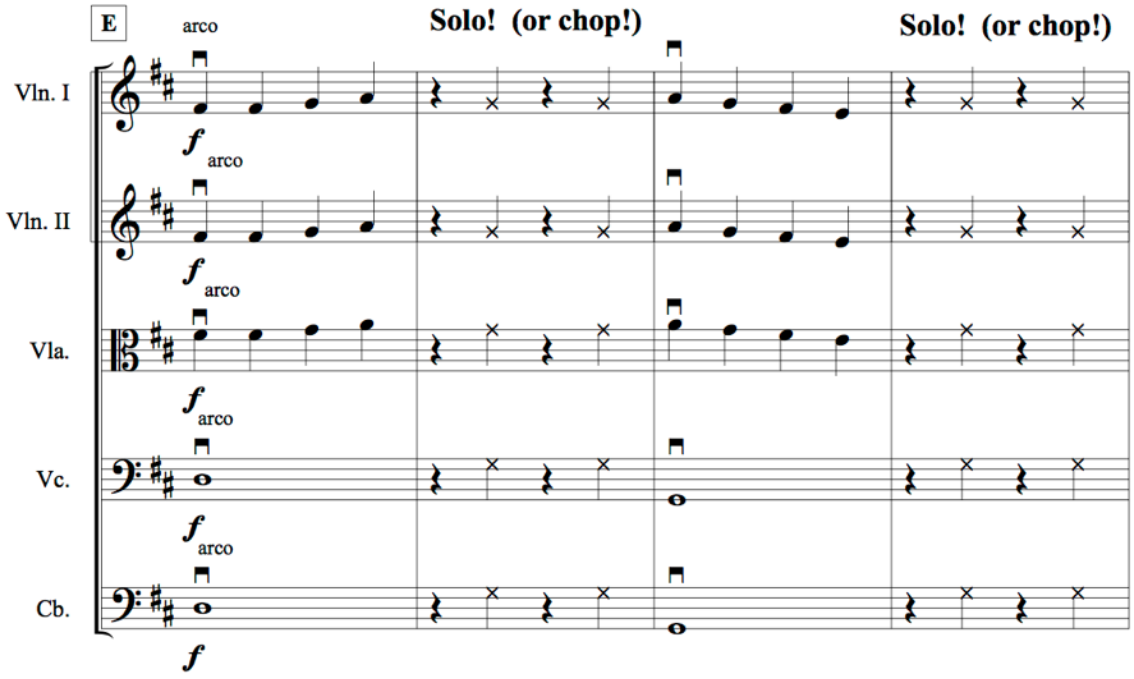


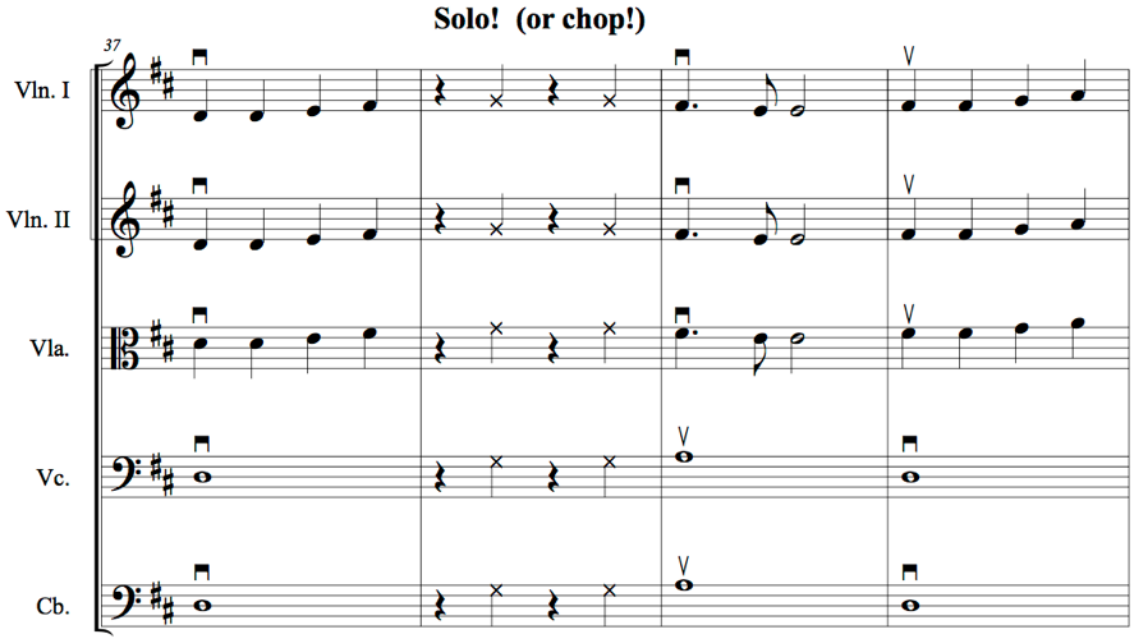

A
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
f
mf
arco
f
arco
f
13
V

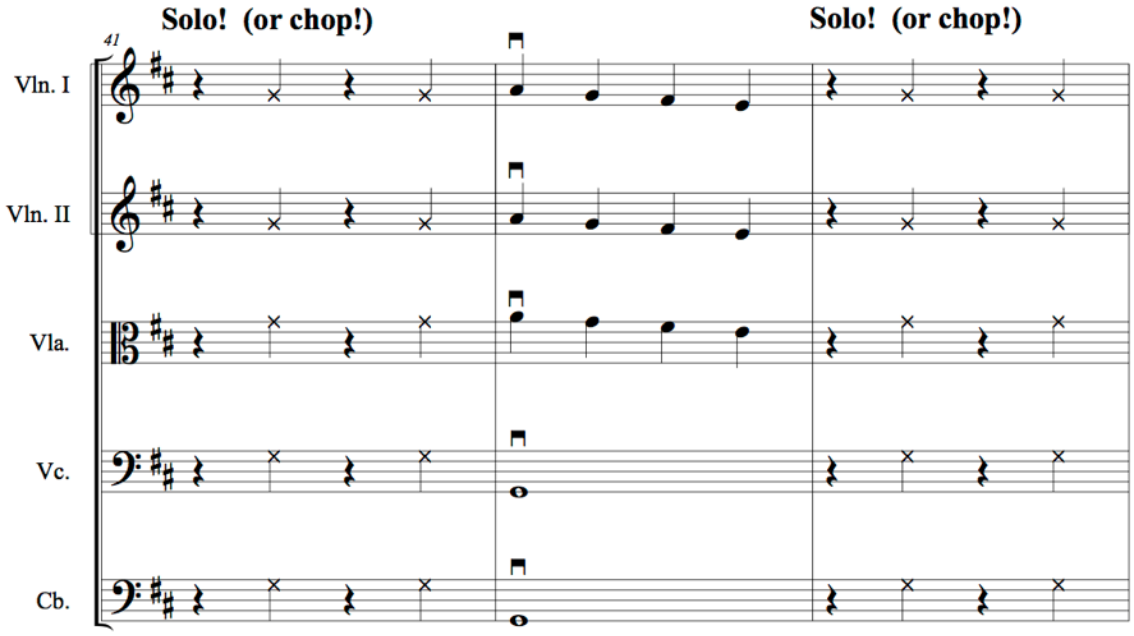

B
Vln. I
Vln. II
Vla.
Vc.
Cb.

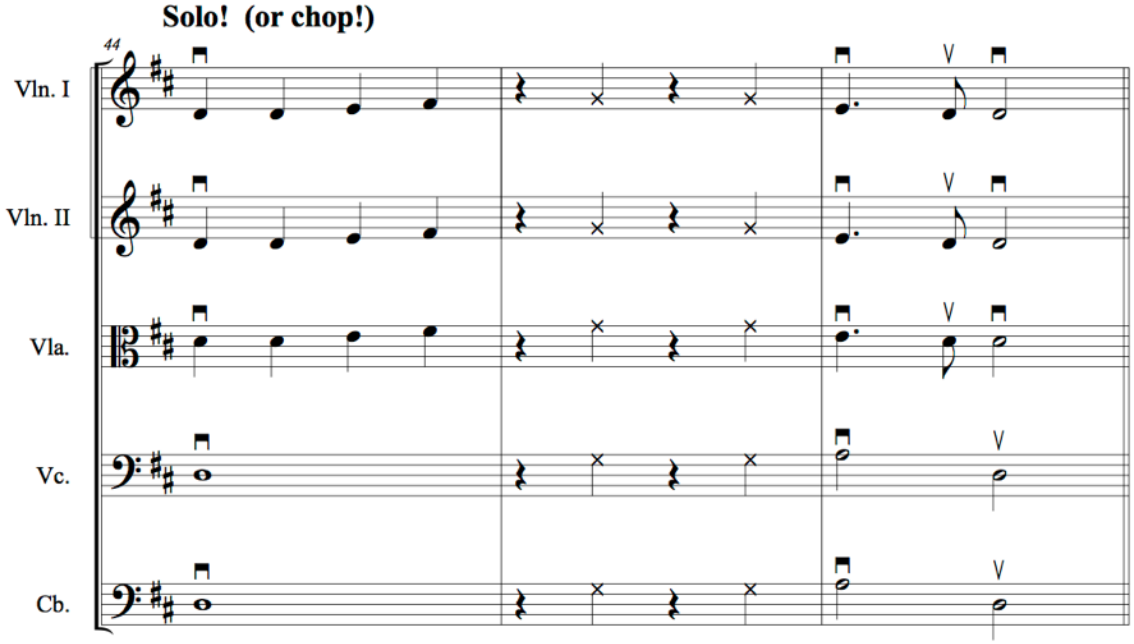

C
Vln. I
Vln. II
Vla.
Vc.
Cb.

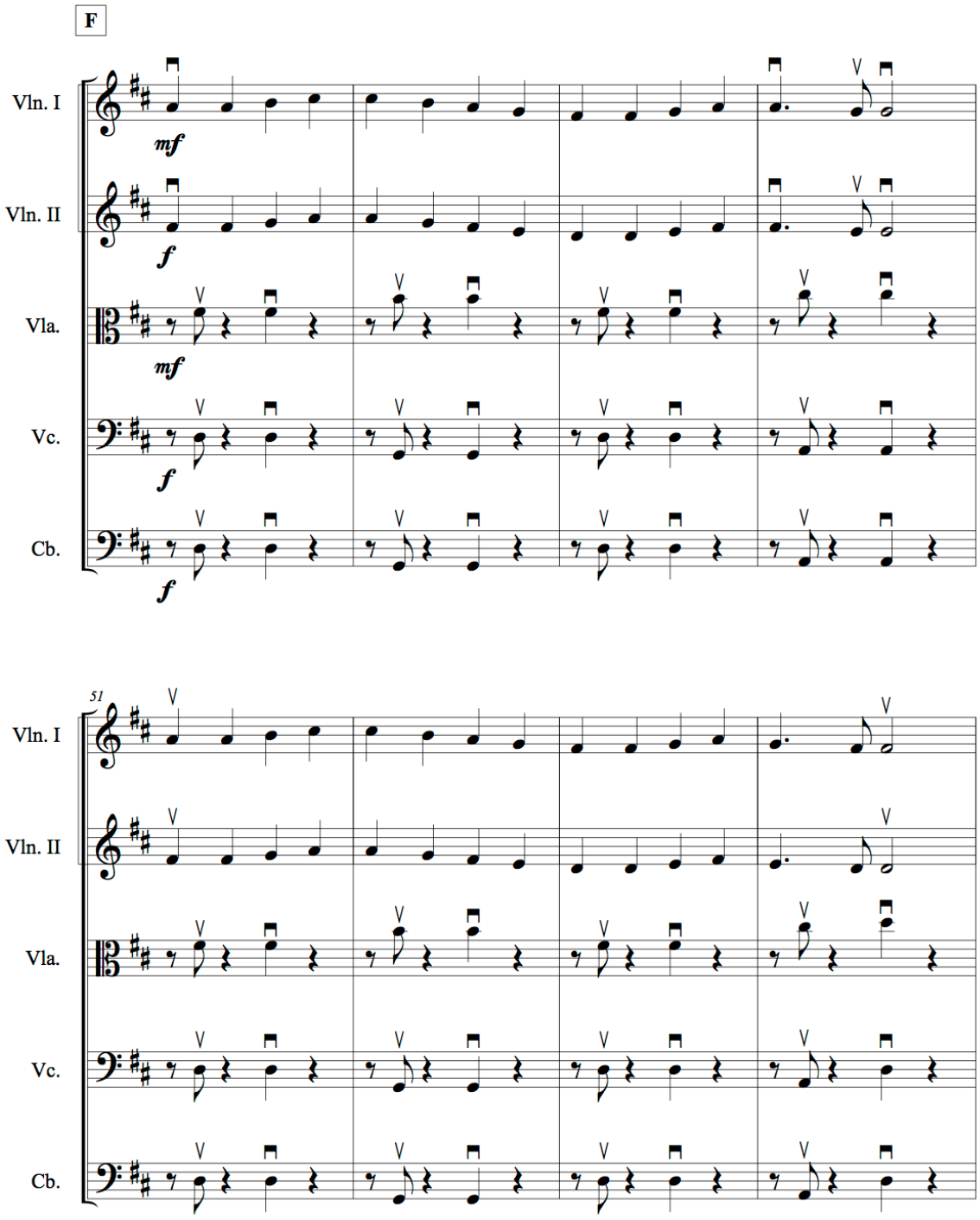

D
One person improvises on a D major Scale!
Vln. I
Vln. II
Vla.
Vc.
Cb.
pizz.
Chop!
Repeat until cue
29

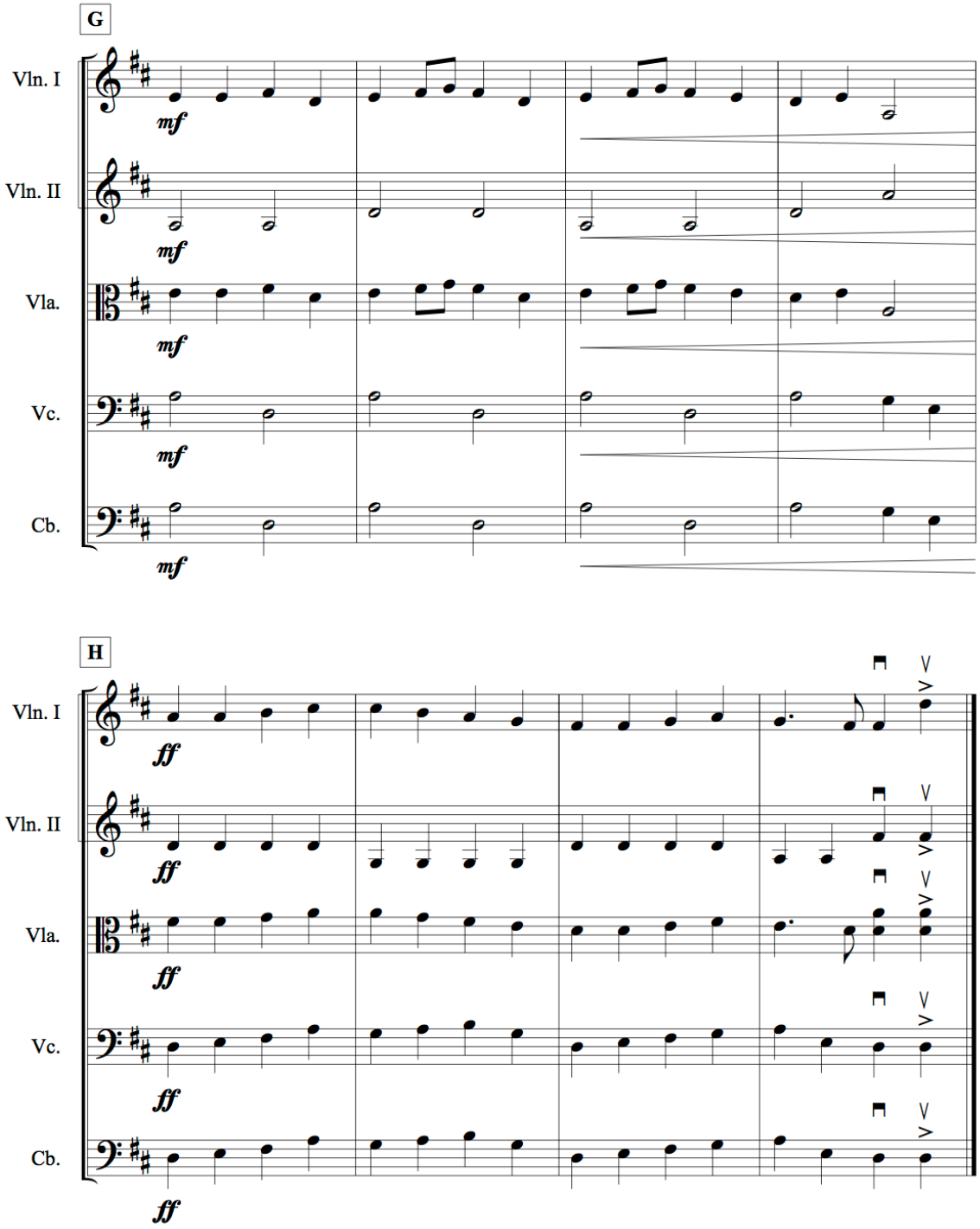

E
arco
Solo! (or chop!)
Solo! (or chop!)
Vln. I
Vln. II
Vla.
Vc.
Cb.
f
arco


Solo! (or chop!)
37
Vln. I
Vln. II
Vla.
Vc.
Cb.


Solo! (or chop!)
Solo! (or chop!)
41
Vln. I
Vln. II
Vla.
Vc.
Cb.


Solo! (or chop!)
44
Vln. I
Vln. II
Vla.
Vc.
Cb.


F
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
f
mf
f
f
51
Vln. I
Vln. II
Vla.
Vc.
Cb.

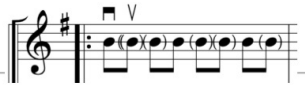
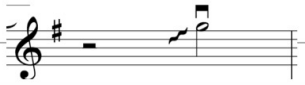

G
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
H
ff

Ghost Blues

This composition is a blues song and can help teach students about the blues form and harmony. The cellos and double basses are doubling the bass line, as double basses are not always included in string classes. Extended techniques such as glissandos, bass-like pizzicato, chopping, tremolo and ghosted notes are present throughout the song and it is recommended that these techniques are taught to every student, despite the fact that they are not included in every sections' part. As well, the written part of the piece encompasses a great amount of syncopation.

There are two solo sections in the piece, each of which can be repeated numerous times to provide much opportunity for soloing. The two sections have different techniques written into them so that students are practicing challenging skills when others are soloing.

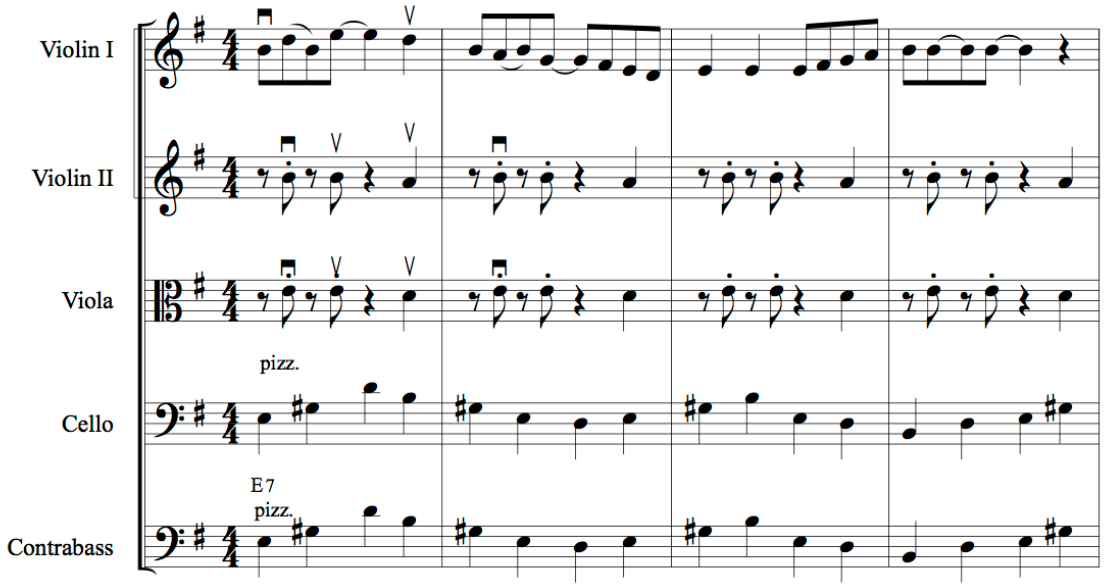
An explanation of an E pentatonic scale may be the starting point for improvisation over the piece, followed by the instruction of the minor blues scale. As well, having the students learn to play the harmonic rhythm of the twelve bar blues not only familiarizes them with the form, but also provides a practice pad over which a soloing student can practice. Furthermore, there are several scales and harmonies that can be explored if the E pentatonic and E minor blues scale becomes comfortable.

