Impacts of Teacher Modeling and Suzuki Violin Concepts/Games/Techniques in the Elementary String Orchestra Classroom

Karissa Strawley
214 Glen Road
Pasadena, MD 21122

June 1, 2017

Micah Jones, Director of the School of Music
Elizabeth Sokolowski, Division Head of Music Education
Marc Dicciani, Dean of the College of Performing Arts

The University of the Arts
College of Performing Arts
School of Music

Master of Music in Music Education

Impacts of Teacher Modeling and Suzuki Violin Concepts/Games/Techniques in the Elementary String Orchestra Classroom

Karissa Strawley

Approved as to style and comment by:

_____

Elizabeth Sokolowski, Division Head Music Education

_____

Micah Jones, Director of the School of Music

_____

Marc Dicciani, Dean of the College of Performing Arts

Topic

Impacts of Teacher Modeling and Suzuki Violin Concepts/Games/Techniques in the Elementary String Orchestra Classroom

Statement of Purpose

The purpose of this empirical study is to examine the impacts of teacher modeling and Suzuki violin concepts in the elementary string orchestra classroom. The students involved are beginning violin and viola players from two schools in Prince George's County Public Schools, (PGCPS) located in Greenbelt and Berwyn Heights, Maryland. The control and test groups will be assessed on three factors: note reading, instrument position, and bow hold. Both groups will be assessed the same way; however they will receive different instruction from September to November. The control group will exclusively use the method book approved by the county. The test group will be using the same book and will have supplemental activities that integrate concepts attributed to the renowned string teacher, Shinichi Suzuki. Games, rote-learning activities, teacher modeling, and videos will be used only with the test group. If the test group scores higher than the control group then the techniques will be utilized at both schools at the beginning of January.

Rationale

The famous French author, Victor Hugo, said that, "Music expresses that which cannot be put into words and that which cannot remain silent." As music educators, we should use this idea to our advantage when working with our students. Where words fail us or over-complicate things, we can model for our students what we are pursuing. By using our voice or an instrument we can communicate tone color, timbre, style, articulation, and more without lengthy explanations. This study will investigate the value of modeling in an elementary string orchestra classroom.

Shinichi Suzuki, a prominent string teacher from the 20th century, viewed music as a language that students learn similarly to when they learn to speak as young children. Students learn good tone on their instrument by emulating their teacher or quality recordings. Though tone is an ever-developing aspect, and can take years to mature, students who have access to good examples are more likely to improve their sound. Suzuki's methods prioritize sound by focusing on it before starting note-reading. The students in this study will be exposed to games, rote-learning activities, regular modeling from their teacher, and videos of high quality violinists in addition to the method book approved by the county.

Beginning violin and viola students from two elementary school in Prince George's County Public Schools in Maryland will be involved. The 4th through 6th grade students range in age from 8-11 and are students at either Berwyn Heights Elementary School or Greenbelt Elementary School. The study will start in September 2016 and conclude in November 2016. Students receive two thirty-minute lessons a week; however, classes are sometimes interrupted at the last minute by assemblies, testing, and other factors. In this study there will be at least ten

thirty-minute lessons during which the test group will receive instruction inspired by Dr. Suzuki's concepts. The students in both groups will be assessed at least three times throughout the study. The instructor will use evaluations of playing tests, written note-naming tests, and photos of posture and hand position to determine students' ability in the following areas: note reading, instrument position, left-hand position, and bow hold/tone.

Table of Contents

Chapter 1: Introduction

Impacts of Teacher Modeling and Suzuki Violin Concepts/Games/Techniques in the Elementary String Orchestra Classroom

Statement of Purpose

The purpose of this empirical study is to examine the impacts of teacher modeling and Suzuki violin concepts in the elementary string orchestra classroom. The students involved are beginning violin and viola players from two schools in Prince George's County Public Schools, (PGCPS) located in Greenbelt and Berwyn Heights, Maryland. The control and test groups will be assessed on three factors: note reading, instrument position, and bow hold. Both groups will be assessed the same way; however they will receive different instruction from September to November. The control group will exclusively use the method book approved by the county. The test group will be using the same book and will have supplemental activities that integrate concepts attributed to the renowned string teacher, Shinichi Suzuki. Games, rote-learning activities, teacher modeling, and videos will be used only with the test group. If the test group scores higher than the control group then the techniques will be utilized at both schools at the beginning of January.

Rationale

The famous French author, Victor Hugo, said that, "Music expresses that which cannot be put into words and that which cannot remain silent." As music educators, we should use this idea to our advantage when working with our students. Where words fail us or over-complicate things, we can model for our students what we are pursuing. By using our voice or an instrument we can communicate tone color, timbre, style, articulation, and more without lengthy

explanations. This study will investigate the value of modeling in an elementary string orchestra classroom.

Shinichi Suzuki, a prominent string teacher from the 20th century, viewed music as a language that students learn similarly to when they learn to speak as young children. Students learn good tone on their instrument by emulating their teacher or quality recordings. Though tone is an ever-developing aspect, and can take years to mature, students who have access to good examples are more likely to improve their sound. Suzuki's methods prioritize sound by focusing on it before starting note-reading. The students in this study will be exposed to games, rote-learning activities, regular modeling from their teacher, and videos of high quality violinists in addition to the method book approved by the county.

Beginning violin and viola students from two elementary school in Prince George's County Public Schools in Maryland will be involved. The 4th through 6th grade students range in age from 8-11 and are students at either Berwyn Heights Elementary School or Greenbelt Elementary School. The study will start in September 2016 and conclude in November 2016. Students receive two thirty-minute lessons a week; however, classes are sometimes interrupted at the last minute by assemblies, testing, and other factors. In this study there will be at least ten thirty-minute lessons during which the test group will receive instruction inspired by Dr. Suzuki's concepts. The students in both groups will be assessed at least three times throughout the study. The instructor will use evaluations of playing tests, written note-naming tests, and photos of posture and hand position to determine students' ability in the following areas: note reading, instrument position, left-hand position, and bow hold/tone

Expectations of Findings

During the course of this project, my goal is to find new games and activities to help beginning string students succeed on their instruments. At one school I will start classes without music notation and will replace what I would normally do with games and activities that are proponents of the Suzuki approach. It is my belief that these students will have better hand position/posture, tone, and ultimately will outperform the other group in playing tests. After a few lessons focusing on sound production and the mechanics of playing, I will introduce note reading to the test group. My control group will be learning notation as soon as the first lesson. I anticipate the possibility of the control group having higher scores on note reading tests. However, I hope that the test group will adopt notation quickly once playing their instrument becomes more automatic.

Another factor that impacts my expectations is the start time for introducing the bow. Typically, I start bow hold with my students after they can play the whole D major scale *pizzicato*, plucking. My priority has always been to get my students comfortable with the left-hand position before starting to train the right. This year, I will start the test group working each hand separately and then slowing adding them together so students can play *arco*, with the bow. I am concerned that learning the two vastly different hand positions almost simultaneously will confuse students. However, I have confidence that the activities and manipulatives I have planned will aid in their learning. My control group will start the bow in the beginning of October, like I have done in past years. Each year students beg to use the bow sooner and complain that their right hand index fingers hurt from doing pizzicato for a whole thirty minute lesson. It is my hope that this project will help me find a better balance in my instruction and will lead to my students making beautiful music.

Chapter 2: Benefits of Suzuki Approach and Teacher Modeling

As a non-string player who teaches strings, my comfort level has evolved over my six years teaching elementary strings. When I first started, my instrumental music supervisor encouraged the beginning teachers to avoid using instruments during lessons. Her thought was that modeling on instruments would become a crutch that would prevent us from correcting student mistakes. This went against my personal philosophy, but I was willing to try something new since I had very little teaching experience. Over the years I have been finding the balance of when to use instruments while modeling and when not to. This project has given me an opportunity to reflect on the research of other music educators, information I have gathered from my graduate classes at The University of the Arts, and personal experiences and data I have gathered in my own classrooms.

Suzuki Approach

Shinichi Suzuki (1898-1998) was one of the most well-known violin pedagogues and his approach is still used today. He believed that talent is not an "accident of birth," but instead a "person's aptitude" is developed over time from a "natural ability" which we all share (*Nurtured by Love: A New Approach* 7). Suzuki came to this realization from a profoundly simple statement: "All Japanese children speak Japanese." If young children can be taught to speak their parents' language, no matter where they are in the world, than naturally this method would be effective for teaching the language of music. This educational method is referred to as the mother tongue method (Sources of the Folk Songs in the Violin and Piano Books of Shinichi Suzuki by Sondra Wieland Howe, 178).

Students are taught tonalization in this method by listening to models of superior violin tone and through constant repetition. A new skill is not introduced until the previous skill is mastered. This concept is not new; it was first attributed to the Swiss social reformer and educator, Johann Heinrich Pestalozzi (1746-1827). Pestalozzi, known as the "father of modern education," recommended, "Start out with the easiest matter; let the children master this simplest thing before advancing further; then, gradually add a little at a time to this perfectly mastered matter" (*The Writings of Shin'ichi Suzuki: Where Love is Deep* 29). In his own writings, Dr. Suzuki uses stories and examples to get his meaning across.

Suzuki relates the initial growth of ability to gardening in this excerpt from his book, *Nurtured by Love: A New Approach*, "We don't see the seed that is planted in the ground; but water, temperature, light and shade daily act as stimuli, and little by little there is an unseen change, up to a certain day when the sprout appears" (15). Later in the book he reminds the reader that patience is required because natural growth occurs at different rates for each individual. "We don't see when the germination begins. That is the doing of Mother Nature; it is the fundamental working principle. We have to wait patiently. We cannot dig the seed up to see whether it is really growing: we just would destroy everything" (55). The true aim of Dr. Suzuki's approach is to develop students into sensitive, cultured human beings.

Suzuki students play with very good technique, but it was surprising that a teacher who has taught five-year olds to perform repertoire that would challenge adult musicians could still be quoted saying, "Character first, technique second" (*The Writings of Shin'ichi Suzuki: Where Love is Deep* 5). Karin S. Hendricks describes Dr. Suzuki's philosophy on the value of music education as a true blend of both aesthetic and utilitarian. Music education helps to develop the whole child as a medium for learning perseverance, hard-work, etcetera in the utilitarian

approach. However, Dr. Suzuki found it equally important that students experience, "beautiful tone, beautiful heart" or as Hendricks states, "the spiritual nature of tone that one could sense the quality of a musician's soul" (Hendricks 143). A Suzuki student does not just learn from a teacher though. The parents play a major role in their education.

"The destiny of children lies in the hands of their parents," is quite a prophetic statement made by Dr. Suzuki, but he is reiterating his belief that "people are what they are as a result of their own specific environments" (*Nurtured by Love: A New Approach* 21-22). *The Suzuki Concept: An Introduction to a Successful Method for Early Music Education* includes a chapter by Elizabeth Mills which specifically addresses mothers new to the Suzuki method. Much of Elizabeth Mills' advice is about attending lessons and group play (recitals, concerts, special events), playing the recordings for the child daily, and monitoring practice while giving constructive, positive, and specific feedback as to avoid discouraging the child. The requirements range from making sure the instrument and bow are properly taken care of to being able to play through the first book in order to help reinforce good posture and position (*The Suzuki Concept: An Introduction to a Successful Method for Early Music Education* 29-32). John Kendall blames "underestimating the importance of the essential spirit of the teacher-student-parent trilogy" as one of a few reasons why a school program would not be as successful (*The Suzuki Violin Method in American Music Education* 20). My research project will focus more on the activities that take place in class since I cannot control the amount of involvement, or lack thereof, taking place at home.

The uniqueness of the Suzuki approach can make it seem impossible to implement successfully in a school, especially if students are not getting support and encouragement to practice at home, but there are some examples of schools that have managed

it. Another author of *The Suzuki Concept*, Diana Tillson, writes about an adapted Suzuki program in a public school setting. In Tillson's example, students start as young as first grade and by third grade begin to read music. She does, however, mention their hesitancy "to accept into our program children whose parents cannot attend lessons, so are we reluctant to start older beginners" (133). In first grade they start note reading "readiness" activities by:

> "using speech patterns, texts, Kodaly time names, note names, and bowings…. we explore the staff by steps and skips on the floor with voice and hand…. We emphasize aural and tactile recognition of whole steps and half steps, relating the note names to the violin fingerboard…." (135).

In another adaption by Theodore Roland Brunson, words and phrases were used to introduce students to new rhythms, instead of having students try to decipher notation (*An Adaption of the Suzuki-Kendall Violin Method for Heterogeneous Stringed Instrument Classes 41*).

One of the biggest criticisms of the Suzuki Approach is that some students never end up being able to read music. The opinion of Suzuki followers is that when students first learn to play they should not be distracted by also learning notation. Students should have their eyes free to look at what their teacher is showing them and be able to look at their own left hand position until everything becomes more automatic. Brunson states that the "immediate objective is to be comfortable with the instruments and in making good sounds with efficient motions.... Holding the instrument and bow correctly and experiencing these first steps are an achievement, just as much as gaining the rudiments of a sport before playing in a game" (46).

Suzuki blames written music for being "one of the worst enemies of music education." He does concede that notation is a "really convenient and praiseworthy invention" and that some

musicians “have indeed developed the ability to sight-read fluently”, but he feels that “they have no musical sense, no musical expression.” He goes on to say, “again another defect often observed today is that there are some grown people who cannot play without the music: it has become their habit to rely upon the written notes” (*The Writings of Shin’ichi Suzuki: Where Love is Deep* 15). Personally, I am not as comfortable playing without music notation as I would like to admit, but since the debate of rote teaching versus teaching music notation has been, and will continue to be revisited by music educators, I will move on. How does a teacher that has never taught without notation start using rote activities while keeping the pace of a lesson moving? Games!

Author of the book *The Magic Matsumoto: The Suzuki Method of Education*, Dr. Carolyn M. Barrett, wrote that Dr. Suzuki disguised the repetition by utilizing “games, many of which are aimed at promoting greater automatic control over what is happening. This emphasis on games is what might be called brain-training” (53). There are an endless amount of games that have been and still could be created to help students so I will mention a few that I have come across in my research. In *The Suzuki Concept*, “playing statue” or “freeze” helps students by reinforcing good posture, position, and bow placement. The book also recommended using the classic game “Simon Says.” I plan on changing this game to “Strawley Says”. When teaching note reading, the book suggests utilizing a “floor staff” for tactile learners and flashcards for extra practice (173-191).