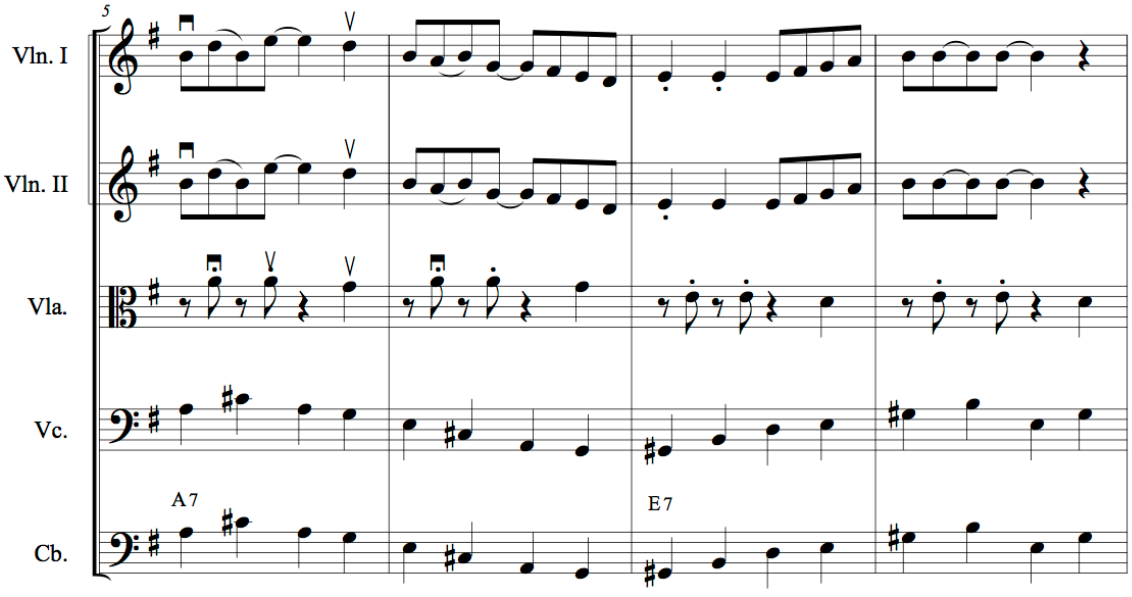
Essential String Instrument Technique	Improvisation Pedagogy	Extended String Techniques
Posture	Rhythmic exercises	Ghosted notes
Right hand skills: **Bowing articulations ie: tremolos, pizzicato**	Ear Training	
Left hand skills: **Blues Scale**	**Chord Scales**	
Reading Music	**Licks and Patterns**	
Creative Musicianship		Glissandos
Tonal and Aural Skills		

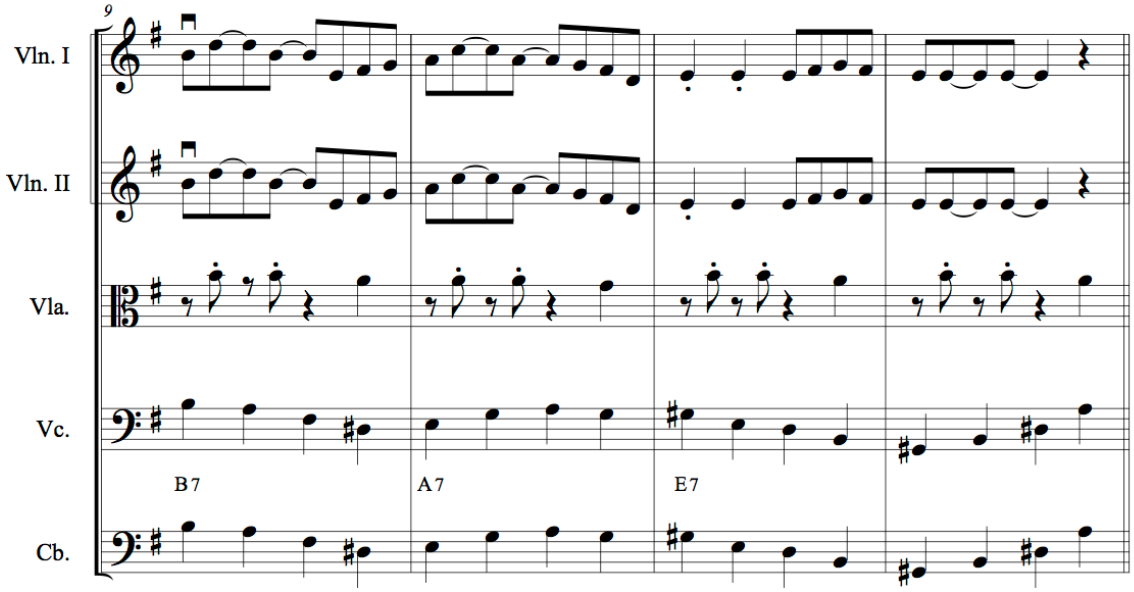
Score

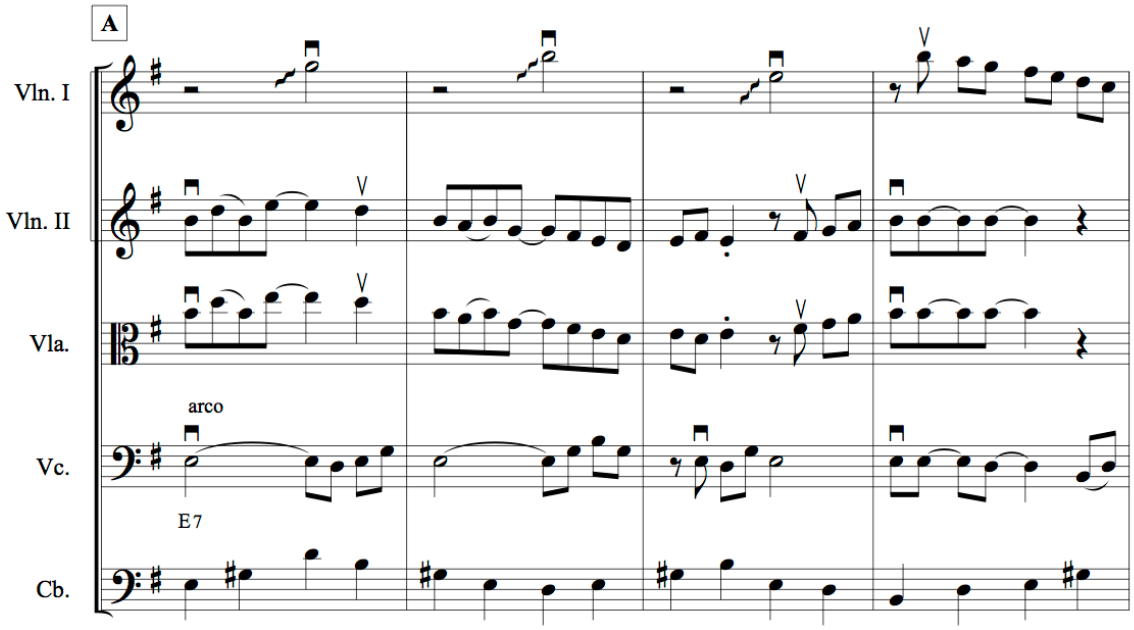
Ghost Blues

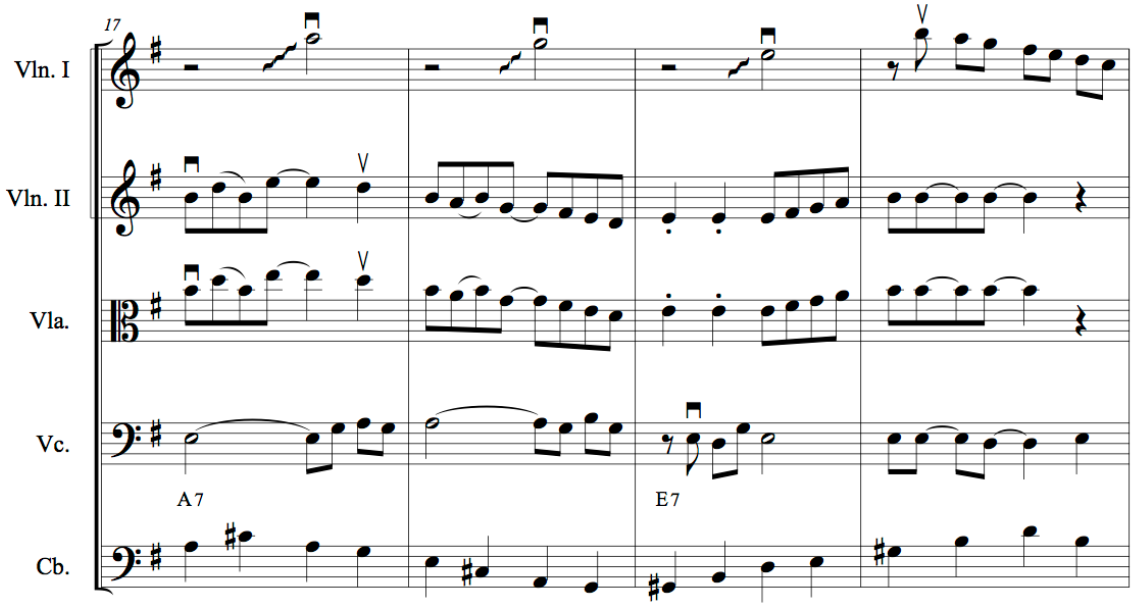
Meghan Cheng

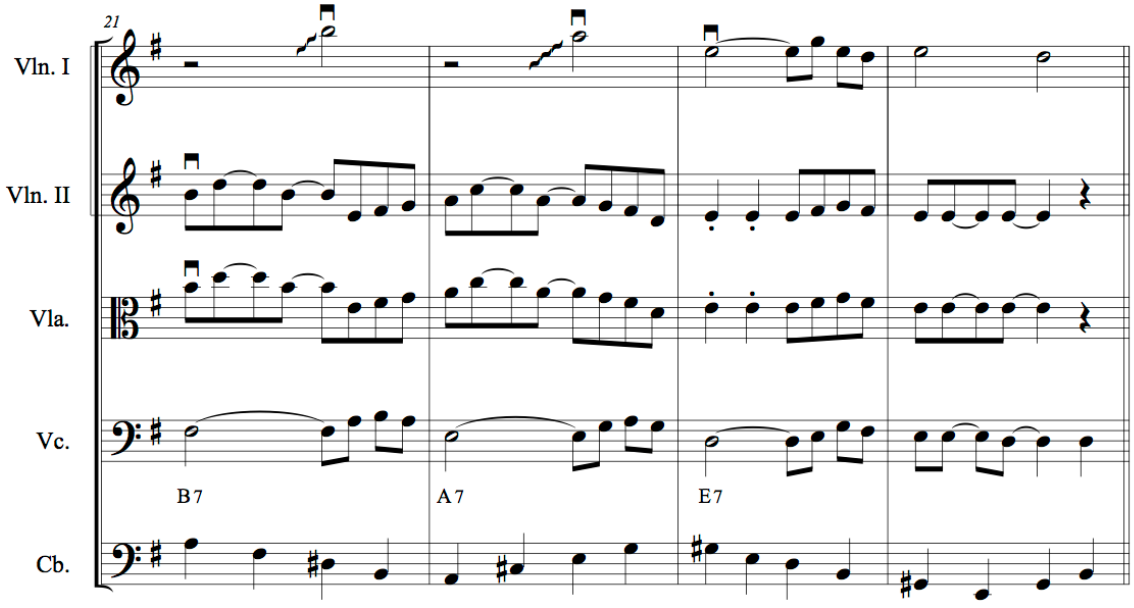


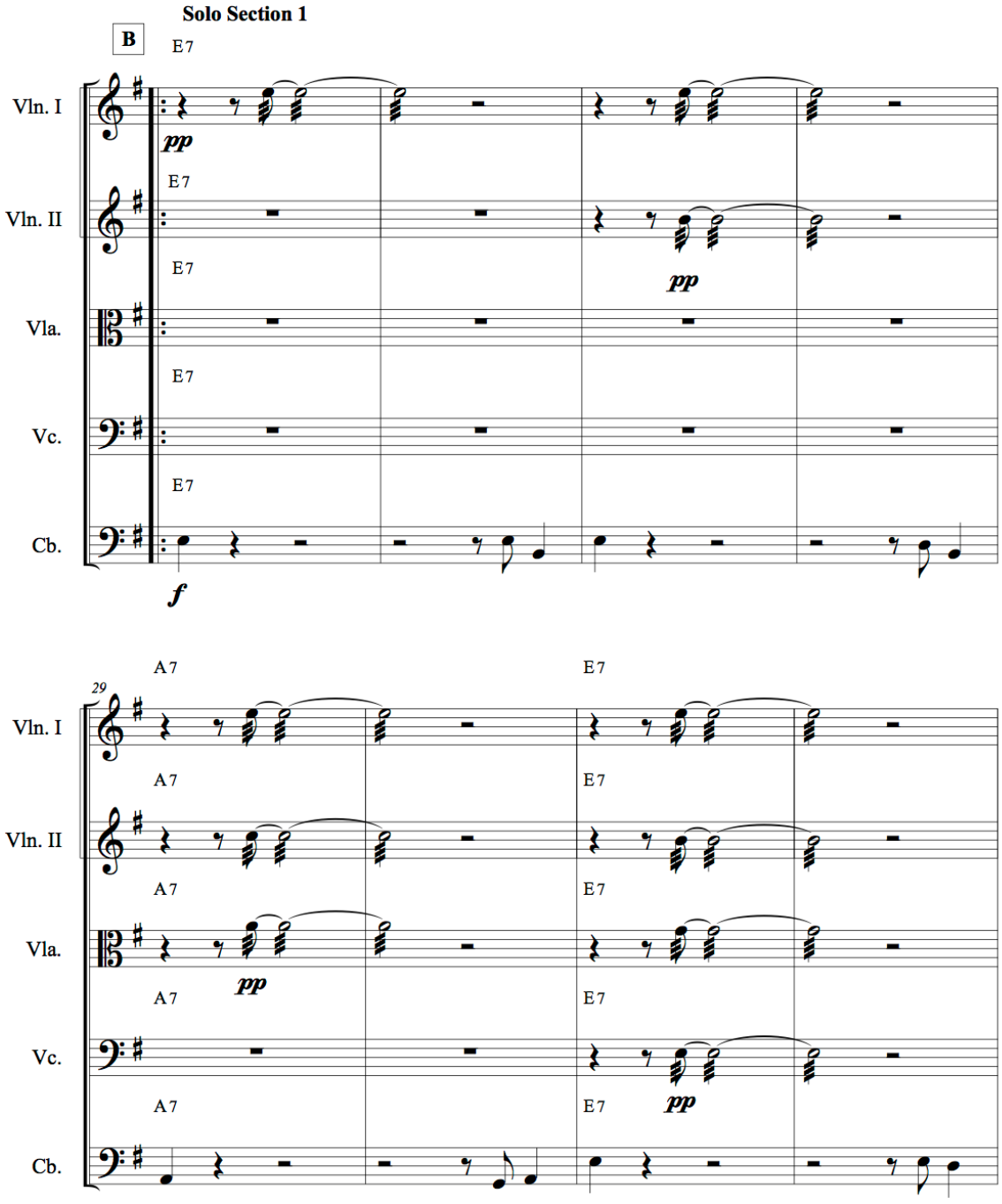


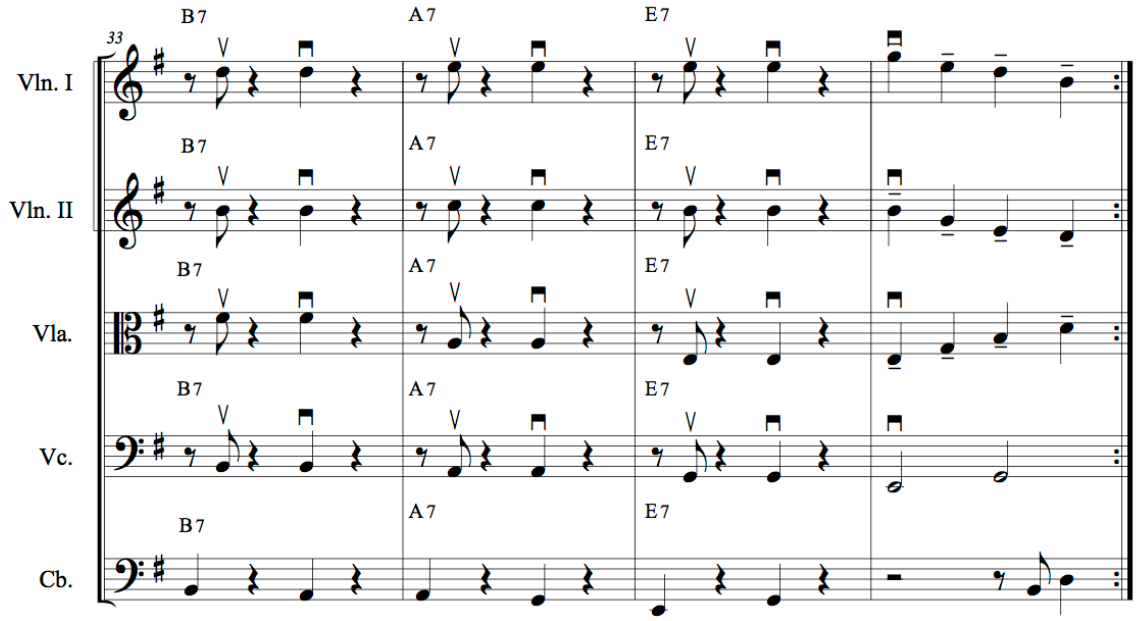

9
Vln. I
Vln. II
Vla.
Vc.
Cb.
B7
A7
E7


A
Vln. I
Vln. II
Vla.
arco
Vc.
E7
Cb.