Music educator and clinician Sarah Morrison encourages teachers to create their own games to give students opportunity to create “muscle memory...through relaxed and accurate repetition of basic actions”. Since it can be difficult to think of ideas for games, Morrison reminds us, “Playing with pairs of opposites can be fun. One way to remember the most effective

practice is to be able to identify and connect with its opposite… the games will teach students to discriminate between effective and ineffective practices (correct/incorrect ways of doing things)" (*Teaching Strong Fundamentals in the Beginning String Class: It's All Fun and Games* 1-2). Though Morrison and the American Suzuki Institute both state that the best games have little to no extra materials, *The True Beginning: Before the Method Book,* by Angela Harman, does include activities and games that do require extra materials. These manipulatives, like balloons, pennies, marbles, and more help students form good hand position and posture.

Studies about Modeling

It is clear that the Suzuki teachers are in favor of modeling, but there are other studies about the benefit of modeling in the music classroom. At the VanderCook College of Music in 1982, a mixture of 44 graduate and upper level undergraduate students majoring on various wind instruments participated in a study conducted by Roseanne Kelly Rosenthal. "The purpose of this study was to investigate the relative effectiveness of musical and verbal models, alone and in combination, musicians' performance" (*The Relative Effects of Guided Model, Model Only, Guide Only and Practice Only Treatments on the Accuracy of Advanced Instrumentalists' Musical Performance* 267). There were four groups in the study: "(a) guided model, a combined verbal and aural example of a relatively complex musical selection; (b) model only, an aural example only; (c) guide only, a verbal explanation only; and (d) practice only" (267). Participants were scored on their accuracy of playing an excerpt of music. Rosenthal found that students in the practice only and guide only groups did considerably worse than the groups with the aural model. Her thoughts were such:

> Direct modeling, without any added verbiage, may be most effective in helping a student perform accurately. If the teacher chooses to provide a verbal explanation, then it may be

most effective if it is done in conjunction with a direct model; verbal explanation isolated from a direct example does not appear to have any immediate benefits for performance accuracy. (272)

Another study in 1985 at schools in Long Island, New York involved teachers who taught first year instrumental music students. Richard C. Sang found that, "the average time spent talking (unrelated to a model) during class was 40 percent -- whereas, the mean modeling time was only 26 percent, made up of around 13 percent playing and 13 percent singing and movement. The remaining 34 percent of mean class time involved pupils playing their instruments" (158). Sang was displeased that so much of the class time was spent on talking that was not on task. He did however find that modeling was "a more efficient use of class time than verbalizing about performance behaviors by nearly a 3 to 1 margin -- without substantive loss of instructional effectiveness" (158).

Warren Haston, an advocate for modeling, was surprised that studies found "teachers only use modeling between 10 and 25 percent of time in rehearsals" (26). In his article *Teaching Modeling as an Effective Teaching Strategy*, Haston recommends starting warm-ups with call-and-response of all the "different rhythms, styles, dynamics, and tonal patterns all taken from the music that will be rehearsed that day" (27). When teaching a new concept such as staccato or dotted quarter notes, Haston says to start without the notation first and then once students have echoed it several times and understand it, then introduce the notation. Juanita Karpt also suggests teachers "use a rote warm-up activity to take the stress out of teaching and learning…" (*Warming Up: Don't Forget Suzuki!* 44-45). Studies have also been done on the effects of recorded models on large ensembles. Steven J. Morrison recorded two different 7th grade band classes at a school in a large Pacific Northwestern city, six times. He found that both groups

improved over time on the music they were working on, the model group improved more in pitch and the non-model group made more improvement in their rhythm and phrasing. The rate at which the two groups progressed was notable too. The model group's performance in pitch, tone, and phrasing spiked after only two weeks of instruction, but the non-model group gradually improved over the course of the five week study. Also "students in the model group demonstrated greater and more long-lasting enthusiasm for the study of the selected piece" (24).

In another study, Morrison partnered with Mark Montemayor and Eric S. Wiltshire, to study students' self-evaluations after performing music with and without listening to a model recording. They used middle and high school students from five different schools, ranging from rural to suburban to urban locations all located in the Pacific Northwest. They found that the younger students "were significantly more enthusiastic toward the model pieces" whereas the "high school students showed no difference between model and no-model pieces" (*The Effect of a Recorded Model on Band Students' Performance Self-Evaluations, Achievement, and Attitude* 127). Marc R. Dickey wrote *A Review of Research on Modeling in Music Teaching and Learning*, which overviews much of the current research on the topic of modeling. He too found several benefits to modeling, including: "greater ear-to-hand skills and kinesthetic response skills" (30-31), "positive relations exist between teacher modeling and student performance" (36), and "teachers who use modeling strategies seem to depend less on verbal communication in the classroom" (37).

Perhaps the success of modeling could be connected with the amount of student involvement. Robert A. Duke, author of *Teacher and Student Behavior in Suzuki String Lessons: Results from the International Research on Symposium on Talent Education* writes, "the results illustrate that excellent Suzuki teachers' instruction regarding music repertoire is characterized

by a great deal of active student involvement (56% of instructional time devoted to student performance and performance approximations, 11% to student verbalizations)" (304-305). In a study that focused more on teacher verbalizations, Elaine J. Colprit "classified the targets according to whether the language used to express a target pertained to a physical behavior, such as finger placement, or a musical effect such as a crescendo". Her data showed that students performed more successfully when the teachers were working on "Right Hand Behavior (58%) and Left Hand Behavior (51%) than in rehearsal frames devoted to Musical Results (27%)" (*Teacher Verbalization of Targets in Suzuki String Lessons* 52-55). In another study by Elaine J. Colprit called, *Observation and Analysis of Suzuki String Teaching*, she brings up the challenge of the category "musical results" with the example of a crescendo. Her point is that this "single target" requires the "correct execution of several tasks to accomplish the goal" including changes in "bow speed, bow weight, bow contact point, and alterations in the left hand" (216). It is clear from these studies that students need high quality models to help them set standards for their own playing.

Posture and Instrument Position

The first part of setting a student up for success is starting with a good sitting and/or standing posture and getting the violin in good position. In Julie A. Nelson's *An Investigation of Mimi Zweig's Violin Pedagogy and its Application to the American Public School String Orchestra Classroom in the 21st Century*, Nelson interviews the Associate Professor of Music Education at Indiana University, Dr. Brenda Brenner, who says that the biggest problem with string classrooms today is "basic setup" (18). In Brenner's own writing she encourages teachers to have higher standards for students, "setting the expectation from the beginning that children will have a good position, relaxed motions, a beautiful sound, good intonation, and a musical

approach should be the norm in the beginning string classes" (*Reflecting on the Rationales for String Study in Schools* 50). She also claims, "the error in string education is typically in moving too quickly for students to achieve mastery. Many string method books begin with instrument, bow, and note reading simultaneously, feeding the tendency to move forward without establishing these skills separately" (51). Scaffolding information in ways that students can be successful is incredibly important for elementary students, but Brenner and others feel that the real issue has to do with setting expectations.