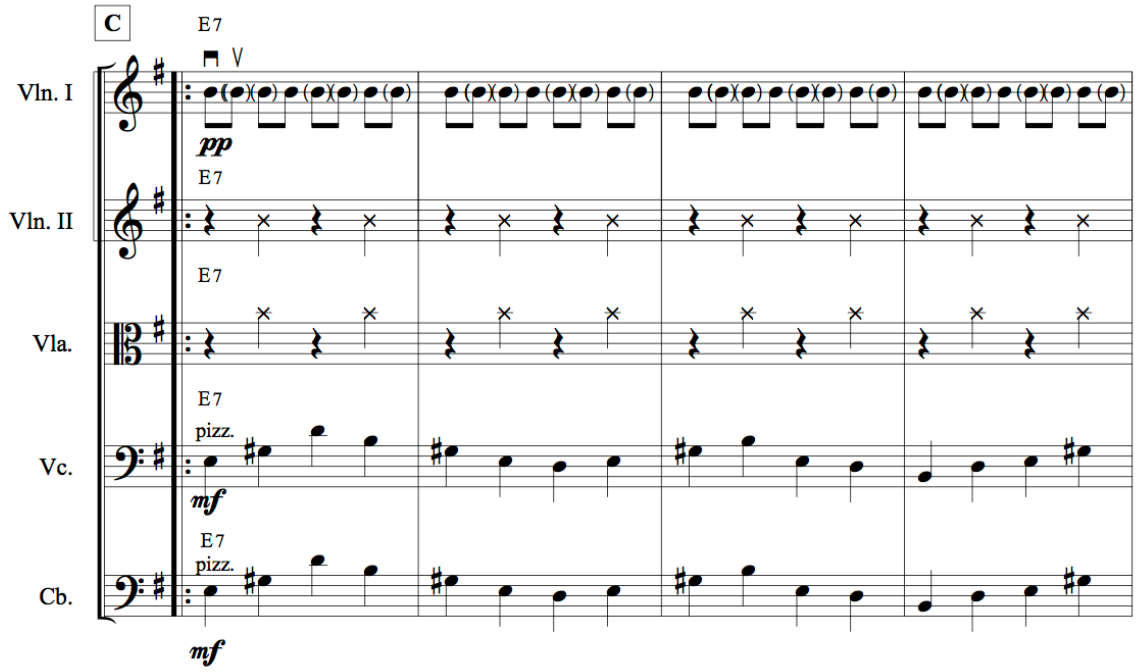

17
Vln. I
Vln. II
Vla.
Vc.
Cb.
A7
E7

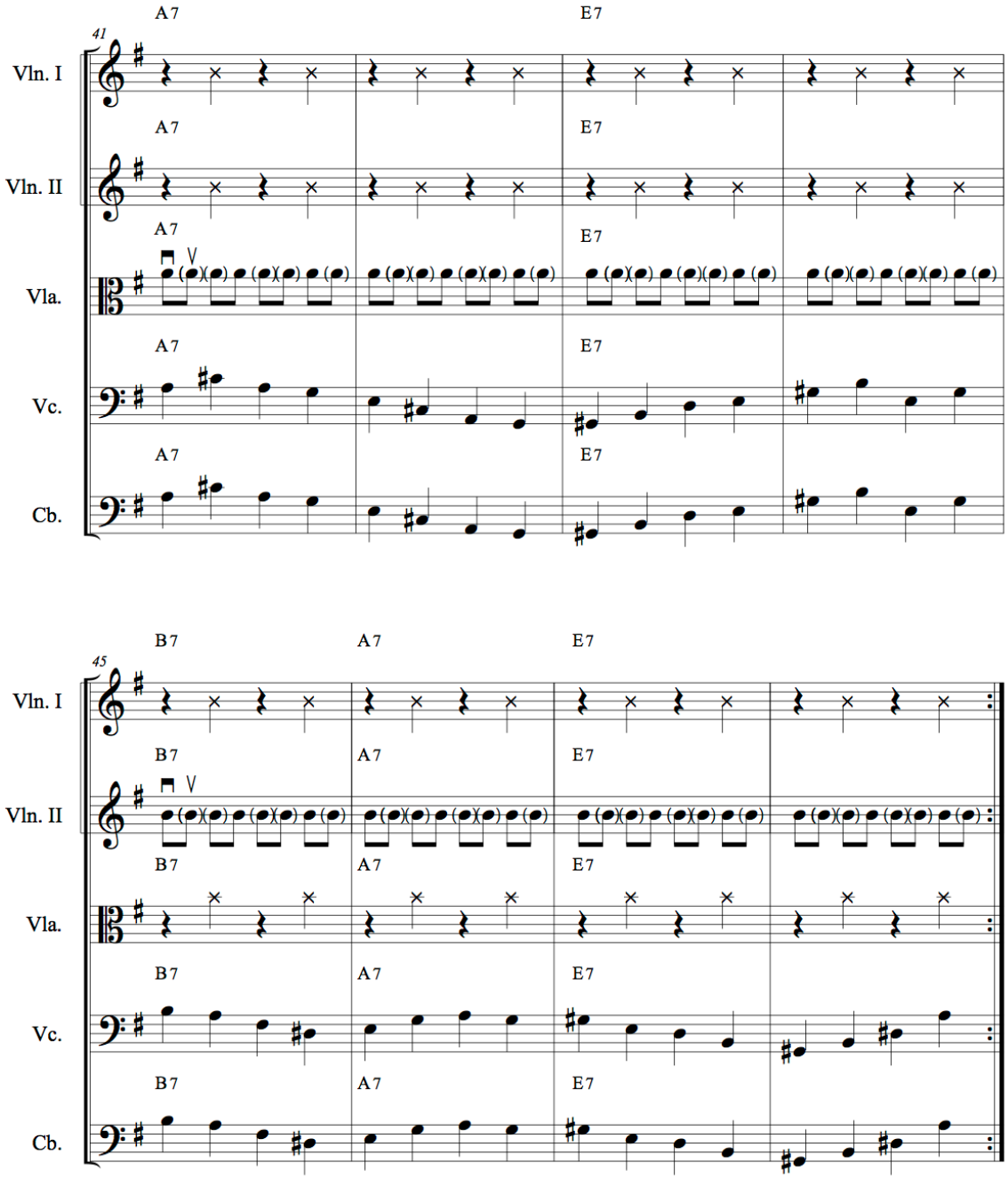

21
Vln. I
Vln. II
Vla.
Vc.
Cb.
B7
A7
E7

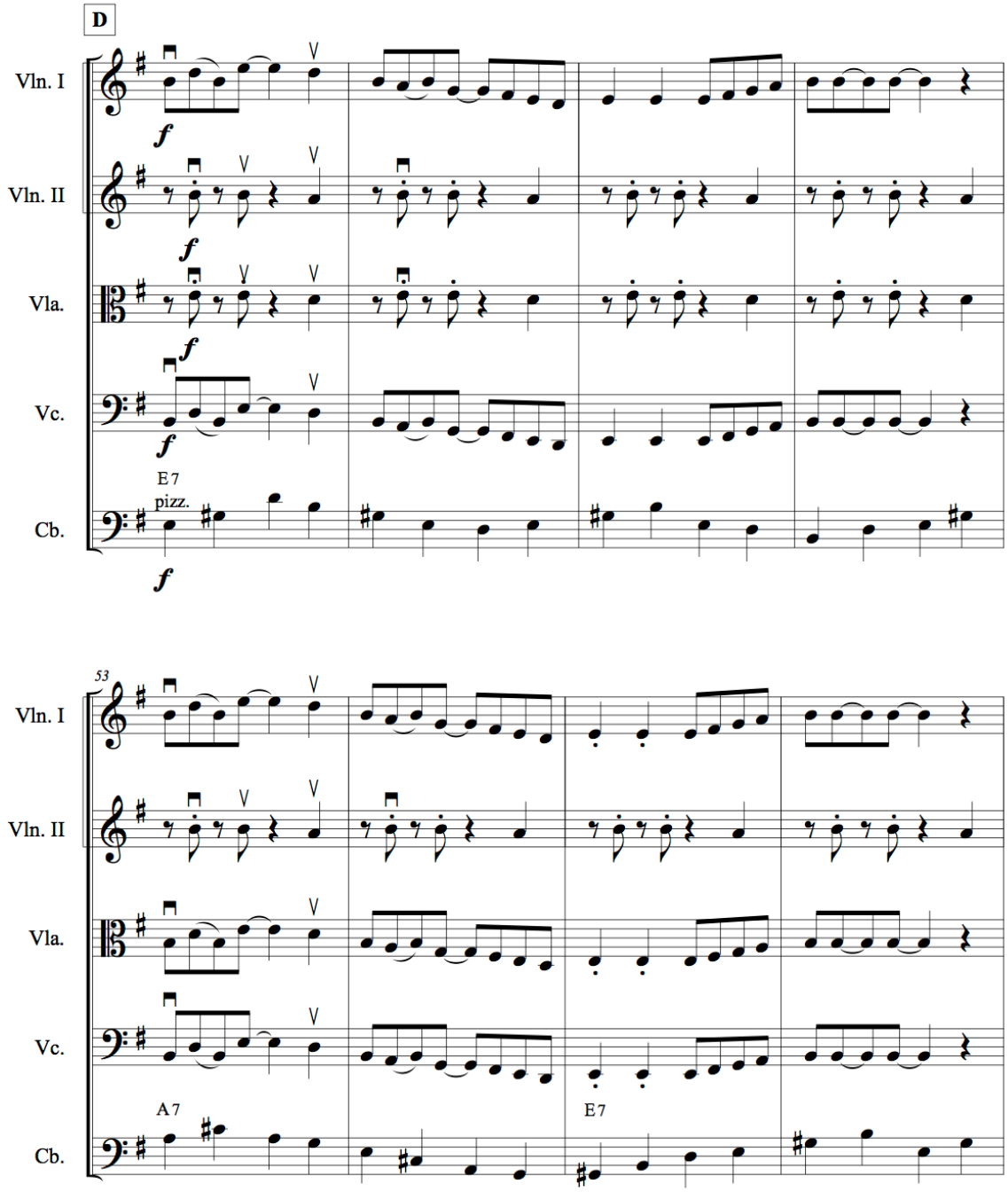

Solo Section 1
B
E7
Vln. I
pp
E7
Vln. II
E7
pp
Vla.
E7
Vc.
E7
Cb.
f
29
A7
E7
Vln. I
A7
E7
Vln. II
A7
E7
Vla.
pp
A7
E7
Vc.
A7
E7
pp
Cb.

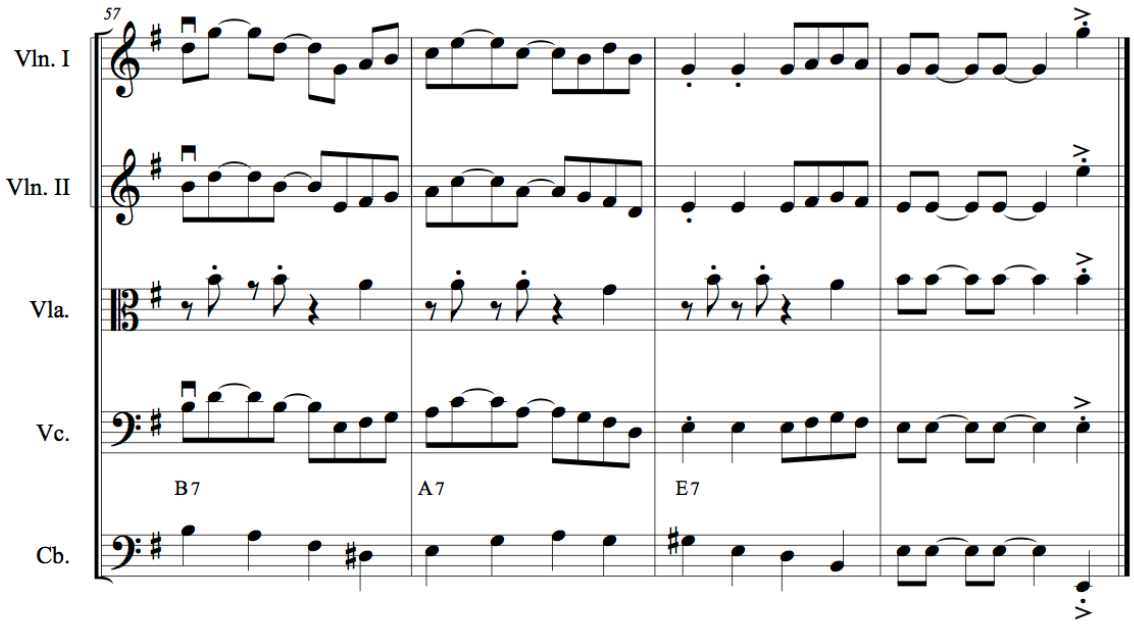


Solo Section 2




41
A7
E7
Vln. I
Vln. II
Vla.
Vc.
Cb.
45
B7
A7
E7

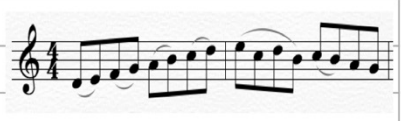
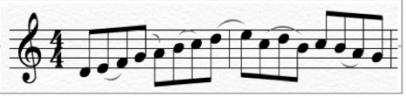

D
Vln. I
Vln. II
Vla.
Vc.
Cb.
f
E 7
pizz.
53
A 7
E7


57
Vln. I
Vln. II
Vla.
Vc.
Cb.
B7
A7
E7

Between The Beats

This piece was composed as an exercise in bowing swung eighth notes. The passages of consecutive eighth notes are executed with bowings that cross over the beat. This bowing can be difficult for beginner to intermediate students, especially with swung eighth notes. Once students master this bowing, the instructor is encouraged to increase the notes that are slurred, but still change bows between the beats.

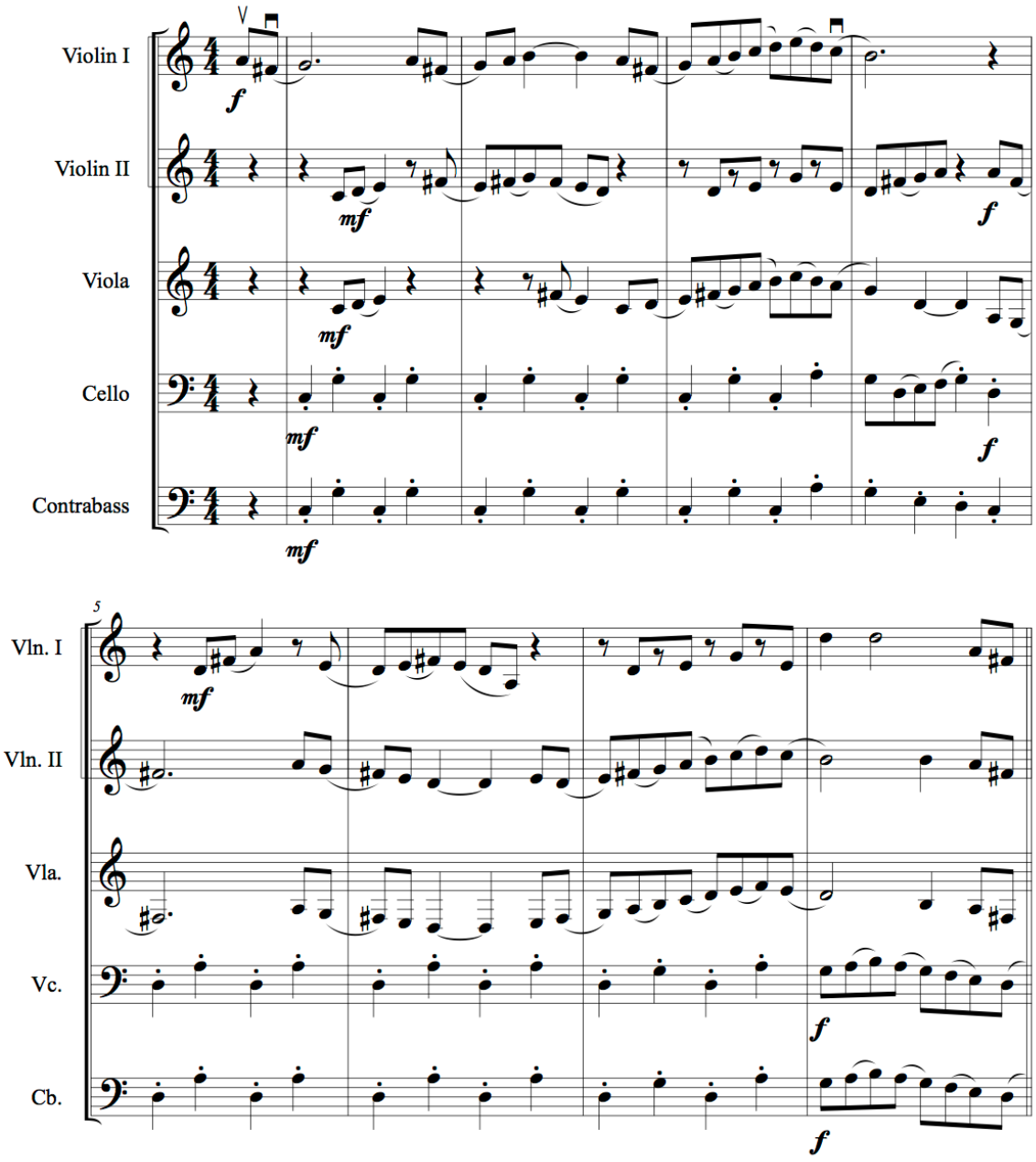
In the solo section, players are encouraged to improvise in swung eighth notes and also experiment with different scales around the indicated tonal centers. This composition is modal and uses open fifths in the solo section harmony, leaving much room for chord scale experimentation.

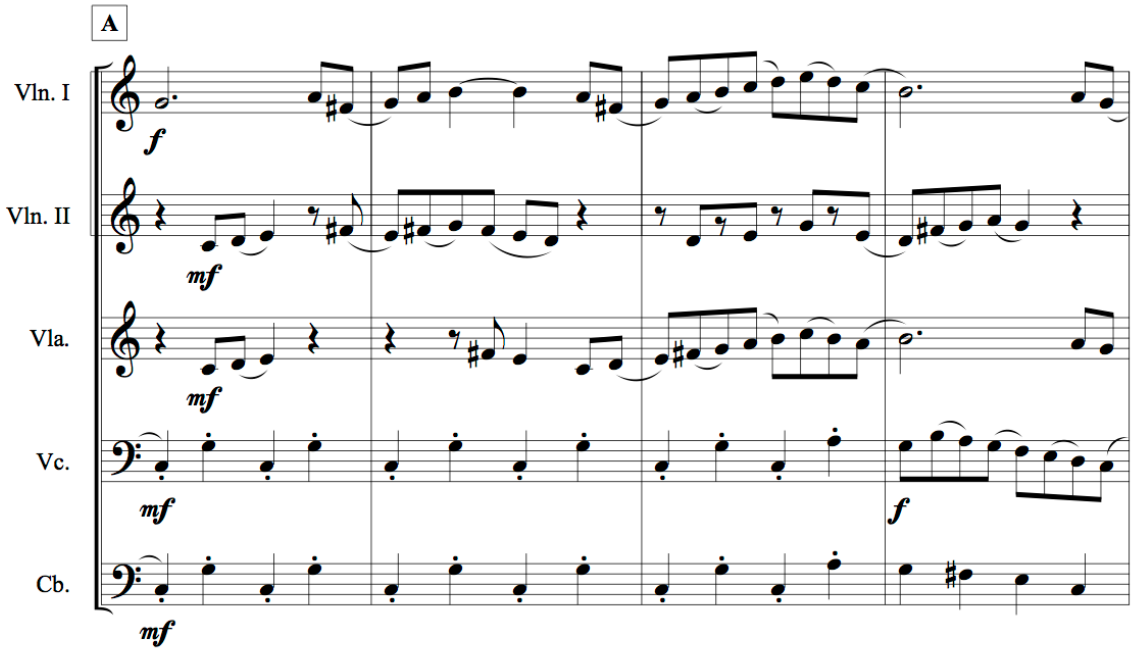
Essential String Instrument Technique	Improvisation Pedagogy	Extended String Techniques
Posture	**Rhythmic exercises (swing)**	
Right hand skills: **Bowing articulations**	Ear Training	
Left hand skills: D major scale finger pattern		Traditional Bowing
Reading Music		
Creative Musicianship		Swing Bowing