In a survey conducted by Melissa Lesniak 75% of respondents (collegiate string faculty) felt that "low standards are prevalent in school string classes" (*Attitudes towards String Education among Collegiate String Faculty* 66). Donald L. Hamann and Robert Gillespie offer some advice on how to set up students for success from the first lesson. Students should learn how to play both sitting down and standing. One activity that they call "Grow an Inch" involves the students imagining that they have string attached to the top of their head and that they are pulling it up towards the ceiling, this helps students lengthen their torso so they are not slouching (*Strategies for Teaching Strings: Building a Successful String and Orchestra Program* 44). Most students will try to play their instrument in guitar position for the first time which is what Hamann & Gillespie recommend. They suggest having students "lift their instrument in the air and gently bring them down to their left shoulders". Students should then "touch the end of their nose, top of the bridge, and scroll with the right index finger to see if they are generally in a straight line" (38-39).

Some sort of shoulder support is incredibly important before students try shoulder position for the first time. Most music stores sell shoulder pads (sculpted sponge) or shoulder rests and there are now cheaper options available for beginning students and their families.

Louise Behrend, one of the authors of *The Suzuki Concept*, writes that Dr. Suzuki "emphasizes the 45-degree hold rather than the flat one, both to project the tone more directly and to encourage the lower arm position. With this angle, almost invariably a shoulder pad will be needed" (68). Angela Harman's book offers activities that have students balance candy on their instrument while holding the instrument with only the support of the left shoulder and jaw. She encourages teachers to challenge students to shake each other's hands and high five each other while walking around the room (17). Students have to get used to multitasking soon, Kristin Turner, states that "bimanual (two-handed) coordination" is a unique challenge for string players (*Establishing Patterns of Excellence* 11).

Left Hand Technique

I start my students with more of a focus on the left hand because I have them do pizzicato, pluck strings, until we do some pre-bow activities. One aid I have always used to help my students learn left hand position has been Finger Placement Markers (FPMs). Bergonzi's *Effects of Finger Markers and Harmonic Context on Performance of Beginning Strings Students* is a well-known article for string educators, I first read it in a string elective I took at University of the Arts. The study found that FPMs helped students play more in tune and begin to develop intonation skills (206-207). A downfall to the tapes are that when heated up by the fingers the tapes can move around on the fingerboard so they cannot be fully trusted to fix intonation. Louise Behrend puts it best, "tapes are not infallible frets", students must also listen and have an "aural target" to determine if they are sharp or flat (69-70).

In *Left-Hand Techniques*, Behrend's co-author, Anastasia Jempelis recommends only giving students a first and third tape because the "concept of the fingers touching for half steps is so important. If the child sees two tapes which are close but not touching, he will forget that his

fingers should touch" (69). In past years, I put four tapes on my students fingerboards and it was a very time-consuming process. Ultimately when I started to teach the concept of "low second figure (F natural and C natural) versus high second finger (F# & C#)" my students were confused by the second tape and felt unsure of where to place their second finger. Thumb placement also creates issues that later affects whether students are using their fingertips. Behrend and other teachers have found success from using a pen to draw eyes on the tip of the thumb and telling students to have their thumb "look at the ceiling". Once students do this their left hand wrist will be dropped and in line with the hand and arm. I often tell my students that they do not want to look like a waiter or waitress balancing a tray on their hand. If their instrument is supported with their shoulder and jaw and their thumb is pointed up the rest of the hand position should fall into place.

Some string educators recommend starting with three fingers down and learning notes in a descending order because they feel that it better supports the left-hand position. Hamann and Gillespie have other helpful activities to help students form good hand position. One example is tunneling, where students use the fingertips to play a note on one string and then can bow the next higher string. Most of time students will accidentally have their fingers or hands touching the higher string and it will screech. Angela Harman recommends drawing on students fingertips where the string should come into contact with their fingers. Slides and taps also help students increase the mobility of the left hand. Once students start playing songs they can be stuck in first position for a long time. Sliding the fingers and thumb up the strings and tapping the thumb lightly on the neck make sure students are not using the left hand to support the instrument instead of using their shoulder and jaw.

Right Hand Technique

In Dr. Suzuki's writings he focuses on the development of beautiful tone from day one using the bow, but string educators are not in agreement of when in a student's learning to start the bow. Some method books start the bow almost immediately, as soon as instrument position is set. Others start the bow after students can pluck an entire D major scale. I plan on doing very different activities with both of my beginning string groups where the bow is concerned. Dr. Suzuki suggests having students start first by finding the natural sound on the D string, they can do this by plucking the string and letting the pitch vibrate and resonate freely (*The Writings of Shin'ichi Suzuki: Where Love is Deep* 82).

Hamann and Gillespie are proponents of balance point bow hold in the beginning, when students hold the bow about a third of the way up the stick (it varies depending on where the bow "balances") (53). Holding the bow at the frog from the beginning can feel heavy and uncomfortable. The very young students in the Suzuki programs use a bow hold where the right thumb is underneath the frog, instead of on the bump. Angela Harman has her students make their first bow holds on pencils or straws. Once students get the shape of the bow hold on a pencil or straw it will be easier to transfer to the actual bow. There are also manipulatives that have been made to help form the right-hand position like bow buddies and pinky houses (see Picture 1 in the Picture Appendix). Bow exercises like windshield wipers, elevators, rocketship, pot of soup, spider crawl, finger taps, etc. help students build strength in these muscles.

The next logical step is to have students learn détaché bowing. Hamann and Gillespie's description of détaché bowing is as follows:

> "This stroke is produced by simply placing the bow on the string and pulling it back and forth. The bow hair should generally travel parallel to the bridge, touching the string about half way between the bridge and fingerboard to get the best beginning sound…. We recommend that students first learn to bow in the easiest part for their instrument: violins and viola in the middle and cello and bass middle to lower half" (*Strategies for Teaching Strings: Building a Successful String and Orchestra Program* 58-59).

Marian Schreiber, one of the authors of *The Suzuki Concept*, suggests that the tapes should be added to the bow to help students learn where to stop the bow or where to change direction (44). An activity that does not require the instrument or bow, that Hamann and Gillespie mention, is to have students hold out their left arm and move their right-hand along the top of the left arm as if they were bowing. This way students do not move their right upper arm or shoulder and instead hinge at elbow. They also recommend bowing through paper towel rolls, rosin bowing and buddy bowing to help make sure the bow is straight. I often ask students to practice in front of the mirror at home, but I plan on putting one in my classroom so students can see for themselves if their bow is straight.

An interesting antidote Dr. Suzuki tells is about using the bow is when, "one day over forty years ago, I tried playing the violin holding the bow at the tip, and a beautiful sound with ample volume came out" (*The Writings of Shin'ichi Suzuki: Where Love is Deep* 77). Since the bow is not weighted the same at the tip as at the frog it would produce a different sound, but I love that he was curious and tried it. It is the kind of thing a student would try while experimenting on their own. Wesley Baldwin prefers using the term "bow weight" because he feels that the term "bow pressure" invites forcefulness in a student's playing and often causes bad tone (*How to Get the Best Sound from a String Orchestra: Tips for the Music Teachers on*

How to Improve the Sound of Their Strings 31-32). Baldwin says besides bow weight, the other two components to good string sound production are bow speed and contact point.

Gillespie and Hamann conducted a survey about the status of orchestra programs in American public schools. One of the most interesting findings to me was that, "one out of every three people teaching orchestra in schools is not principally a string player" (*The Status of Orchestra Programs in the Public Schools*, 84). I can see how it might seem like a disadvantage to have an orchestra teacher who is not a string player, but I was encouraged that the same people who responded said that "attendance at string workshops during the summer or on weekends was their most helpful post-graduation teacher training" (76-77). I feel fortunate that I have had the opportunity to take classes focusing on string pedagogy at the University of the Arts and that I my string colleagues are always willing to help. After all, any chance I get to improve my teaching for my students is worth the extra effort.