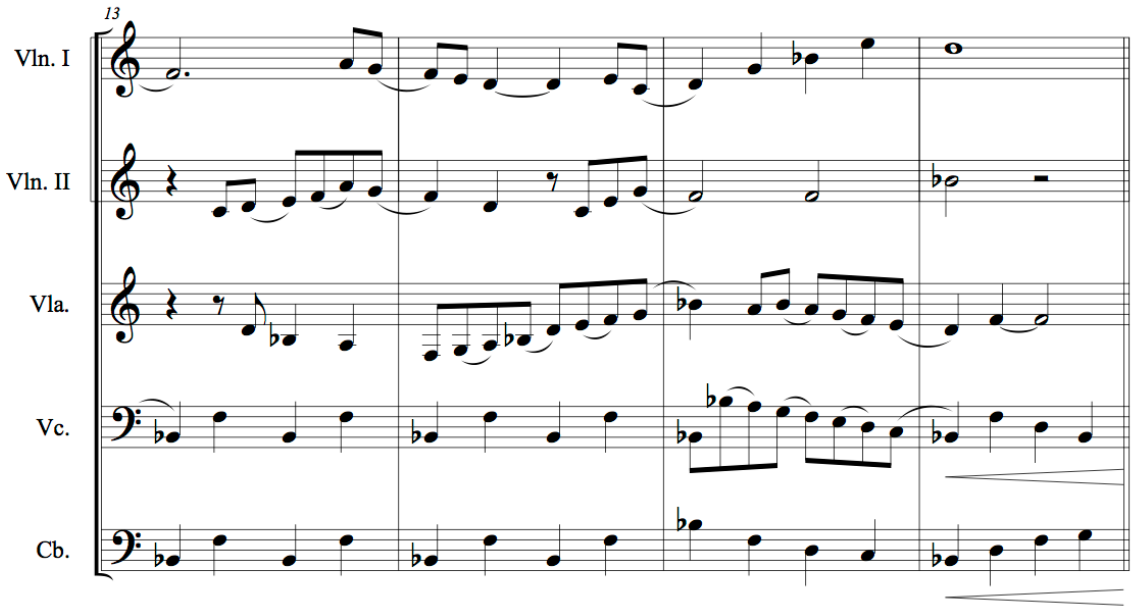
Score

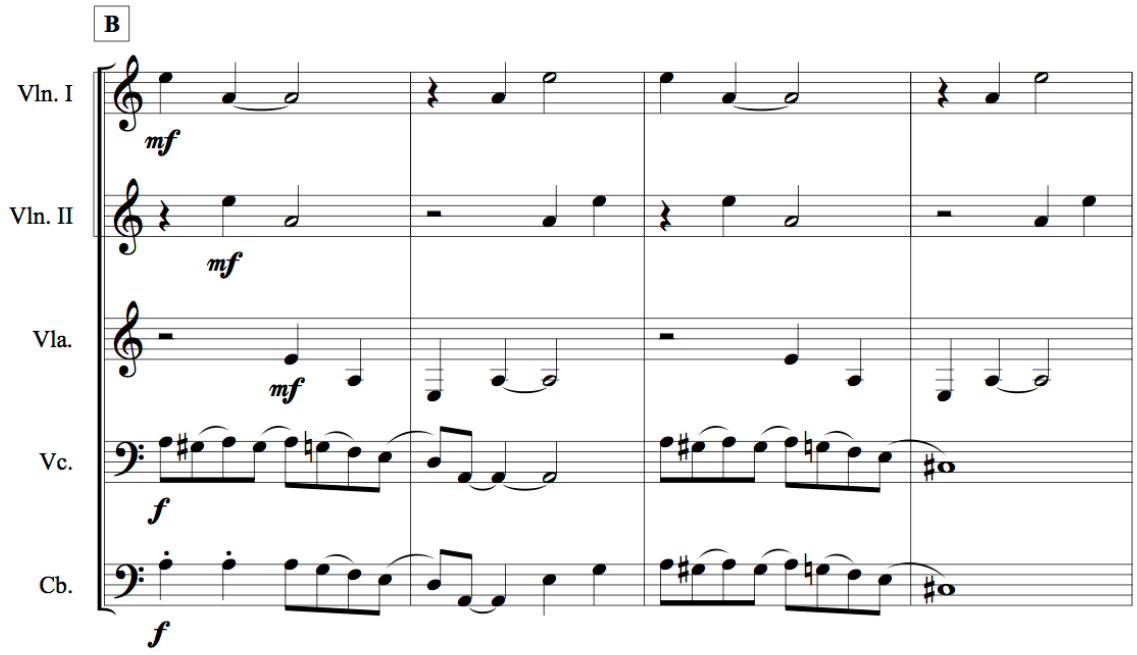
Between the Beats

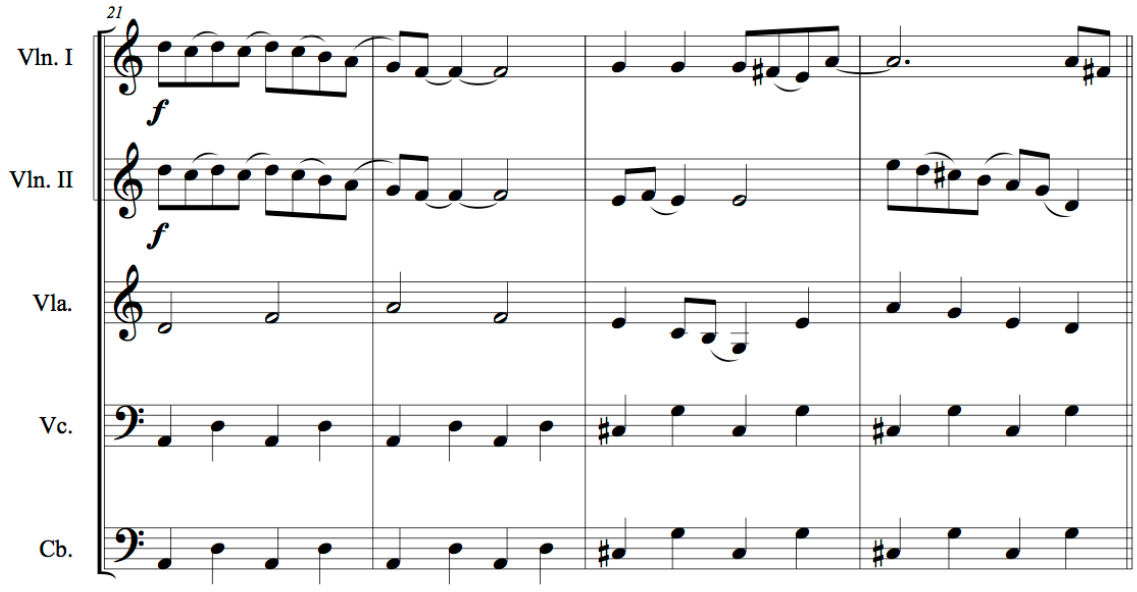
Meghan Cheng

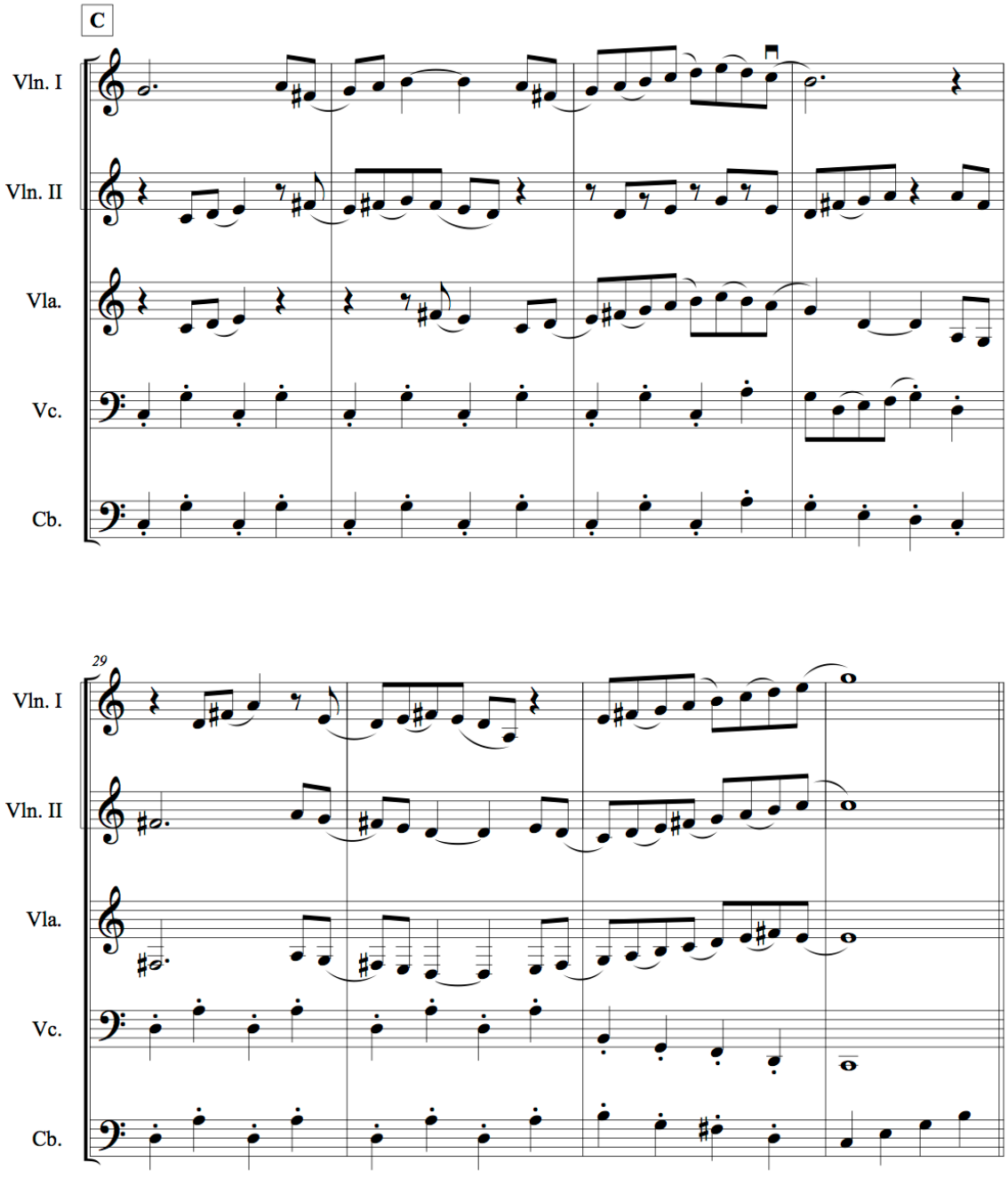


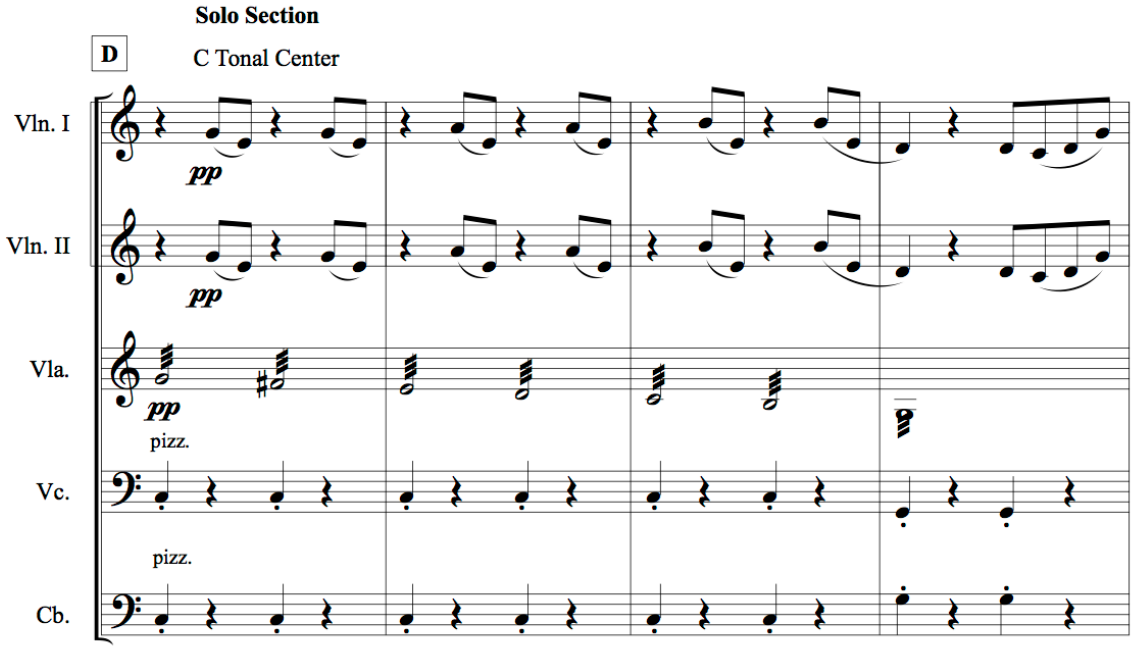

A
Vln. I
Vln. II
Vla.
Vc.
Cb.
f
mf
mf
mf
mf
f

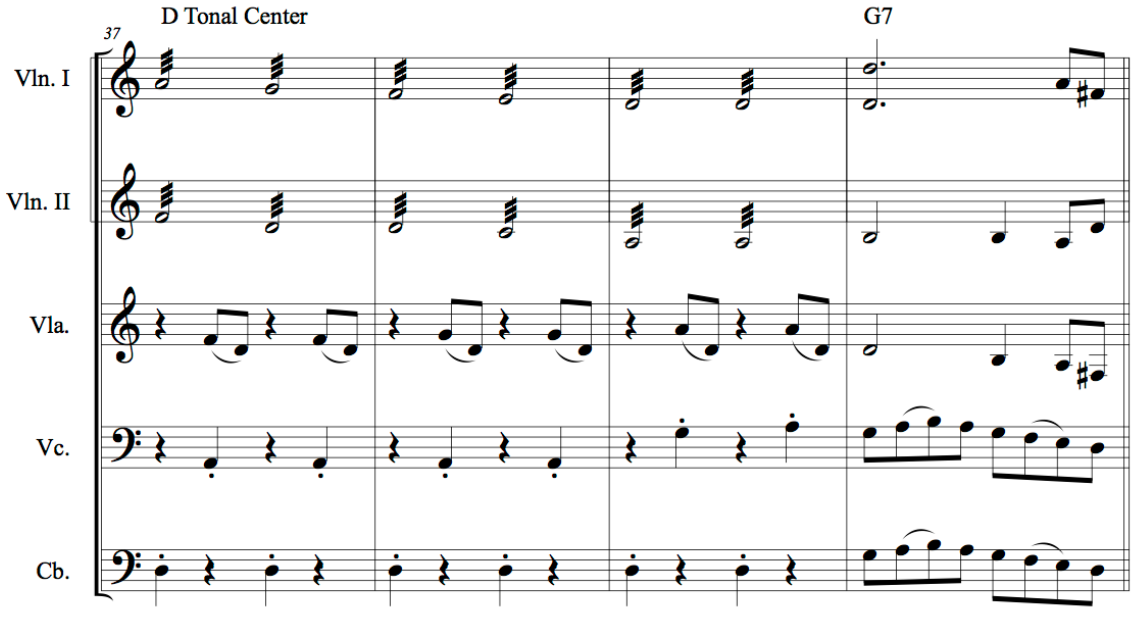

13
Vln. I
Vln. II
Vla.
Vc.
Cb.

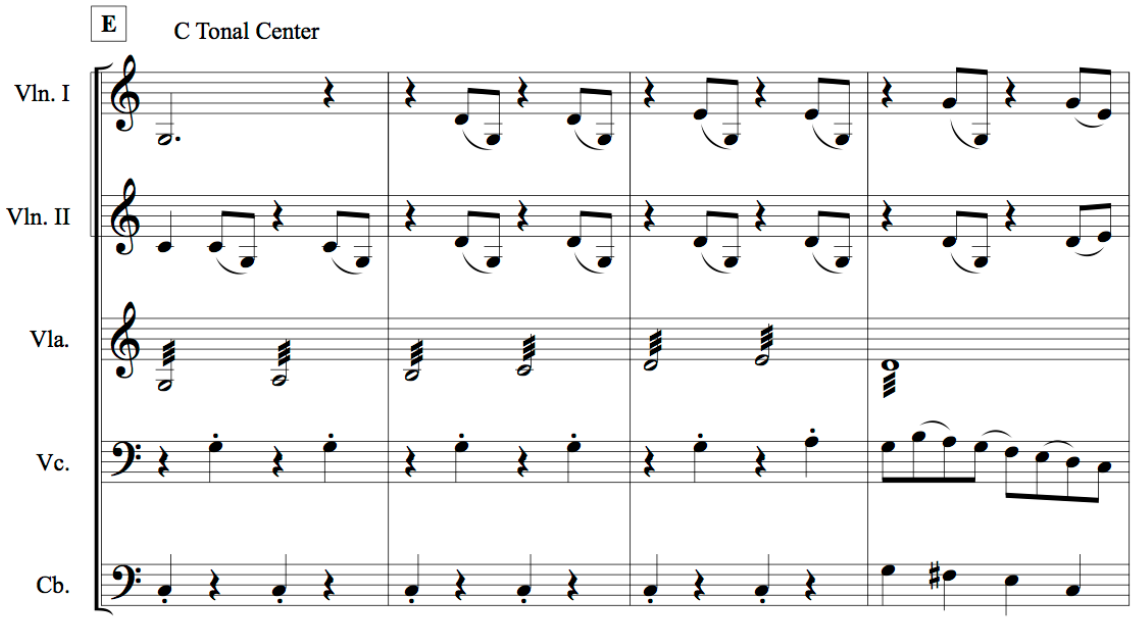

B
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
mf
mf
f
f

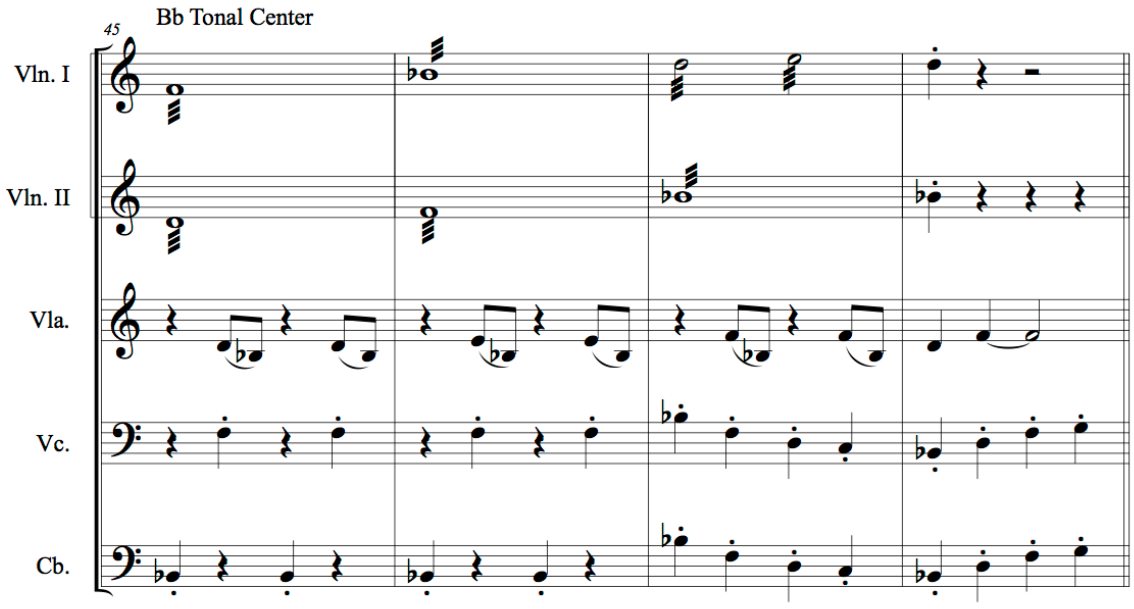

21
Vln. I
Vln. II
Vla.
Vc.
Cb.
f
f

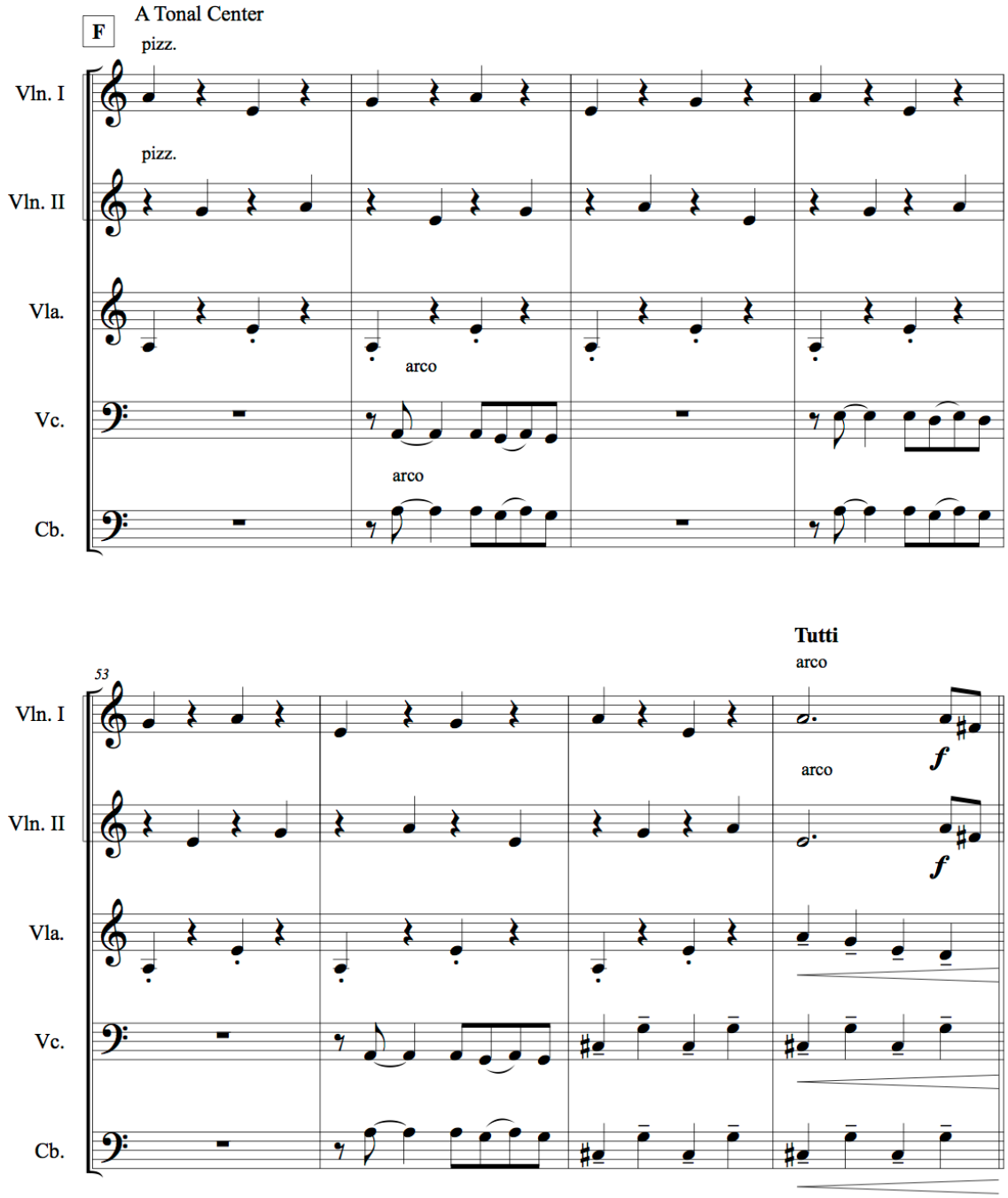

C
Vln. I
Vln. II
Vla.
Vc.
Cb.
29
Vln. I
Vln. II
Vla.
Vc.
Cb.

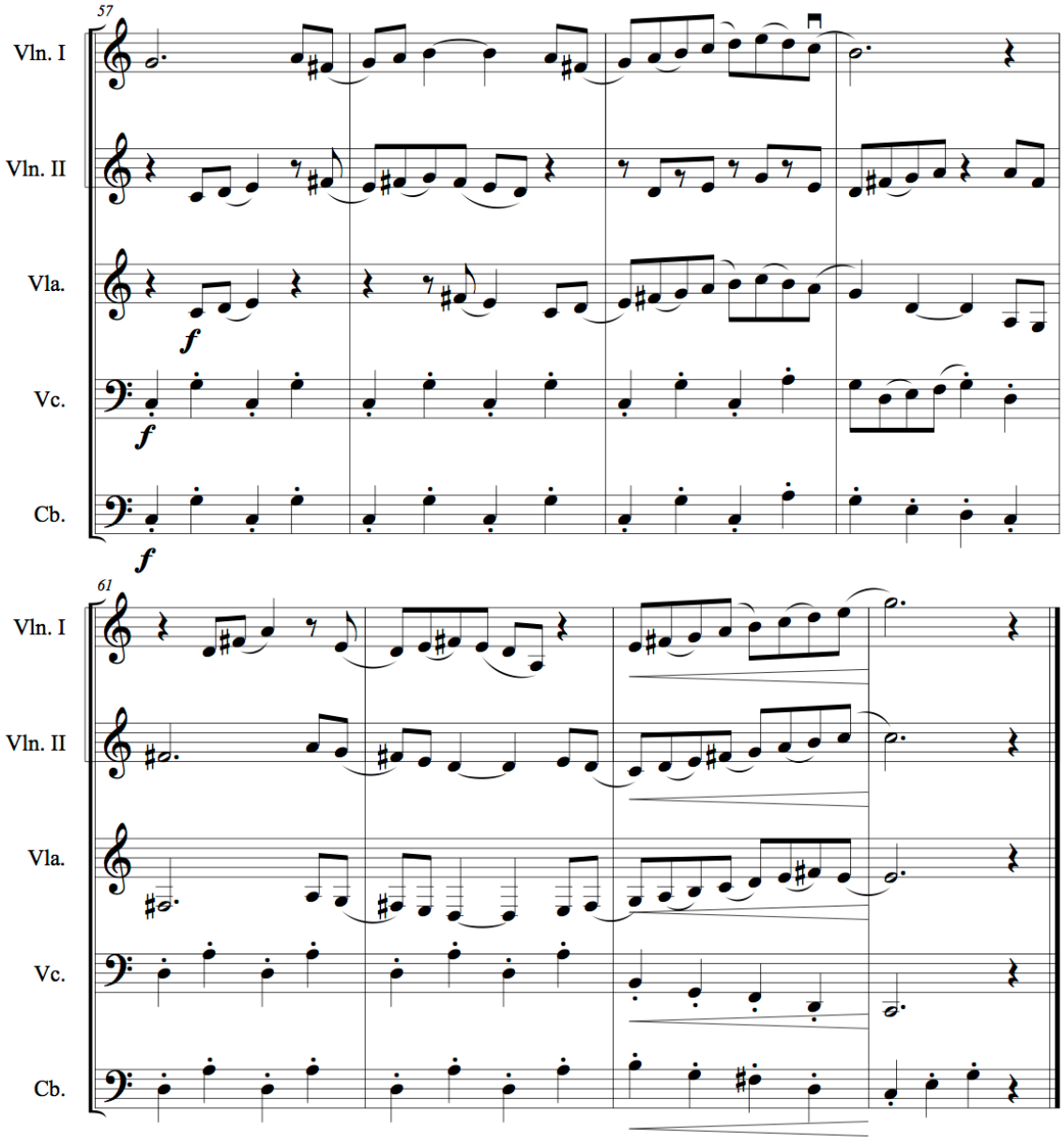

Solo Section
D
C Tonal Center
Vln. I
Vln. II
Vla.
Vc.
Cb.
pp
pp
pp
pizz.
pizz.


37
D Tonal Center
G7
Vln. I
Vln. II
Vla.
Vc.
Cb.


E
C Tonal Center
Vln. I
Vln. II
Vla.
Vc.
Cb.


45
Bb Tonal Center
Vln. I
Vln. II
Vla.
Vc.
Cb.

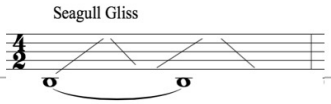

F
A Tonal Center
pizz.
Vln. I
pizz.
Vln. II
Vla.
arco
Vc.
arco
Cb.
53
Tutti
arco
Vln. I
f
arco
Vln. II
f
Vla.
Vc.
Cb.


57
Vln. I
Vln. II
Vla.
Vc.
Cb.
f
f
f
61
Vln. I
Vln. II
Vla.
Vc.
Cb.

The Kids Are Coming

"The Kids Are Coming" was inspired by an extremely long day of teaching rambunctious children how to play violin. The string quartet is programmatic, and follows a teacher through her experiences with her class who is far from well behaved. It is written in sonata form and I worked improvisational sections into the form. Both the first and second theme in the exposition are meant to portray bratty, teasing children through the use of accents, dissonances and improvisational sections. Through the development section, the kids' behavior gets worse and worse and comes to a climax in an improvised section of chaos. A loud foot stomp by the performers indicate the teacher slamming the door to an empty room, in which she has a moment of solitude and reflection. During the transition into the recapitulation, improvised melodies from the teacher's reflective moment are rudely interrupted by the kids' themes. The teacher is dragged back into watching over the children, only after her time alone, she is able to deal with the kids in a playful way.