Chapter 3: Note vs. Rote Study and School Background Information

Explanation of Different Groups

The purpose of this study is to find out the impact of Suzuki concepts, games and activities on beginning strings students. Both the Suzuki group and control group will consist of first year violin and viola students. Berwyn Heights Elementary (Suzuki group) and Greenbelt Elementary (control group) are both part of Prince George's County Public Schools in central Maryland. Please see Appendices A and B for a more complete list and lesson by lesson breakdown for each group. Both groups will participate in activities in the following categories (the bolded categories are activities that only the Suzuki group will do):

1. Instrument and bow parts & care/maintenance
2. Posture
3. Instrument Position (Violin/Viola)
4. **Hand/Finger Strengthening Exercises (both left and right hand)**
5. Right-hand position
    - Pizzicato
    - **Preliminary bow hold exercises**
    - Bow
        - Introducing the bow
        - Holding the bow
        - **Bow Games and Exercises**
        - **Pre-string bowing**
        - Bow on string
6. Left-hand position (Violin/Viola)
7. **Tone building**
8. **Review Games**
9. **Rote songs**

Assessment Information

Groups will be formally assessed six times: three playing tests and three note reading tests of varying difficulty. The first note reading test will only use the notes D and A, the second will include the notes between D through A (D, E, F#, G, A), and the third will include all the notes in the one octave D major scale (D, E, F#, G, A, B, C#, high D). All of the playing tests

will be from the county approved method book, *String Basics, Book* 1 by Terry Shade and Jeremy Woolstenhulme. Playing test 1 will be number 118 line B, this will be a pizzicato accompaniment part to *Lightly Row*. The B line only uses the open D and A strings with quarter and half note rhythms.

Playing test 2 is number 41, *Good King Wenceslas*, students will need to be able to use their first, second and third fingers on the D string to play E, F#, and G. Students who have learned how to hop their fingers from string to string and tunnel the fingers will perform better. One of the challenging parts is measure 1 and 2 when students have to play an open A with a G preceding it and immediately following it. Playing test 3 is to be performed with the bow and is a D major scale in quarter notes, ascending and descending. Students will use SmartMusic in class to take playing tests, the green line helps my students track across a page of music and helps get them back in the right place if they make a mistake. However, neither school has access to SmartMusic's recommended microphone for assessments, instead I will assess students with the county approved playing test rubric (see Appendix C).

School Background Information

This study involves fourth through sixth grade beginning violin and viola students from two schools located five minutes away from each other in Prince George's County, Maryland. Berwyn Heights Elementary School (Suzuki or test group) is a unique school because it is one of the few elementary schools in the county that still goes from Pre-kindergarten up to sixth grade. Over half of the instrumental music students at Berwyn Heights borrow a school instrument, at no cost to their family. Sixty-eight percent of the approximately 450 students participate in the free and reduced lunch program. The student population is predominantly Hispanic and hosts a large number of English Language Learners.

Greenbelt Elementary School (traditional or control group) goes from Pre-kindergarten to fifth grade. There are just over 600 students with a 55% participation rate for the free and reduced lunch program. Just over a third of the instrumental music students borrow school instruments, the other students are fortunate that their parents can rent from local music stores. The student population is predominantly African American. Both schools offer an instrumental music program that includes a band and an orchestra. Fourth grade students and up have the option of enrolling in this program, it is not a required course. Students meet twice a week for 30 minutes of small group instruction. Groups are typically homogeneous, by instruments, unless the schedule is changed for testing, assemblies, etc. Later in the year, groups are sometimes reorganized into heterogeneous groupings, by ability level.

The Suzuki violin group consists of 12 students: 10 fourth grade and 2 sixth grade students, 6 boys and 6 girls. The Suzuki viola group consists of 10 students: 9 fourth grade students and 1 sixth grade student, all of these students are girls. The traditional violin group consists of 12 students (one student was removed after the second playing test and note reading test), all fourth grade students, 6 boys and 6 girls. The traditional viola group consists of 7 students, all fourth grade, 4 boys and 3 girls. Although the Suzuki group contains 3 sixth grade students, there is no advantage because these students have not played violin/viola before this year.

Study Information

This study will occur from the beginning of September 2016 to the end of October 2016, if lessons are cancelled for any reason the study will continue into the beginning of November 2016. This timeframe will include at least 16 lessons but possibly up to 20. Throughout the study, students will be learning the basics of how to play violin/viola, but the Suzuki group will

be taught primarily without notation until towards the end of the study. The Suzuki group will start doing pre-bow activities from almost the first lesson and the traditional group will learn how to use the bow after they can pluck all of the notes in the D major scale. The traditional group will start using the method book immediately while the Suzuki group will participate in rote learning, hand/finger strengthening exercises, bow games, etc. Suzuki group will also be using various manipulatives to help form good hand position and bow technique.

Suzuki lessons will include a variety of activities, mainly the lesson will be split into some left-hand technique and some right-hand technique. The lessons will be organized in a spiral curriculum format where each activity will build on the next, with plenty of opportunity to review and repetition. Gradually both hands will be added until students can bow while changing pitches with the left hand. Towards the end students will use notation, but will go back to just pizzicato and reading notes or just bowing open strings. Finally, all three skills will be combined.

Normally, when I teach the parts of the instrument and bow along with care and maintenance I use the method book pages. Instead, I will have students in the Suzuki group sing the instrument parts song with me using a ditto with the parts labeled. The song is basically a scale where the teacher asks the class by singing on the same pitch, “Where is the scroll?” and the class answers on the same pitch while pointing to the scroll, “Here is the scroll.” The teacher continues on the next pitch with a different part of the instrument or bow, up and down the scale until all the parts have been identified. Students in the Suzuki group will build strength in their left and right fingers and hands by doing exercises from Angela Harman’s book like popcorns and knuckle wars.

The popcorn exercise has students tap the first through fourth fingers (index- pinky) on their thumb right next to their ears so it sounds like popcorn popping. This exercise is especially

important when students start changing notes on the fingerboard, beginning students sometimes struggle with pressing the strings down and moving their fingers purposefully. Knuckle wars require a partner, again students are to touch their first through fourth finger to their thumb, but this time the goal is to keep their fingers curved slightly. The challenge is when the partner, with a reasonable amount of pressure, will try to press on the knuckles to collapse them. Students should try to keep their fingers curved and not flatten them out when the pressure is applied.

The Suzuki students will also participate in activities to help with their posture. I will give each student two pennies to hide under their feet. Their feet have to be further out from their chairs so they are sitting on the edge of their seat, their ankles should be directly underneath their knees. Another game we will play to help with posture will require students to stand up when I signal. If they are sitting on the edge of their chair it should be easy to pop up without much effort and interruption to a song we are playing.

The Suzuki students will also spend time building strength with their instrument position. First, I will make sure each student has some sort of shoulder support. I have extra sponges and rubber bands or shoulder rests for students to use. Students will be shown how to get into shoulder position from the "Statue of Liberty" method: bringing the instrument down to the shoulder from above. They will be told to drop their jaw on their chin rest and line up "nose, bridge, scroll".