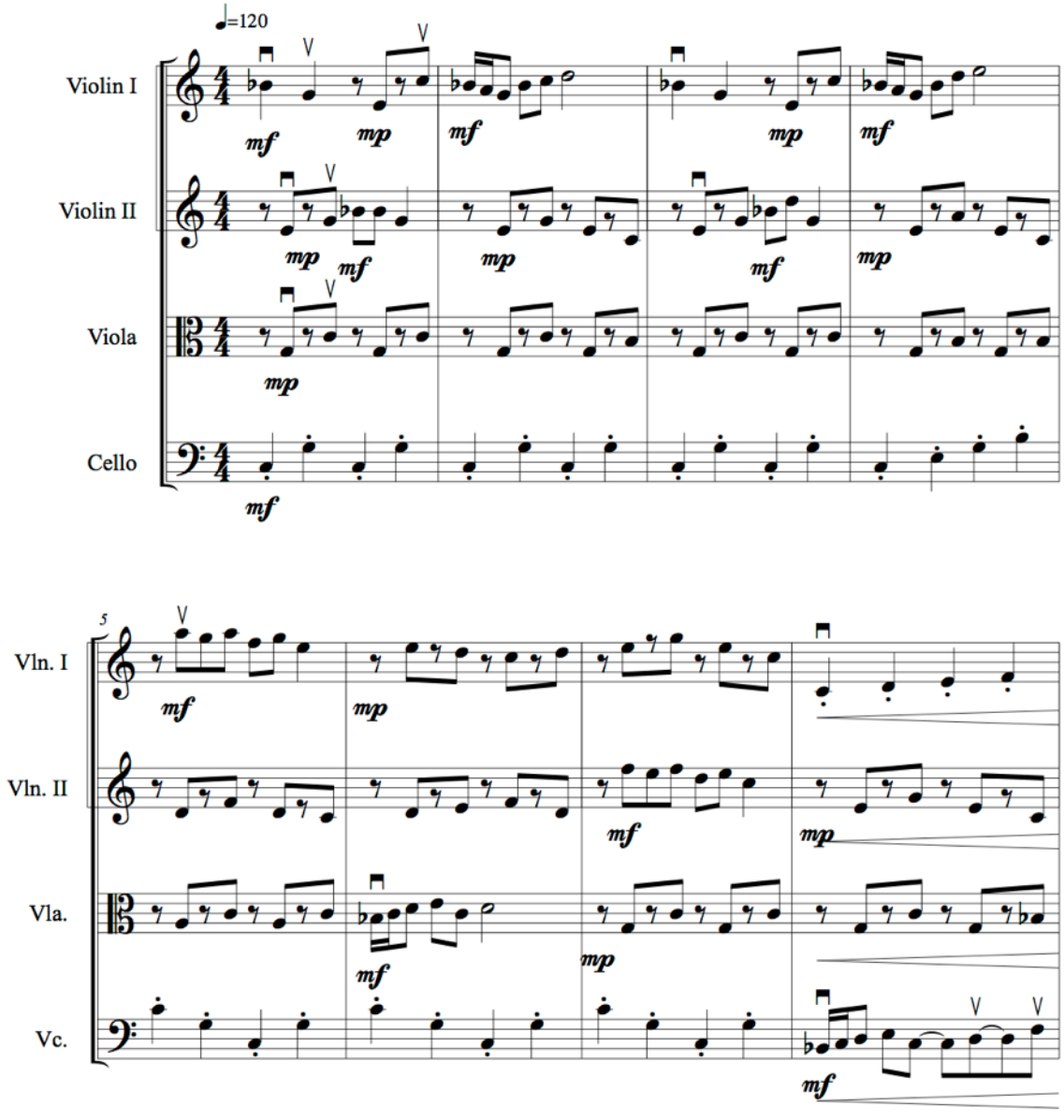
Performers are required to know modes and how to improvise in them for the improvisation sections. Furthermore, an understanding of how to follow the conductor is essential, as there are many spots that are spontaneous and are cued. As well, the players must be able to bring out the character of the music by use of bow articulations and musical gestures. This is required in both the written parts and the improvisation sections.

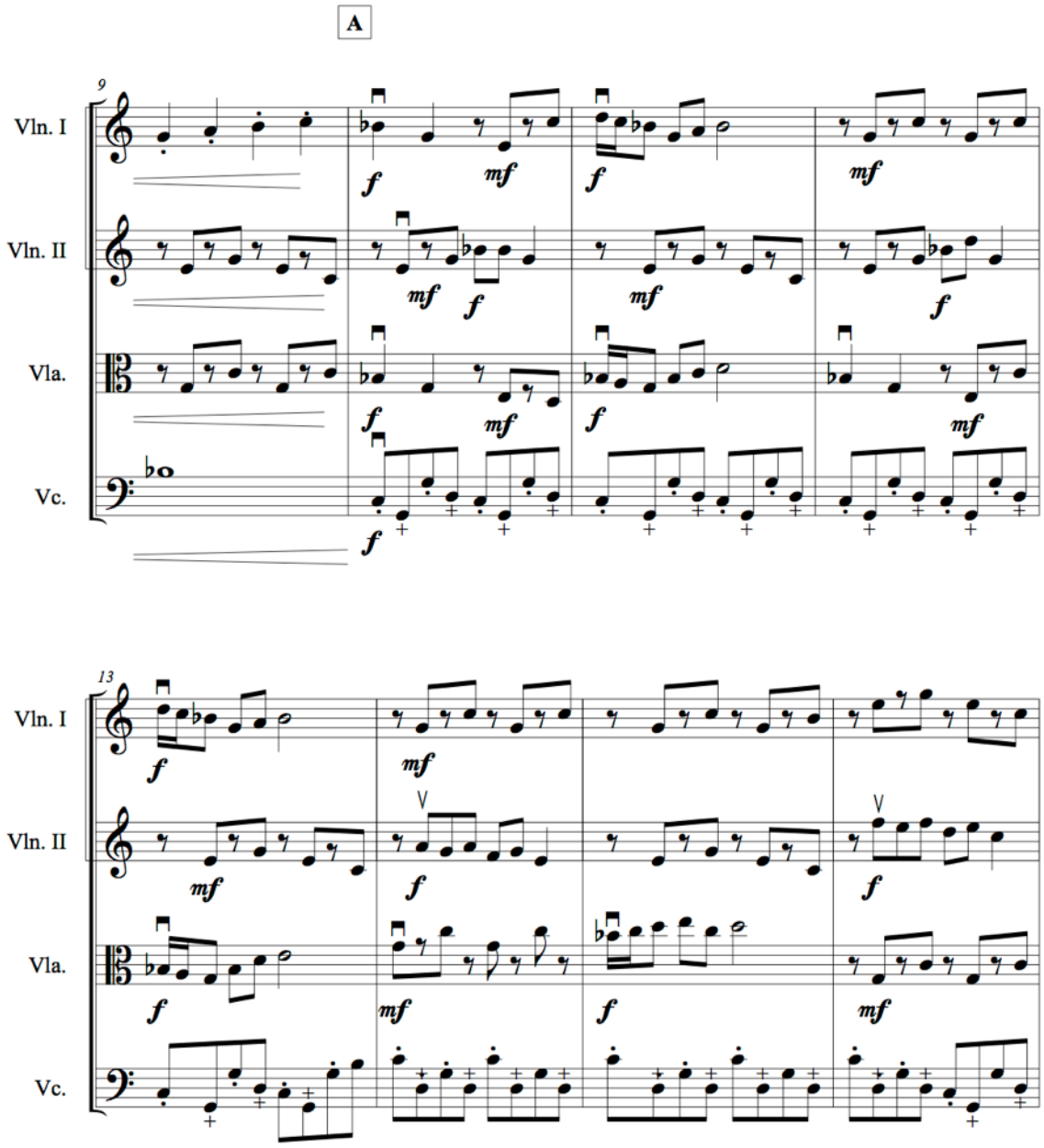
Essential String Instrument Technique	Improvisation Pedagogy	Extended String Techniques
Posture	Rhythmic exercises	Seagull Glissando
Right hand skills: **Bowing articulations, slurs, dotted rhythms and hooked bowings**	Ear Training	
Left hand skills: Modal finger patterns, left hand pizzicato	**Playing in different modes/chord scales**	
Reading Music	**Improvising in 'character'**	
Creative Musicianship: playing in an ensemble		

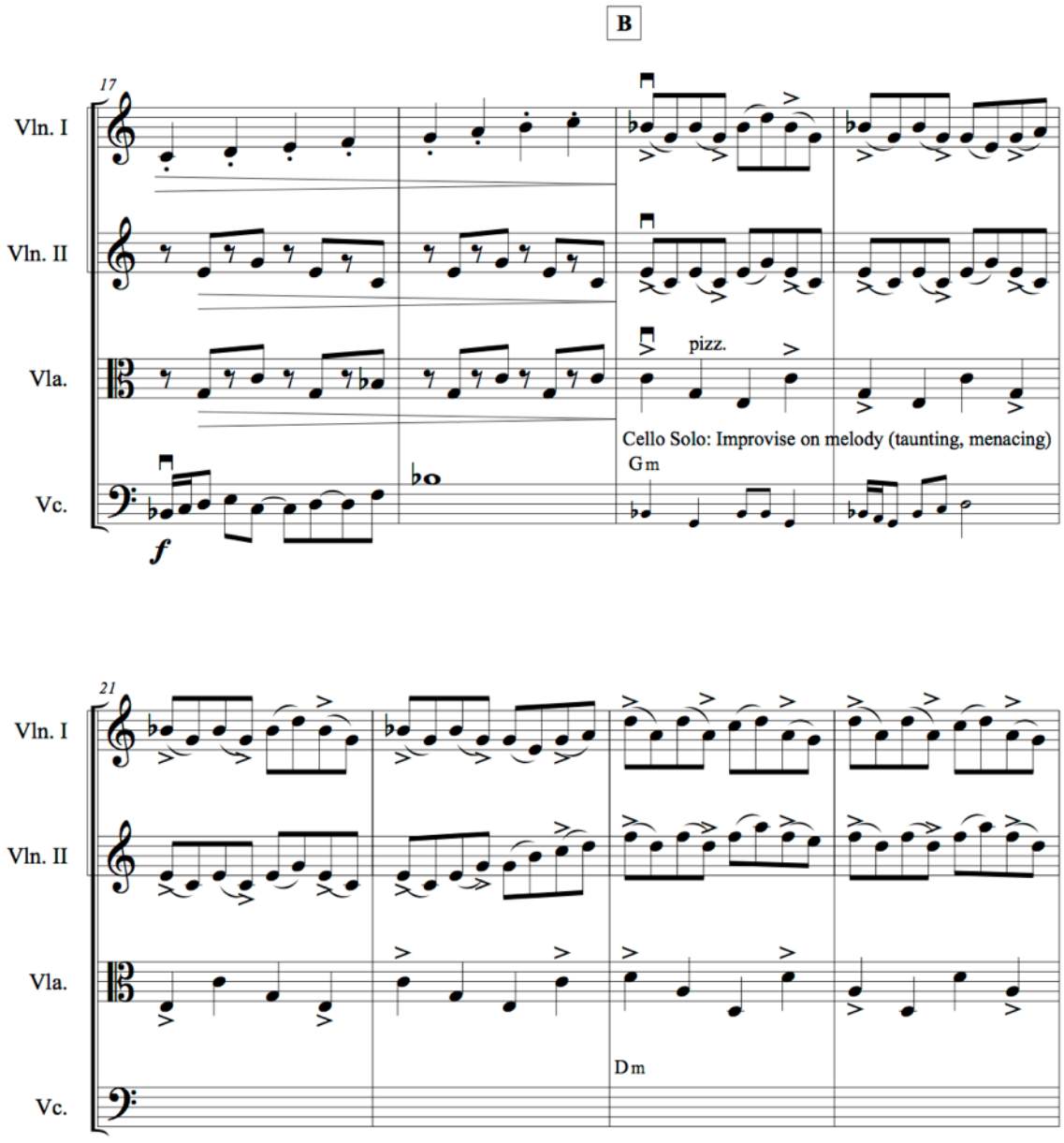
Score

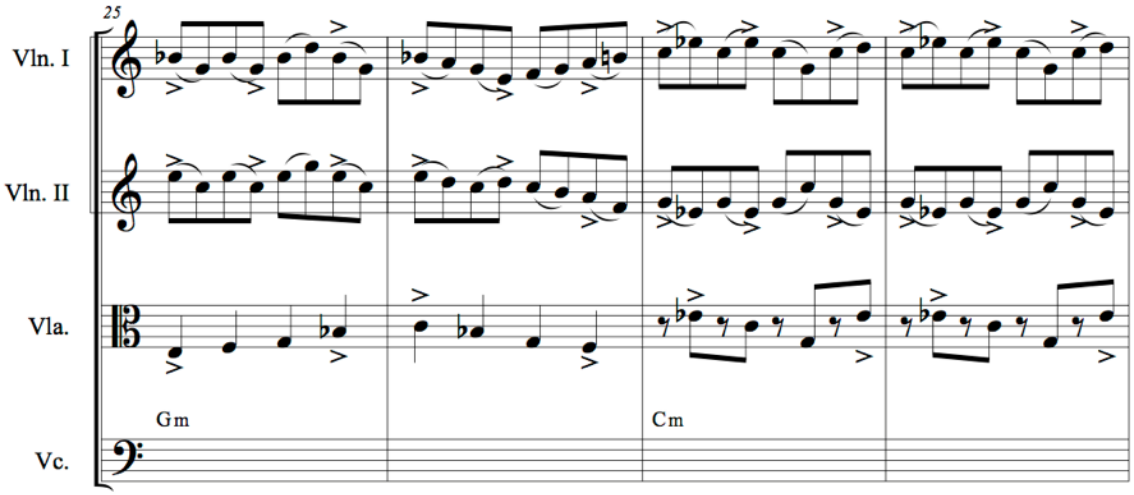
The Kids are Coming

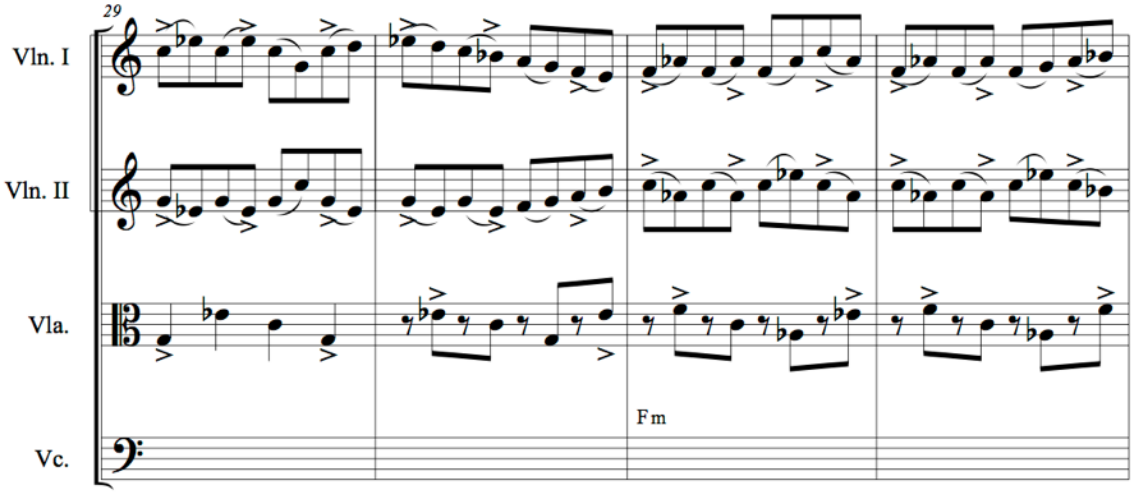
Meghan Cheng

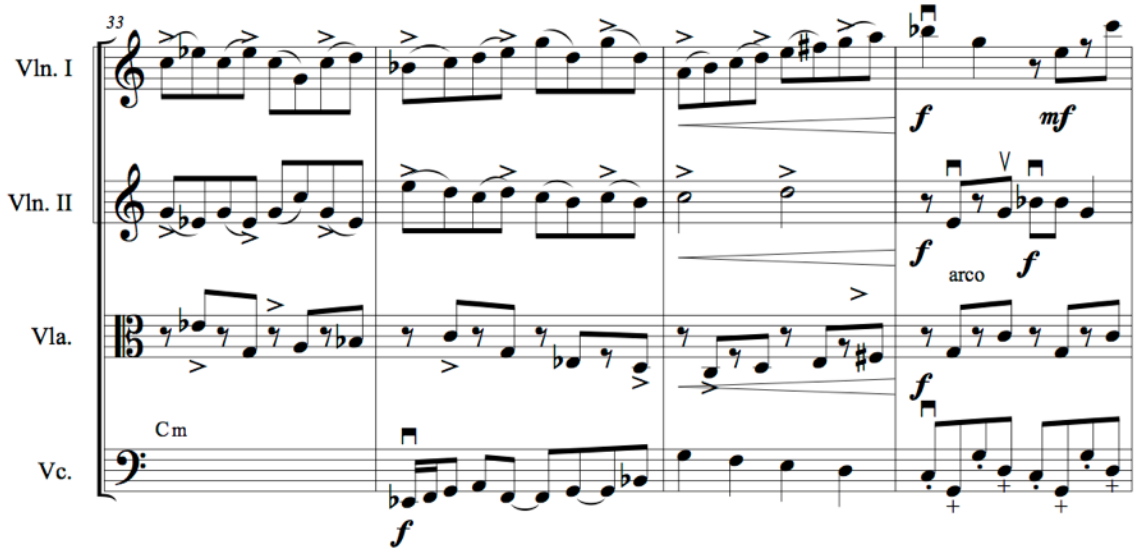


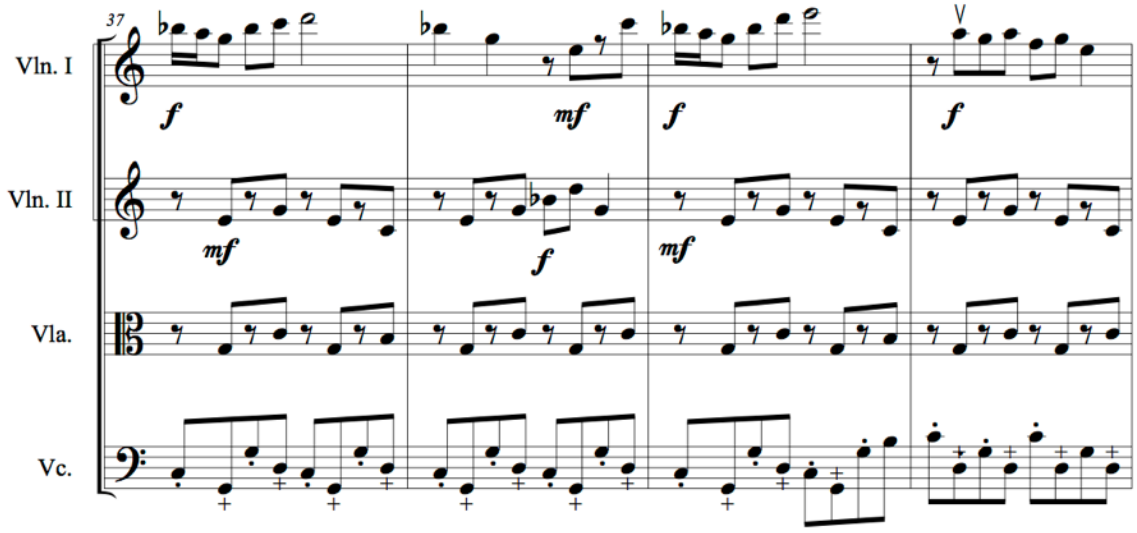

A
9
Vln. I
Vln. II
Vla.
Vc.
13
Vln. I
Vln. II
Vla.
Vc.

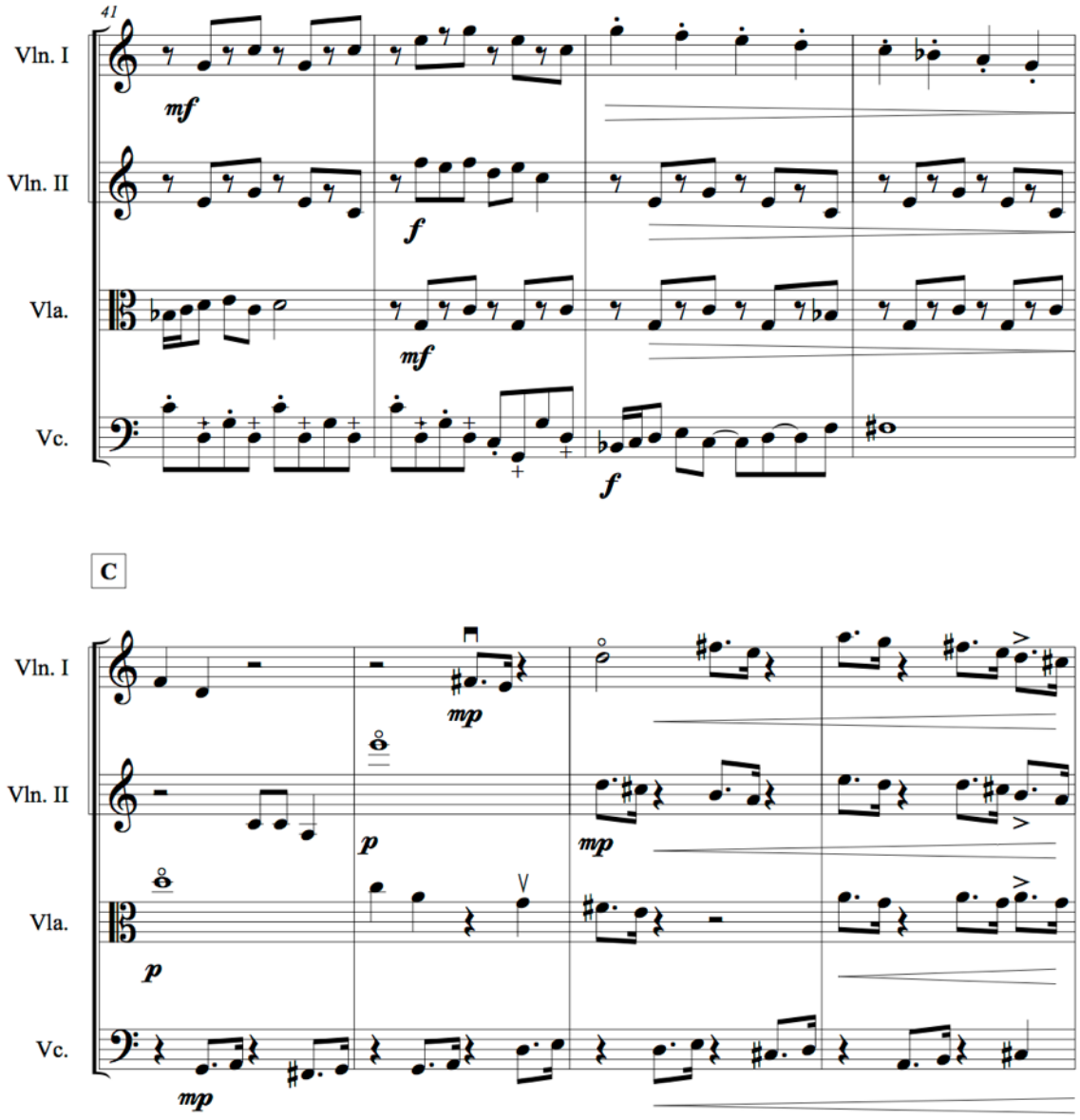

B
17
Vln. I
Vln. II
Vla.
Vc.
pizz.
Cello Solo: Improvise on melody (taunting, menacing)
Gm
f
21
Vln. I
Vln. II
Vla.
Vc.
Dm