One of the activities we will do is "ruff-ruff" which I read about in Angela Harman's book. Every time the teacher says, "ruff-ruff" the students have to pat their legs with both hands while still supporting their instrument in shoulder position. Another fun game, with a lot of variations, is a balancing game. First, I will give students little balls of crumpled up paper to balance on their instruments while sitting, standing, raising their arms, waving hello, high fiving,

shaking each other's hands, walking around, etc. Once they can do that with some success, I will give them lollipops to balance and they will not want to drop those on the ground because at the end they can eat them.

The freeze game can be used for instrument position and hand position. When the teacher says "freeze" everyone stops moving so the teacher can point out good position or help fix bad position. Relay races are exciting for the whole class, I plan on doing a race where students have to pick up marbles with their index finger and thumb, middle finger and thumb, ring finger and thumb and finally their pinky and thumb. Younger students are still forming strength and dexterity in their fingers, especially weaker fingers like the 3rd and 4th fingers. Next both classes will learn how to pluck the strings first, but the traditional class will continue to pluck while the Suzuki class learns to bow early on.

The preliminary bow exercises will be started immediately. Students will first learn the shape of the bow hold by doing bow hold "bunnies" on straws and pencils before the actual bow. We will also do a bow hold relay race with pencils and a partner activity where we check off the qualities that make a good bow hold. When we first use the actual bow, I plan on putting dots on their fingers with a marker where the contact points will be. Manipulatives are helpful for students so I will also use corn cushions on the bump of the frog so students know where to put their right hand thumb. Another educator, who I met in a class over the summer, showed me a great way to make "pinky houses" out of plastic tubing. In the past I have made paper ones that do not last very long, plus I had to use electrical tape to get them to stay on each student's bow, which took a long time to do. I am looking forward to the ease and durability of the plastic ones. Another more expensive manipulative I have invested in is a very small real bow. The twinkle

bow is great for students who are struggling with the weight of the large bow because they can still use it like a normal bow (see Picture 2 in Picture Appendix).

We will be doing bow exercises to build strength and we will play more balancing games. Students will put a penny on the back of the hand while doing the "elevator" and the side of the hand for "rocketship". For one class we will be using balloons and bows, each student will each get a balloon and will have to keep them up in the air with only the tip of their bow, while doing a perfect bow hold. I will not blow the balloons up too much because I do not want them to pop too easily. The next step will be to put the bow on the string.

Before doing these exercises we will talk about bow placement, weight/pressure, keeping the bow straight, etc. One of the first exercises we will do is called, "bow wiggles." Towards the middle of the bow students will sink their arm down, then try to move the bow just a little without making any sound. They will wiggle the bow three times, then pull the bow down for a rich full sound. We will also do "rock n' rolls" so the elbow travels to the different levels for each string. We will also use the mirror in the classroom to make sure the bow is straight.

Betsy Maliszewski recommended, in MMED 657: Foundations of Teaching Strings for Music Educators, doing the "I like chocolate ice cream" rhythm on each string for warm-ups. These warm-ups will help students improve their tone over time. I also plan on having videos of amazing violinists and violists, like Lindsey Stirling and Jeremy Green, cued up while students are getting set up for class. Part of the class time will also be spent on the left-hand position. I will do the smiley face on the thumb so students can have it peer over the fingerboard at the other fingers. I also want to put dots with a marker on each of the fingers to show where the contact point should be with the strings. Another manipulative I would like to add to the side of

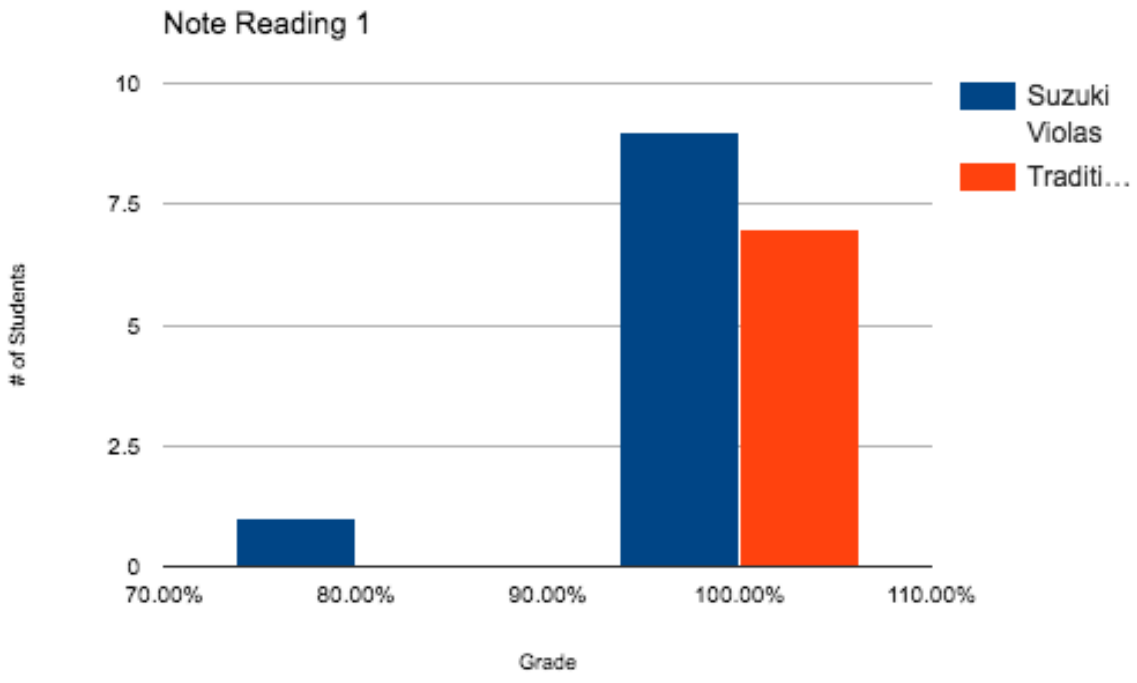
the neck is a fuzzy piece of felt that has an adhesive on the other side. This will help anchor the students thumb to the correct place on the neck for first position.

An activity that a colleague recommended was using a clothes hanger to help students understand their arm weight. Both arms' weight should be utilized while playing, the left arm helps the fingers press the strings down to the fingerboard and the right arm helps the bow have weight to make sound. The students should think of their arm on the clothes hanger like a "monkey swinging on a branch". Angela Harman's book has an activity where students put a marshmallow where the left-hand thumb touches the neck. This activity is to help students remember not to squeeze or choke the instrument because eventually their thumbs will start moving out of first position. We will also play "Strawley Says" to review concepts. Much of the music I teach the Suzuki group will be taught by rote and we will repeat songs on each of the 4 strings. Some of these rote songs will be: Hot Cross Buns, Mary Had a Little Lamb, Twinkle Twinkle, and the D major scale. I am looking forward to trying these new activities with my students. I know that not every activity will be a breakthrough to every student but, I hope at least one student benefits from this hands on approach.