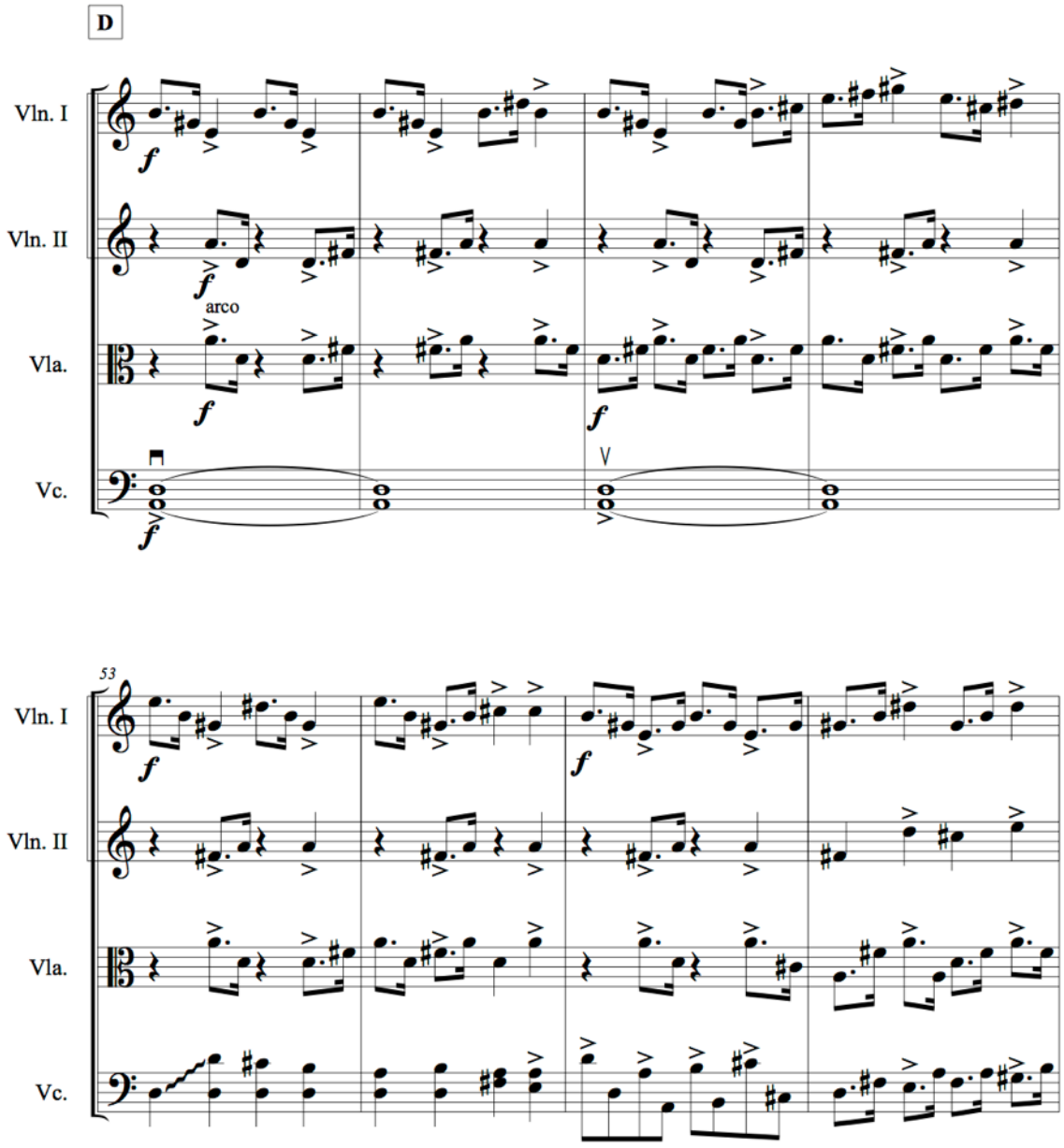

25
Vln. I
Vln. II
Vla.
Gm
Cm
Vc.

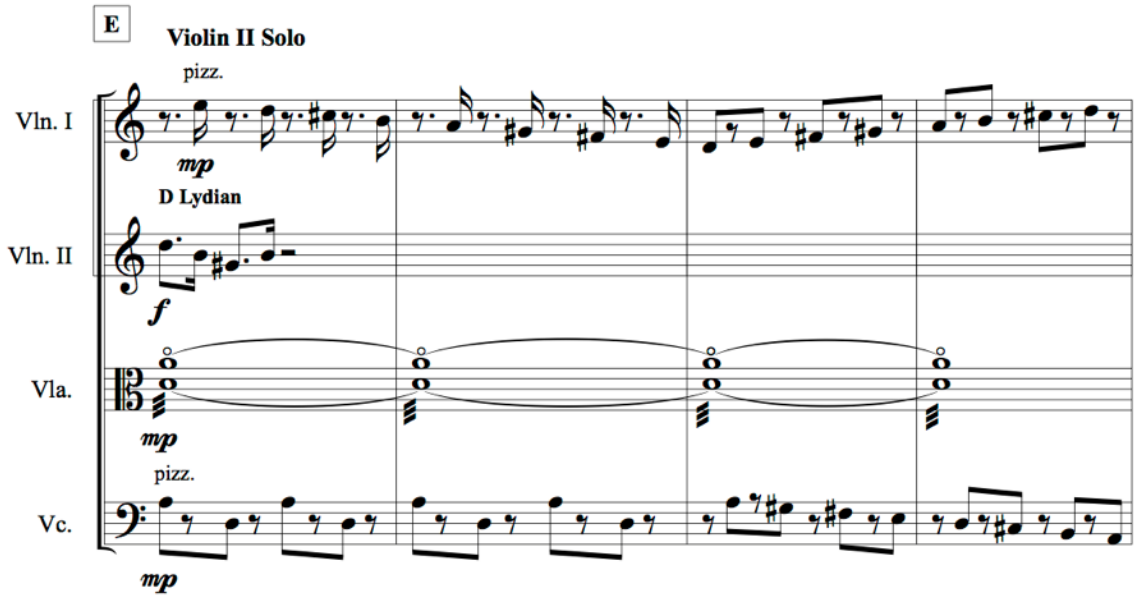

29
Vln. I
Vln. II
Vla.
Fm
Vc.

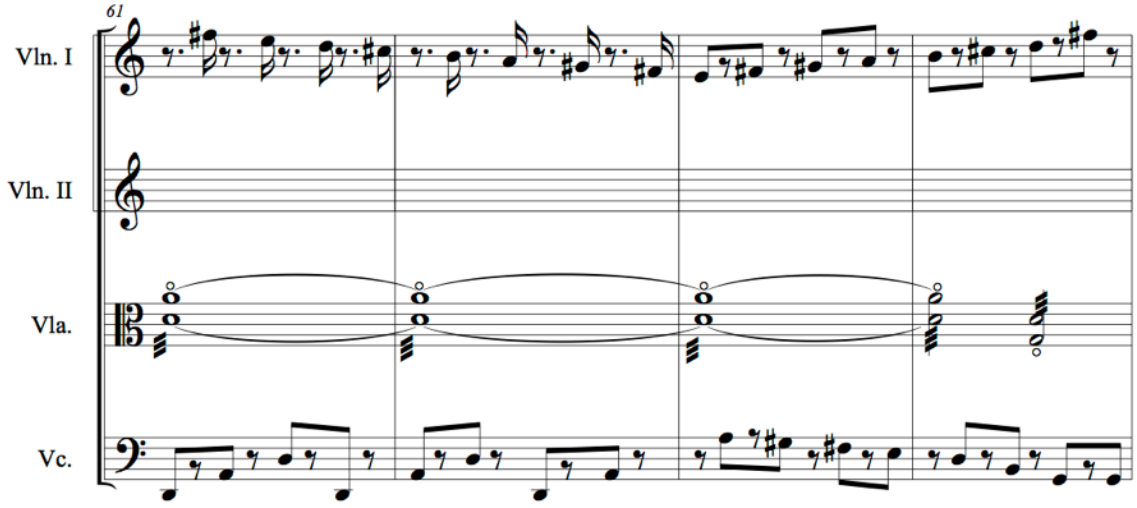

33
Vln. I
Vln. II
Vla.
Vc.
Cm
arco

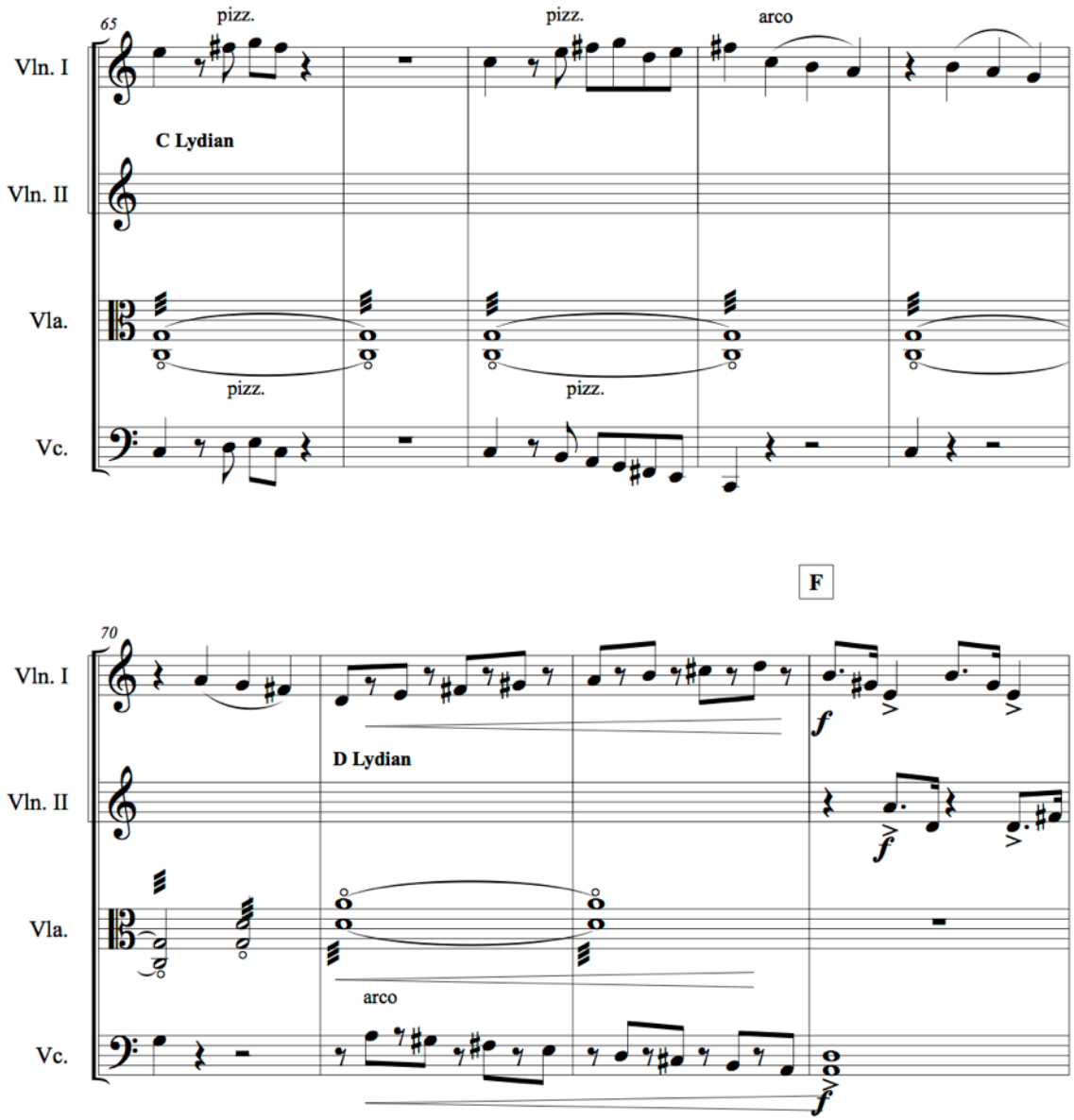

37
Vln. I
Vln. II
Vla.
Vc.

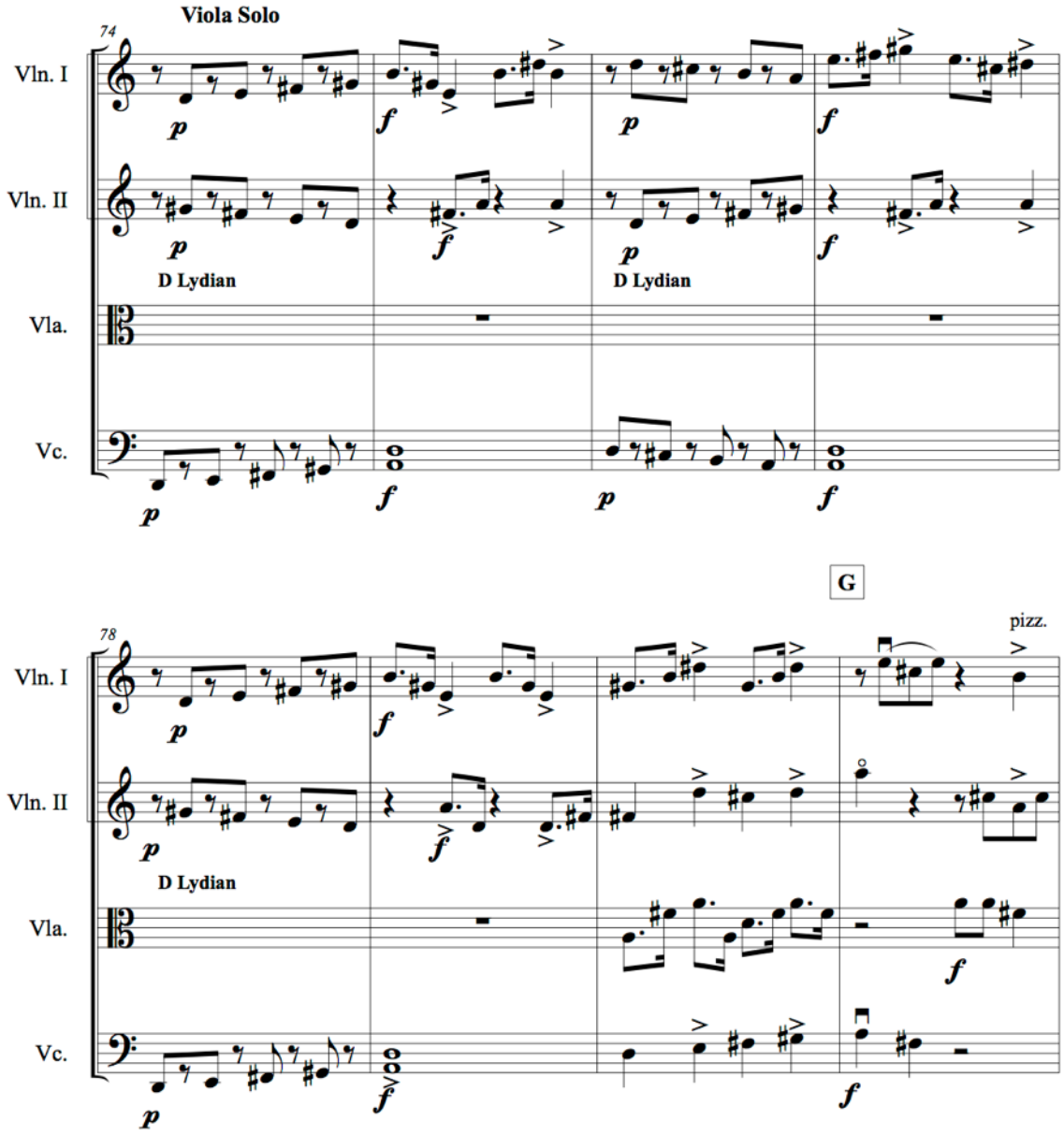

41
Vln. I
Vln. II
Vla.
Vc.
mf
f
mf
f
C
Vln. I
Vln. II
Vla.
Vc.
mp
p
mp
p
mp

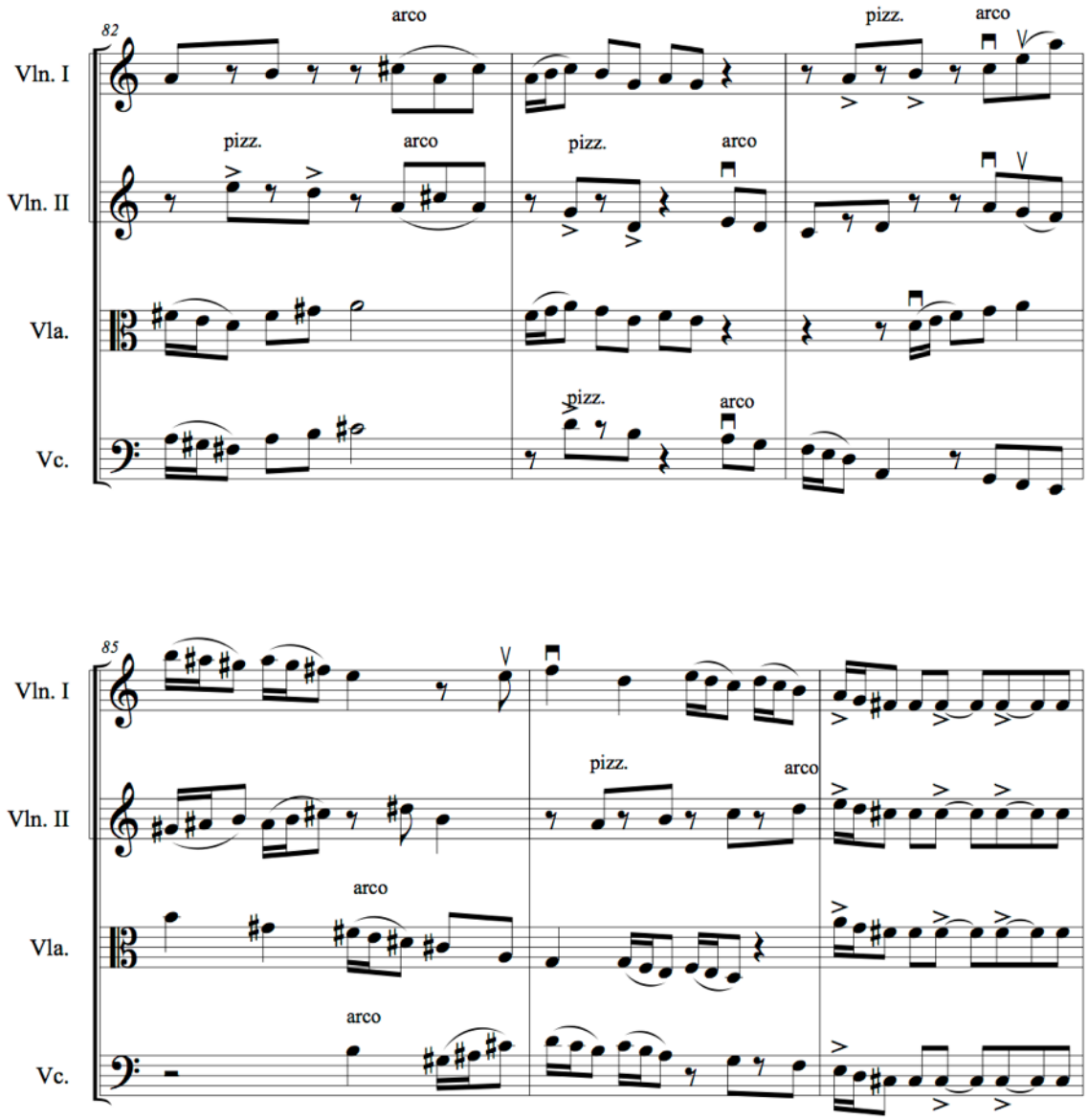

D
Vln. I
Vln. II
Vla.
Vc.
arco
f
53

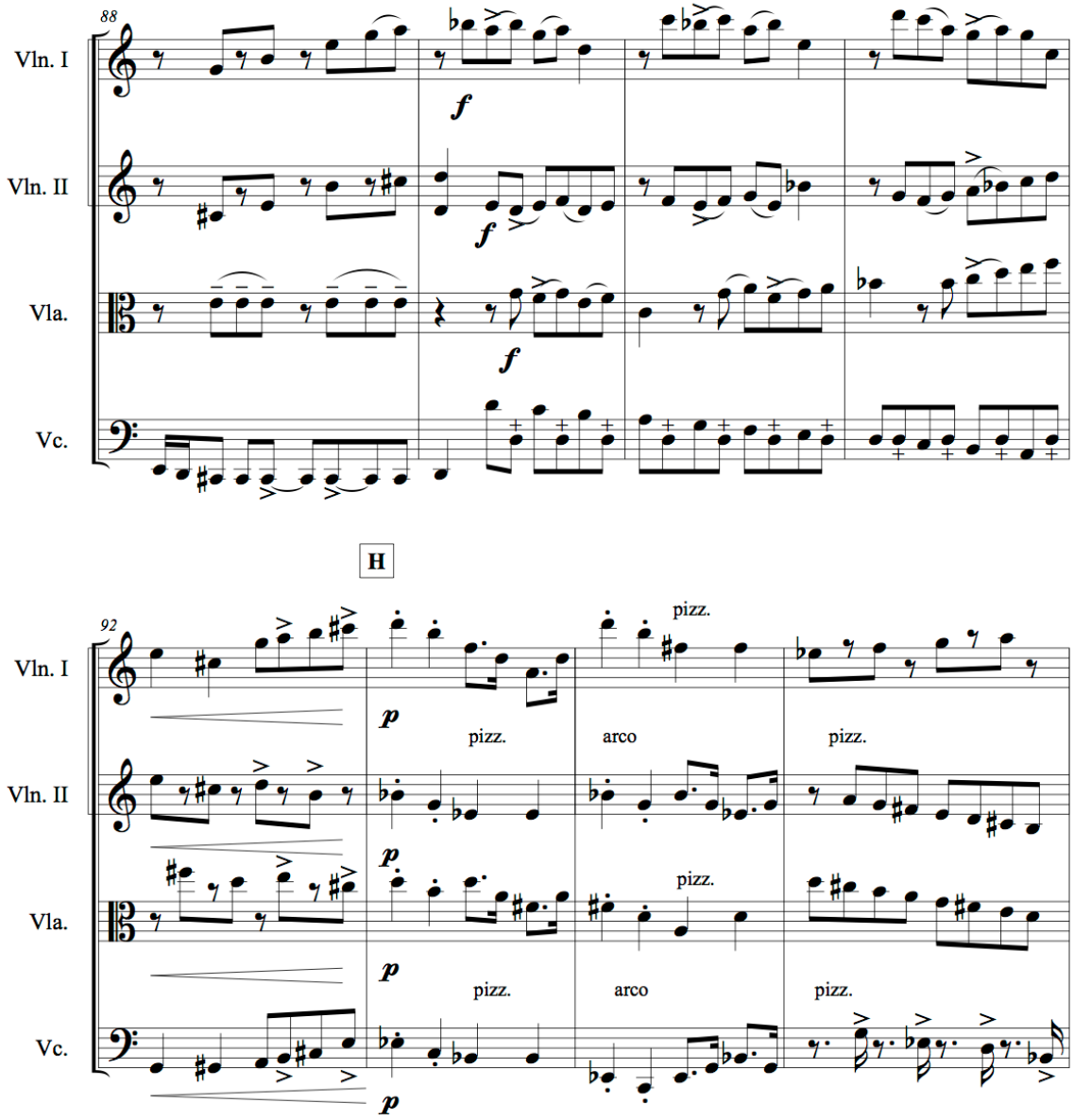

E
Violin II Solo
pizz.
Vln. I
mp
D Lydian
Vln. II
f
Vla.
mp
pizz.
Vc.
mp

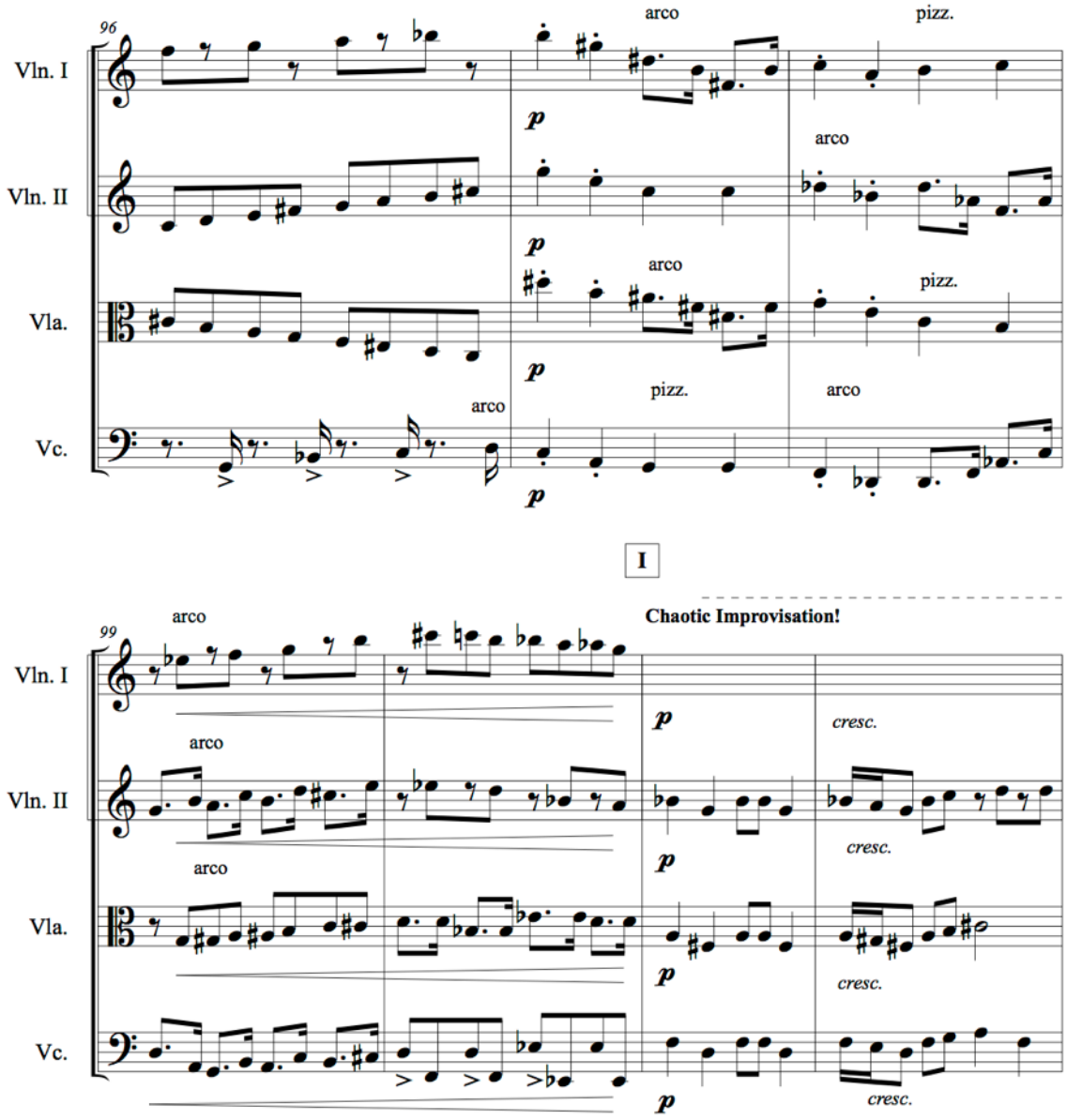

61
Vln. I
Vln. II
Vla.
Vc.

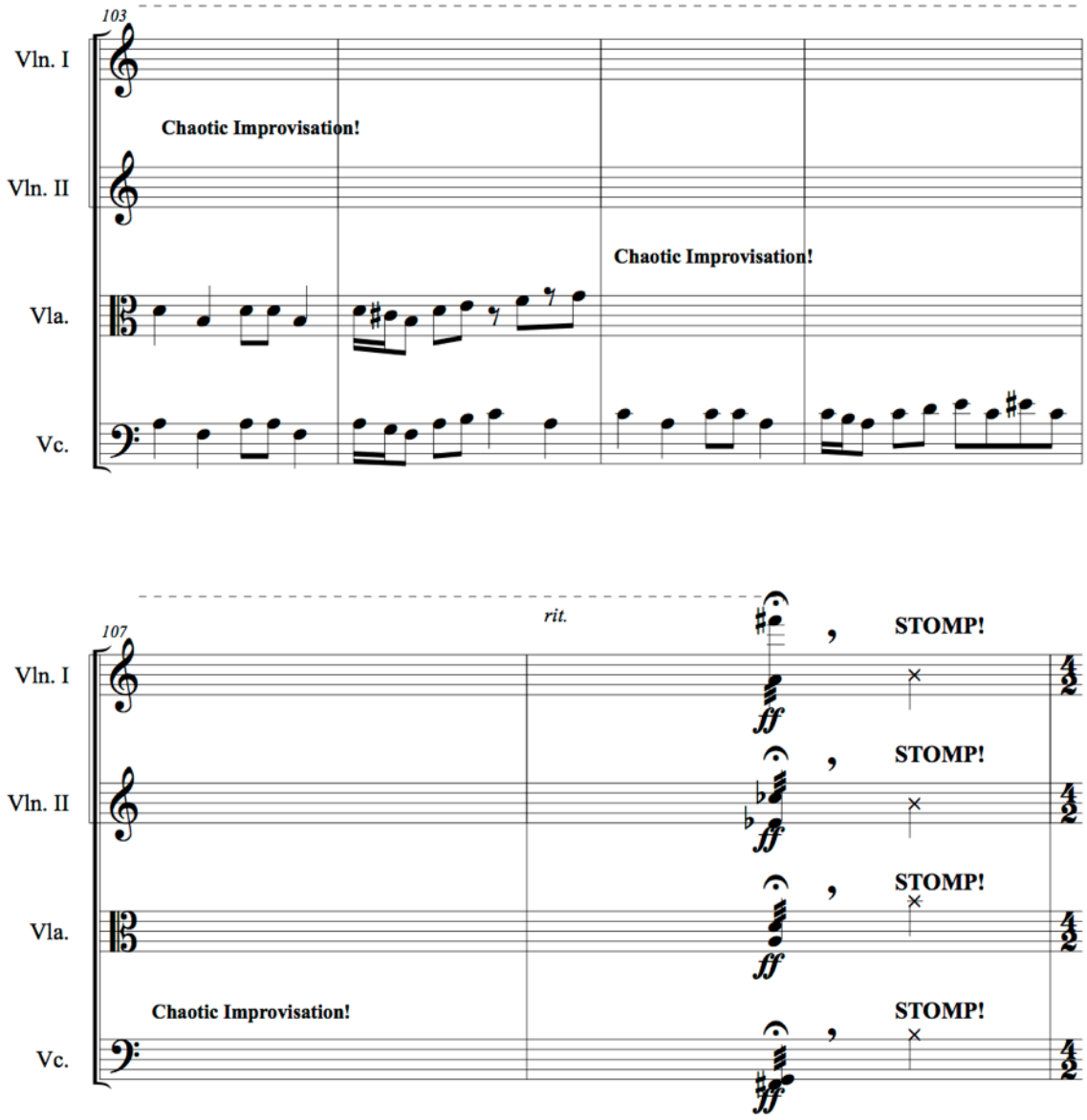

65
pizz.
pizz.
arco
Vln. I
C Lydian
Vln. II
Vla.
pizz.
pizz.
Vc.
F
70
Vln. I
D Lydian
Vln. II
Vla.
arco
Vc.

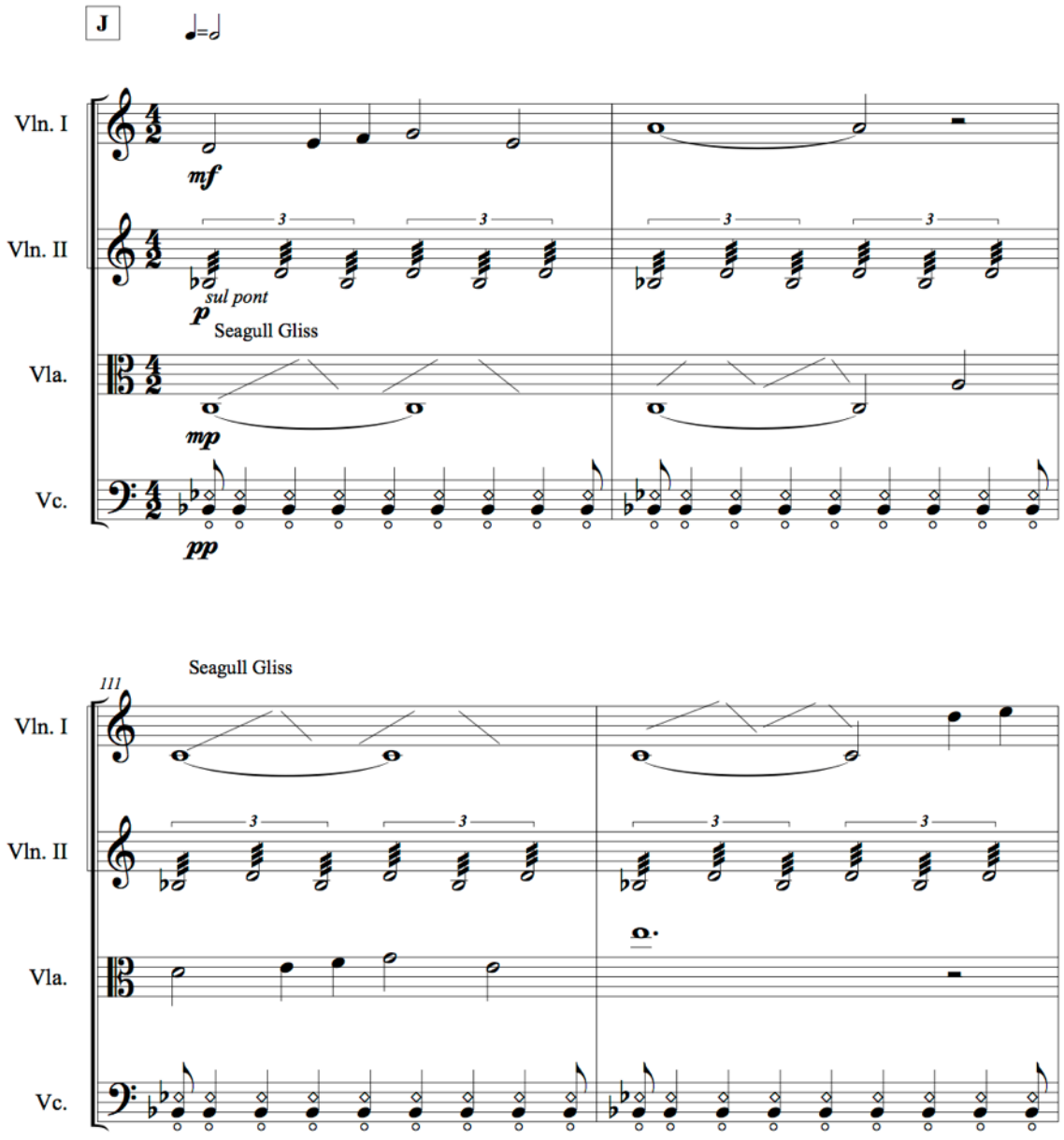

Viola Solo
74
Vln. I
Vln. II
Vla.
Vc.
D Lydian
D Lydian
G
78
pizz.
D Lydian

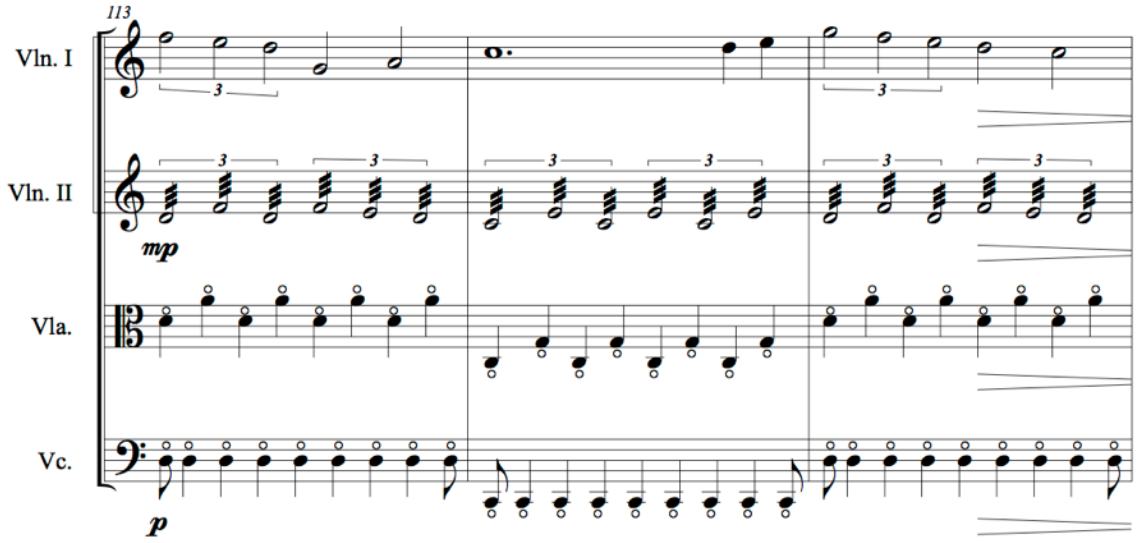

82
Vln. I
Vln. II
Vla.
Vc.
arco
pizz.
arco
pizz.
arco
pizz.
arco
pizz.
arco
85
Vln. I
Vln. II
Vla.
Vc.
pizz.
arco
arco
arco

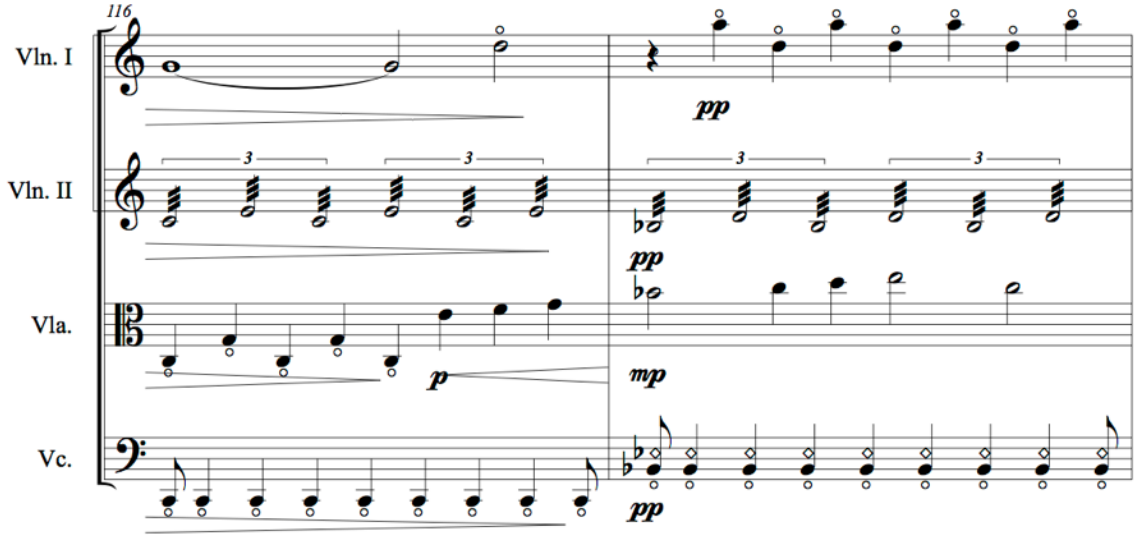

88
Vln. I
Vln. II
Vla.
Vc.
f
f
f
H
92
pizz.
arco
pizz.
p
p
p
p

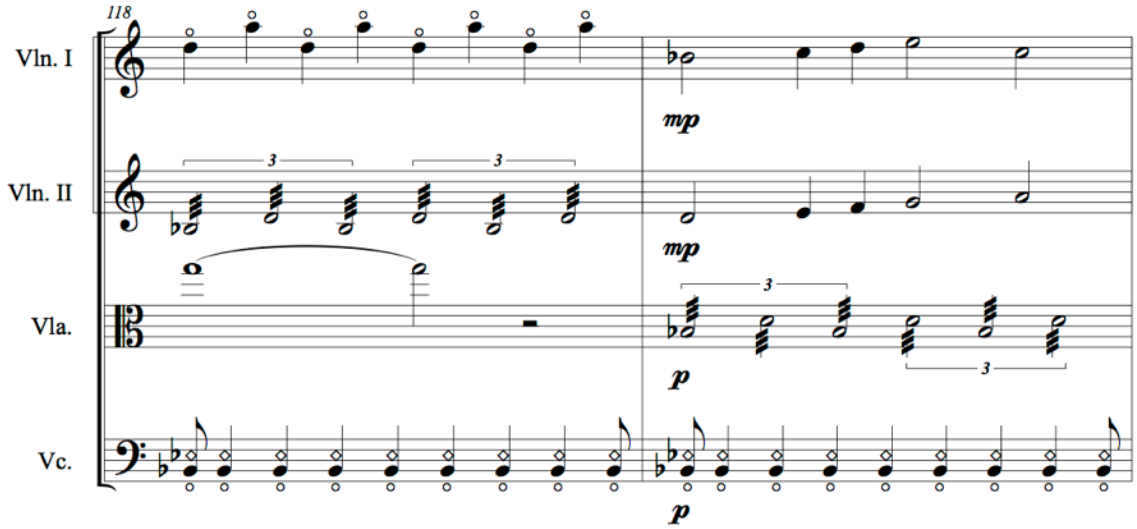

96
Vln. I
Vln. II
Vla.
Vc.
arco
pizz.
arco
arco
pizz.
pizz.
arco
arco
p
I
99
arco
arco
arco
Chaotic Improvisation!
cresc.
cresc.
cresc.
cresc.

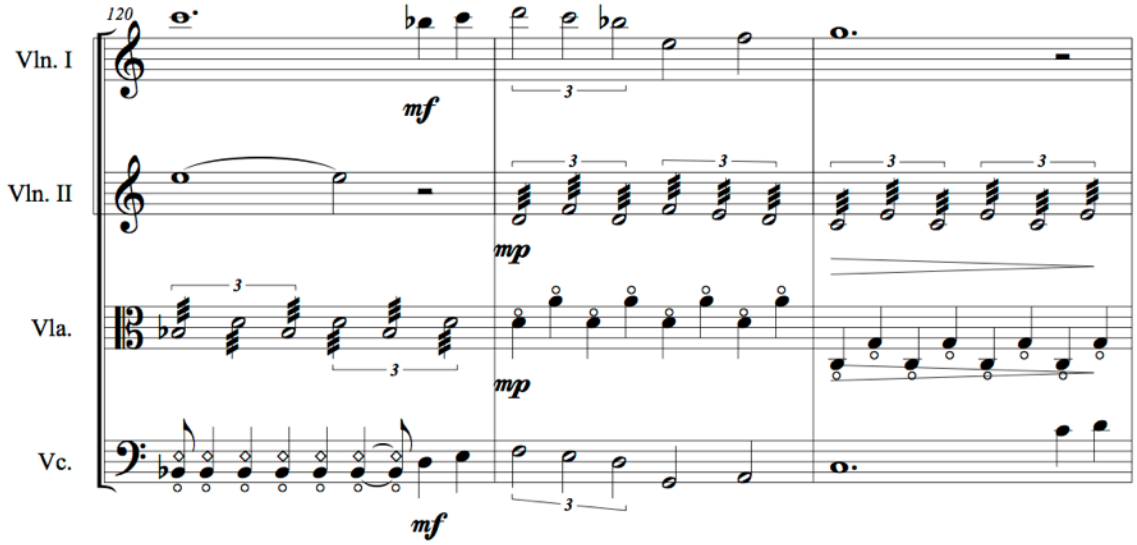

103
Vln. I
Chaotic Improvisation!
Vln. II
Chaotic Improvisation!
Vla.
Vc.
rit.
107
STOMP!
STOMP!
STOMP!
STOMP!
Chaotic Improvisation!

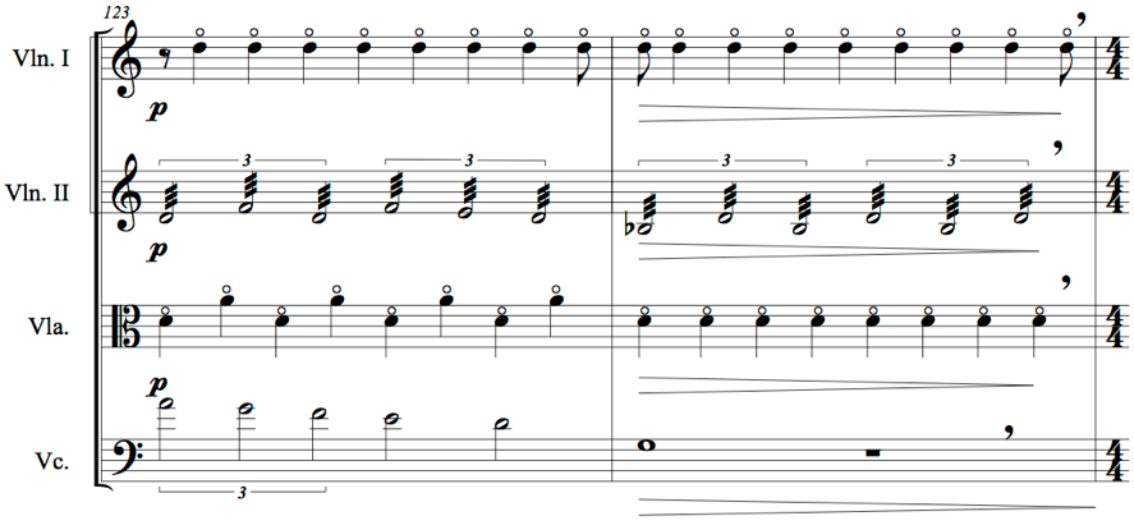

J
Vln. I
Vln. II
Vla.
Vc.
mf
sul pont
p
Seagull Gliss
mp
pp
Seagull Gliss
111

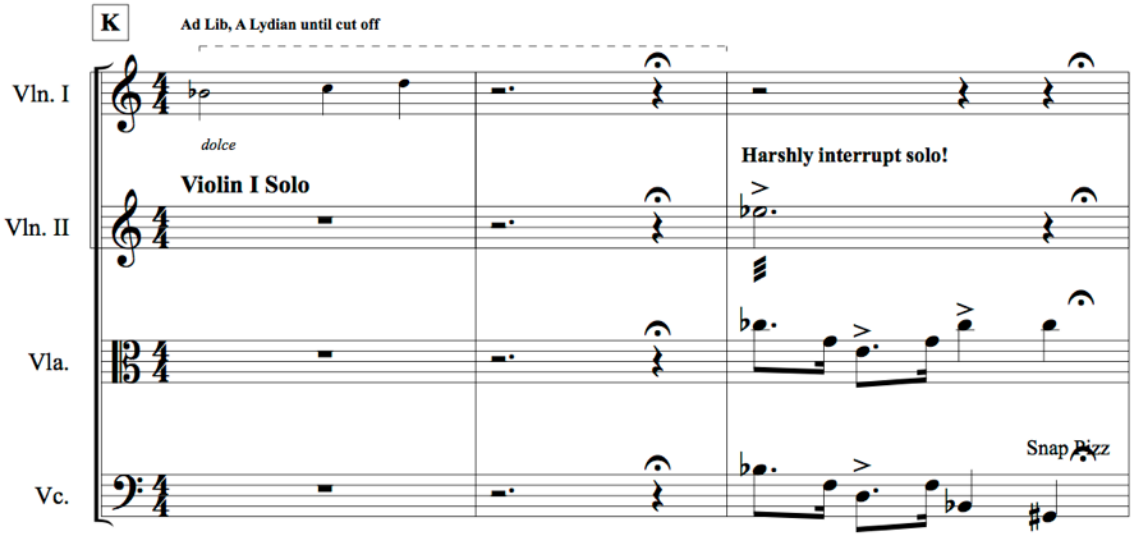

113
Vln. I
Vln. II
Vla.
Vc.
mp
p

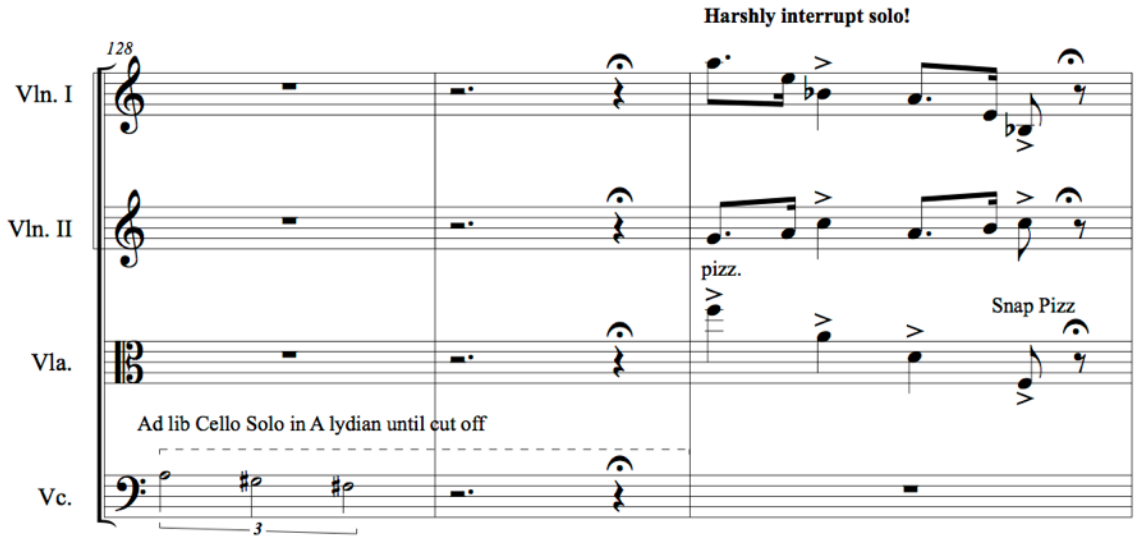

116
Vln. I
Vln. II
Vla.
Vc.
pp
pp
p
mp
pp

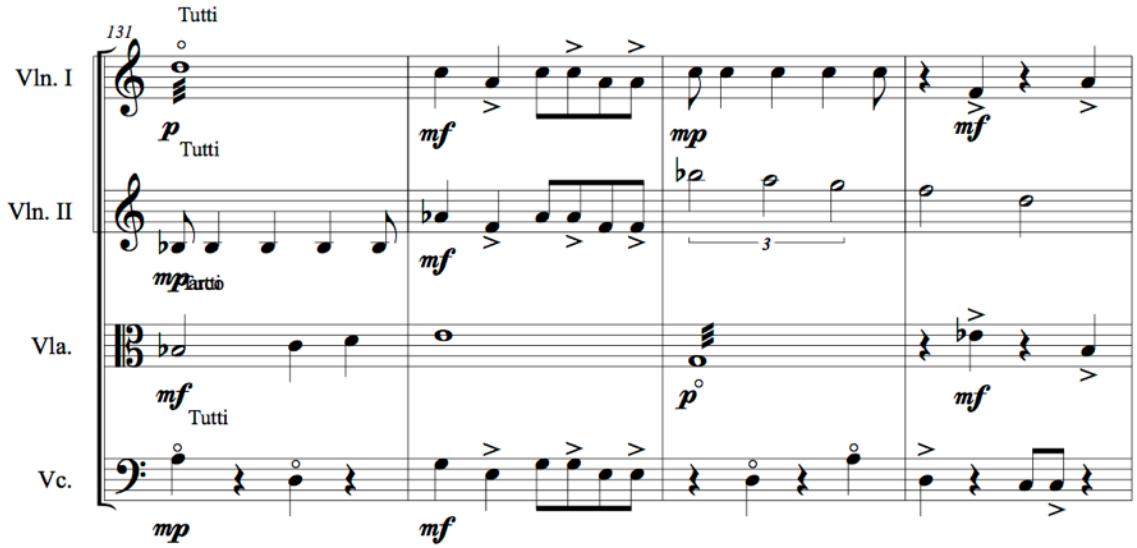

118
Vln. I
Vln. II
Vla.
Vc.
mp
mp
p
p

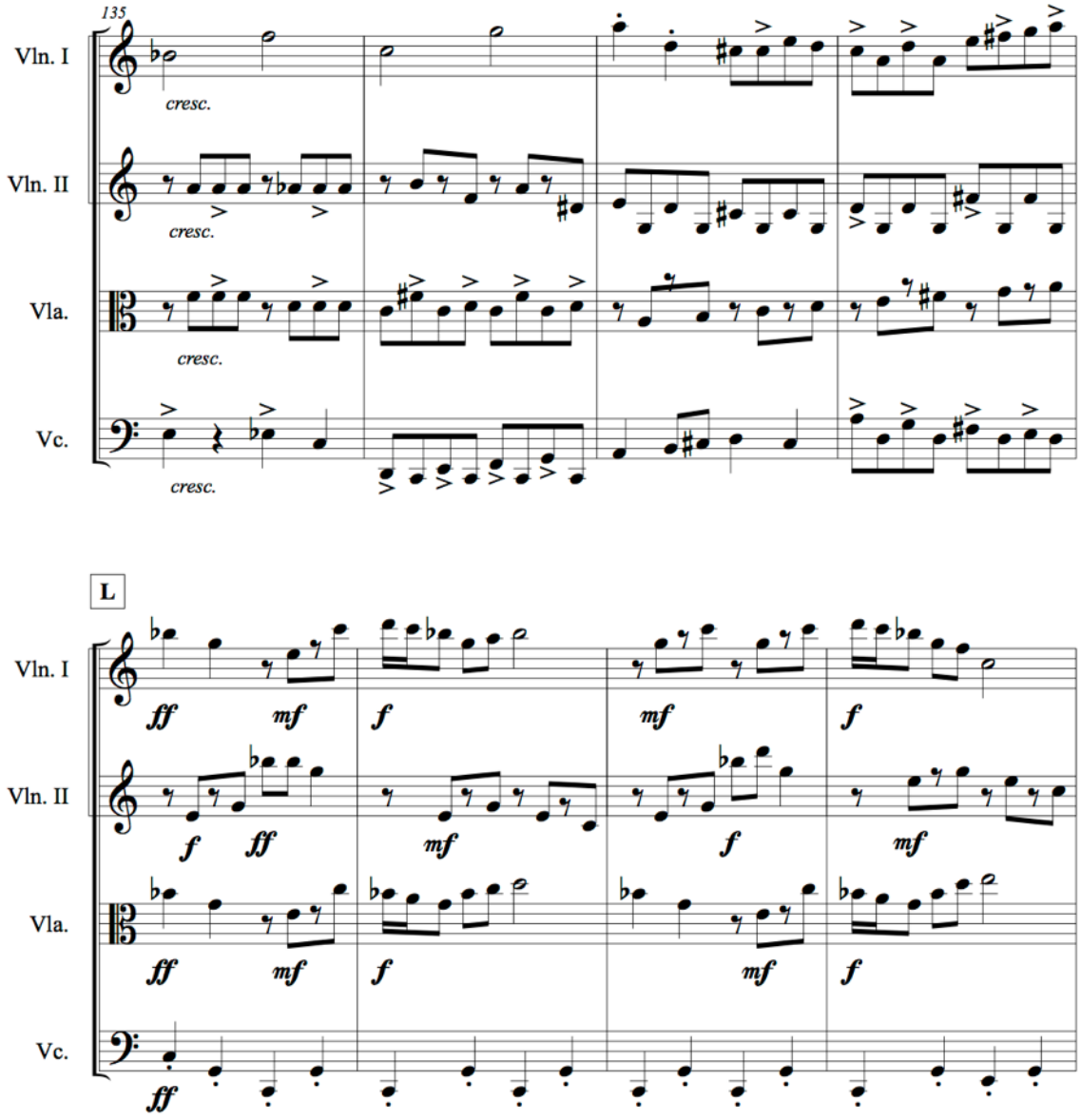

120
Vln. I
Vln. II
Vla.
Vc.
mf
mp
mp
mf

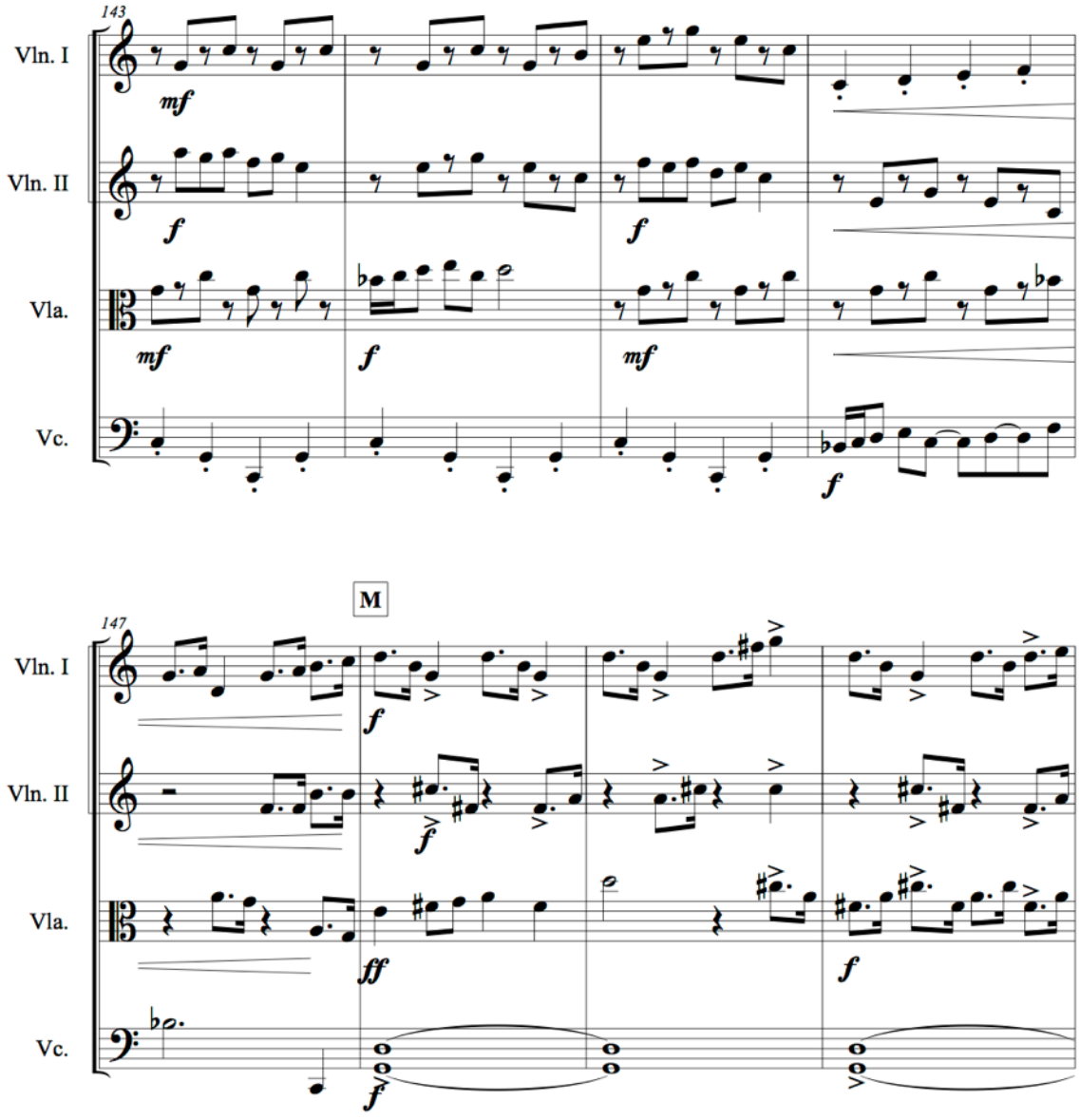

123
Vln. I
Vln. II
Vla.
Vc.
p
3

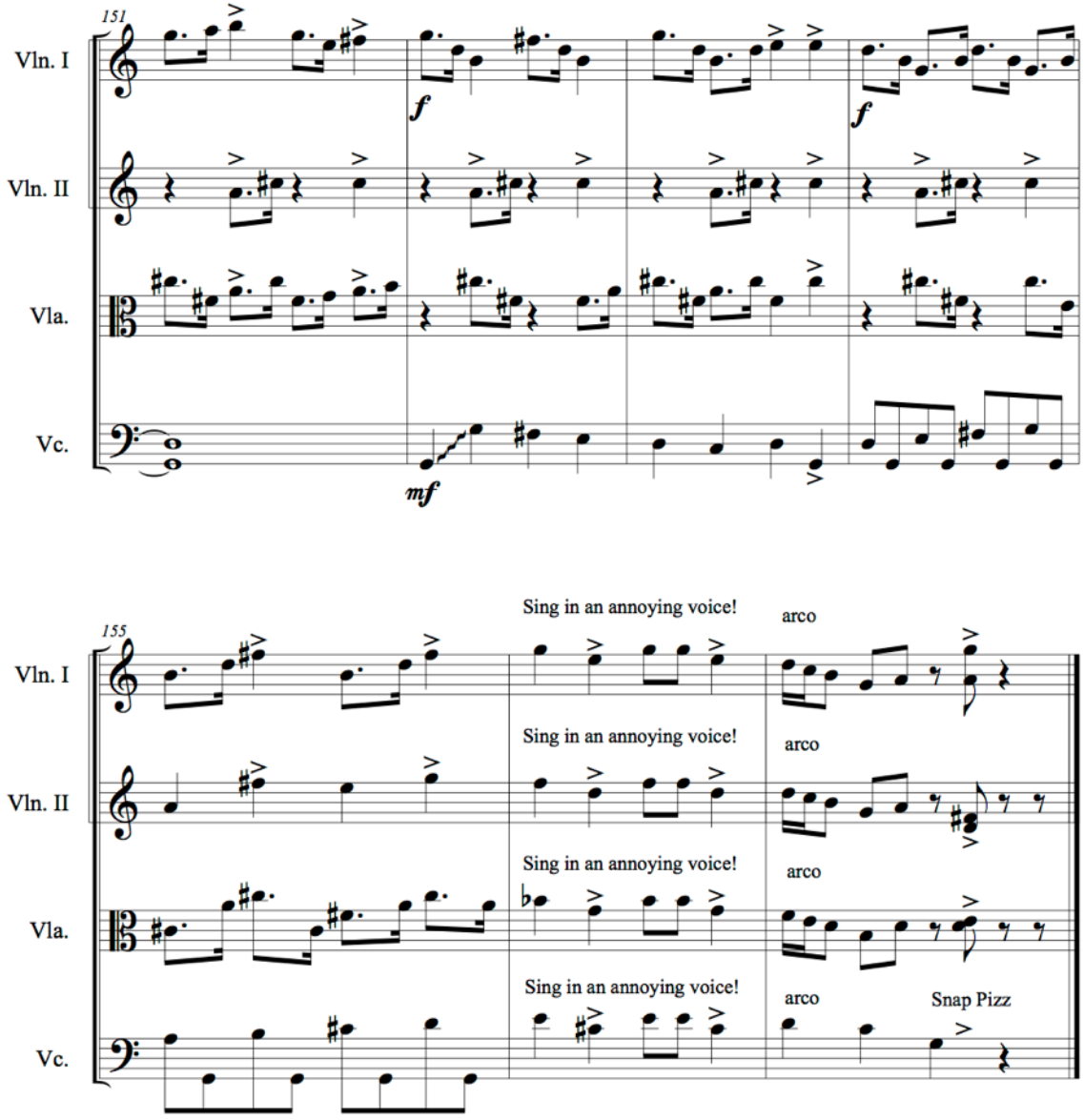

K
Ad Lib, A Lydian until cut off
Vln. I
Vln. II
Vla.
Vc.
dolce
Violin I Solo
Harshly interrupt solo!
Snap Pizz


Harshly interrupt solo!
128
Vln. I
Vln. II
pizz.
Snap Pizz
Vla.
Ad lib Cello Solo in A lydian until cut off
Vc.
3


Tutti
131
Vln. I
p
Tutti
mf
mp
mf
Vln. II
mp
mf
3
Vla.
mf
Tutti
p
mf
Vc.
mp
mf


135
Vln. I
cresc.
Vln. II
cresc.
Vla.
cresc.
Vc.
cresc.
L
Vln. I
ff
mf
f
mf
f
Vln. II
f
ff
mf
f
mf
Vla.
ff
mf
f
mf
f
Vc.
ff


143
Vln. I
Vln. II
Vla.
Vc.
mf
f
mf
f
mf
f
M
147
Vln. I
Vln. II
Vla.
Vc.
f
f
ff
f
f


151
Vln. I
Vln. II
Vla.
Vc.
f
f
mf
155
Sing in an annoying voice!
arco
Sing in an annoying voice!
arco
Sing in an annoying voice!
arco
Sing in an annoying voice!
arco
Snap Pizz