Chapter 4: Analysis of Results and Conclusion

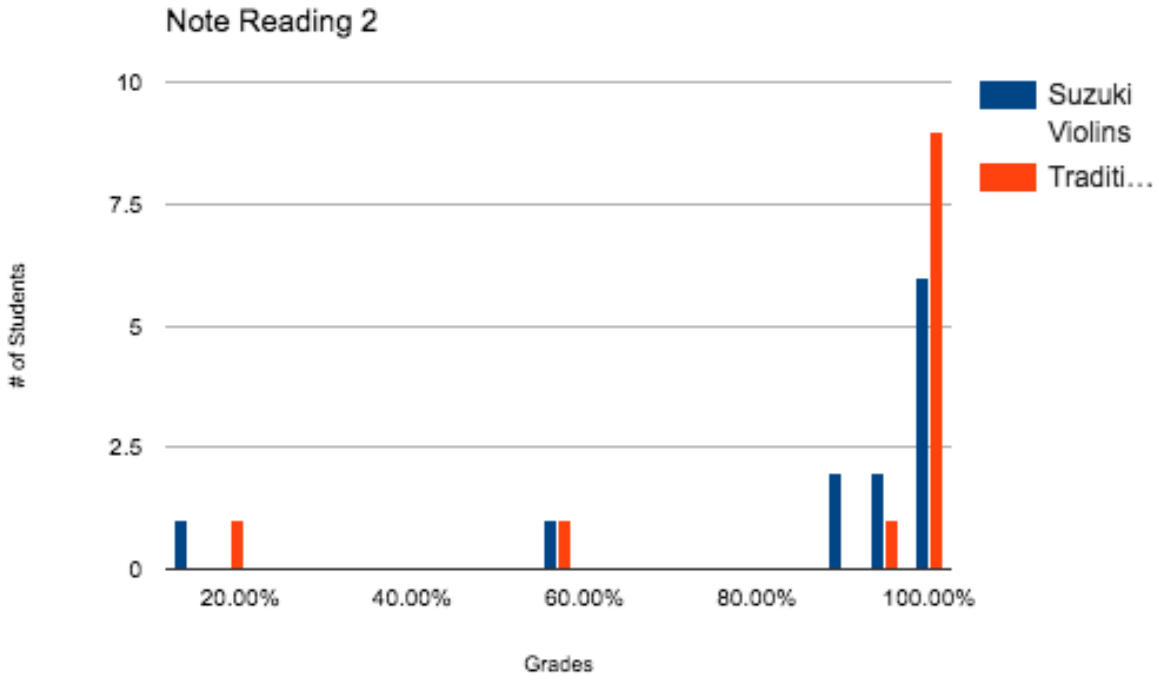
Results: Note Reading Tests

The averages for students in both the traditional and Suzuki group for Note Reading Test 1 were all passing. The Suzuki group average was 94.8% and the traditional group was 92.9%, the difference between the groups was not significant. Overall the violas from both groups performed better than the violins on this assessment, 99% to the violins' 88.75%. All seven viola students from the Greenbelt ES/Traditional group got perfect scores and in the Berwyn Heights ES/Suzuki group all but one student could tell the difference between D and A on the alto clef staff (see Note Reading 1 - Viola Suzuki vs. Traditional Graph below). More graphs for this assessment can be found in Appendix E.



Note-reading test 2 presented more of a challenge because students had to identify the notes D through A on the staff. The Suzuki violins averaged a 86.75% and the Suzuki violas

averaged a 93.3%, overall Berwyn Heights had an average of 90% while Greenbelt had a 94.6%. The traditional violin group scored a 89.25% and the violas again all received perfect scores. For this assessment the most surprising data was the difference between some of my violin students' understanding. The majority of both violin groups scored high, but each group had a few students who had minimal understanding of what they were being asked to do, the lowest score was 14% as evidenced by the graph below (Note Reading 2 - Violin Suzuki vs. Traditional Graph).

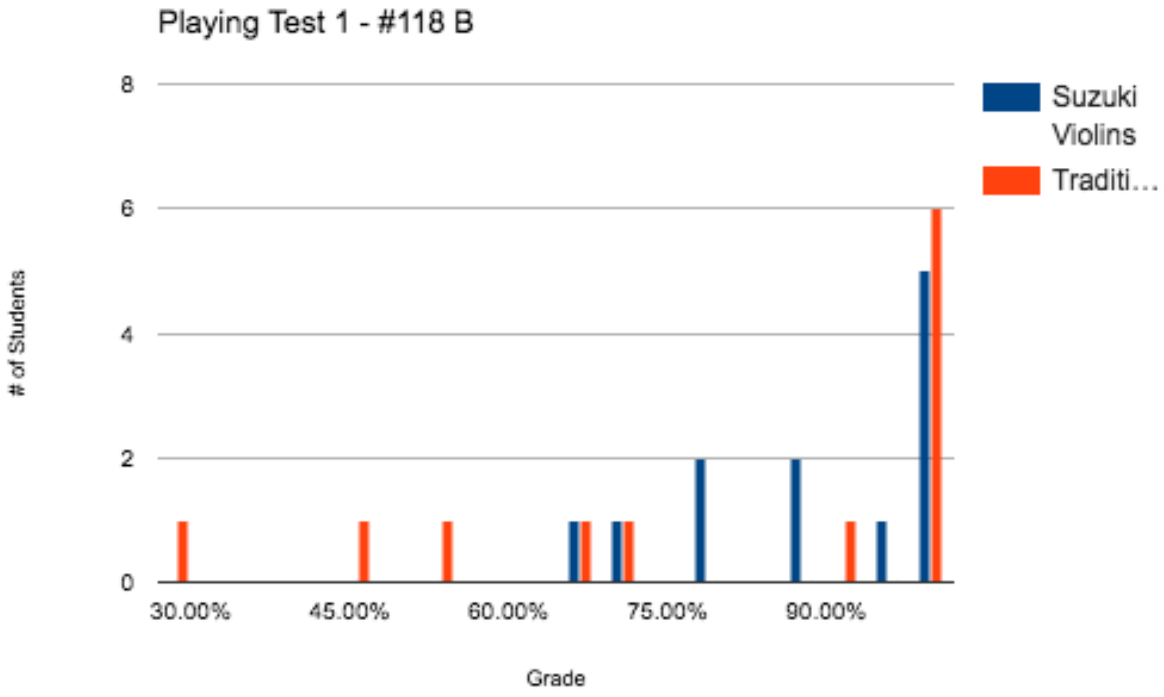


The final notation assessment, Note Reading Test 3, resulted in lower scores for all groups than the previous tests. Students did not improve over time, but that could be because the third test had 8 notes (D through high D). The Suzuki violins averaged 85%, Suzuki violas averaged 82%, traditional violins averaged 91.9% and the traditional violas averaged 88%. The traditional groups averaged a 90% compared to the Suzuki groups 83.59%. I expected the

traditional groups to be more comfortable with music notation initially. Still though, I had hoped the Suzuki groups would quickly latch onto notation after having played the D major scale sooner than the traditional groups. It is worth mentioning that Student 25 was removed from Instrumental Music before this assessment. His parents' reasoning was that he could not keep up with his classwork in his other classes since the instrumental music program operates with pull-out lessons during the day. Also they said he was not practicing enough for them to want to continue to rent the instrument, as it was expensive. More graphs for all the note reading assessments can be found in Appendix E.

Results: Playing Tests

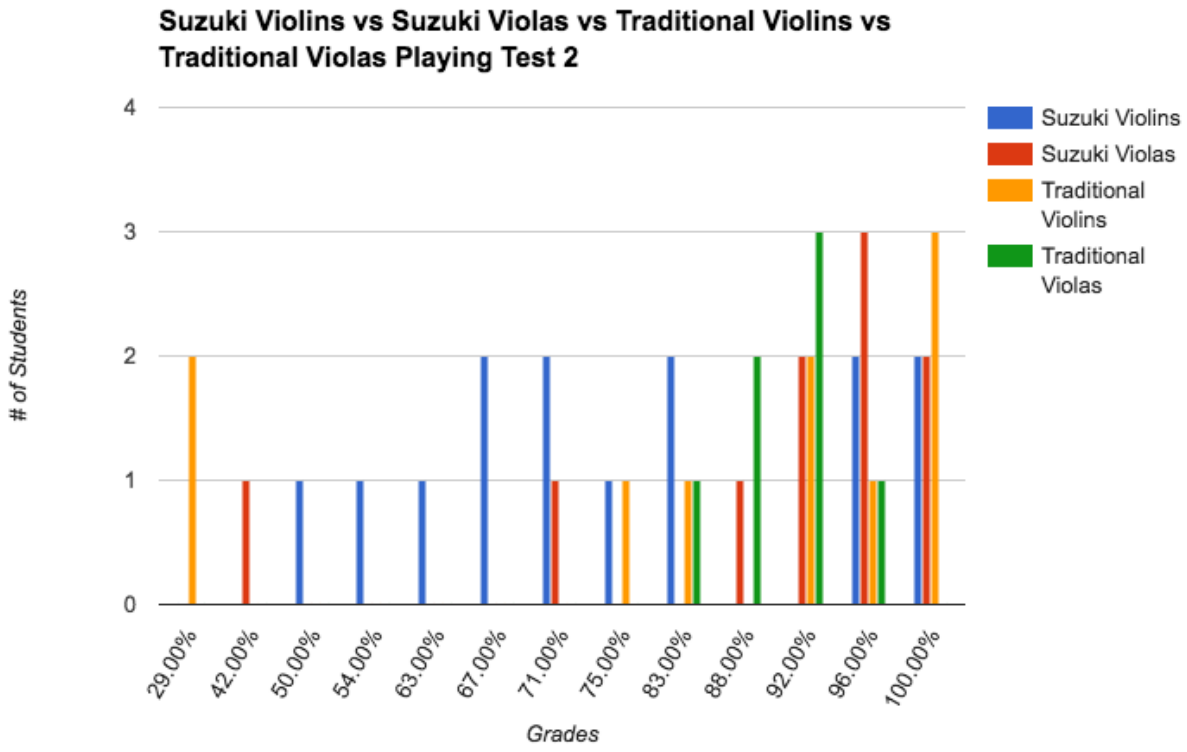
Playing Test 1 was performed pizzicato, and much like Note Reading Test 1, it only used open D and open A. The Suzuki groups scored slightly higher overall (90.2%) compared to the traditional groups (89.95%). The traditional viola group performed the best out of all the groups. Students made most of their mistakes in the playing position category and in note/rhythmic accuracy. Many of my comments for both groups were "slouching, instrument position too forward/needs to be off to the left side of body." The students who struggled the most appeared to get lost while they were playing and were too flustered at times to get back on track. I had hoped SmartMusic would help with tracking the music, but it did not seem to help enough. One of the challenges was that this exercise was two lines long and it was a duet, so students also had to track the A line versus the B line. Any of these reasons could have attributed to those students' struggles. The graph below (Playing Test 1 - Violins Suzuki vs. Traditional) shows that the Suzuki violins were mostly in the passing grade section of the graph, however there still were some students who received a failing grade.



Originally, I intended for Playing Test 3 - D Major Scale to be the most challenging for my students; however, the results showed that most students (from both Suzuki and traditional groups) struggled with Playing Test 2- Good King Wenceslas more than the other two playing tests. The Suzuki violins averaged 78.5%, the Suzuki violas averaged 87.3%, the traditional violins averaged 77.5%, and the traditional violas averaged 90.14%. The traditional groups averaged 83.82% compared to the Suzuki groups' average of 82.9%. Again the scores were very close, making it difficult to come to definitive conclusions. Most note accuracy errors were made in measures 3 and 7, which are identical. Students struggled with the stepwise movement: E D E F# G-> G->. Some students from both groups had note names written in, but that did not seem to help with their performances, but rather their journey of learning of the music.

A handful of the Suzuki students chose to bow this test since they were comfortable with playing arco. All students in the traditional groups played pizzicato, no students were given extra

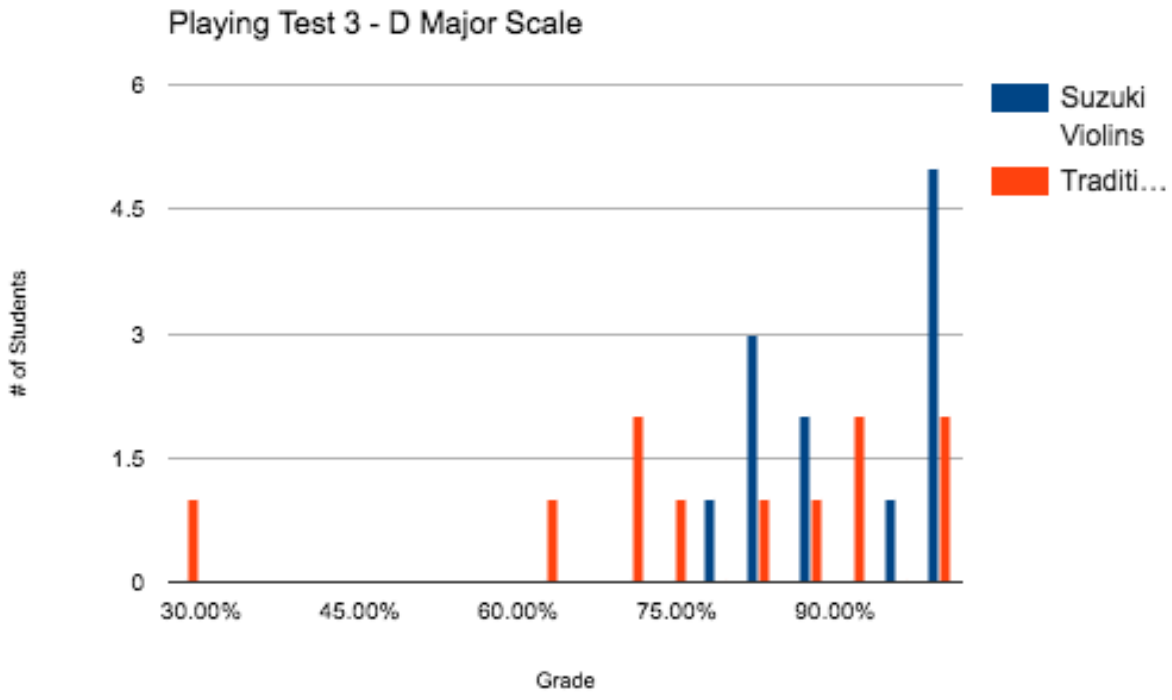
points for bowing. Most of the comments given were about the left hand techniques such as "tunneling, using finger tips, keeping knuckles bent/no flat fingers, dropping wrist/not collapsing wrist, etc." Below is a graph that includes all four groups' scores for playing test 2. The students in the traditional viola group all scored within eight percentage points of each other while the other groups ranged from 50 to 71 percentage points from highest to lowest scoring.

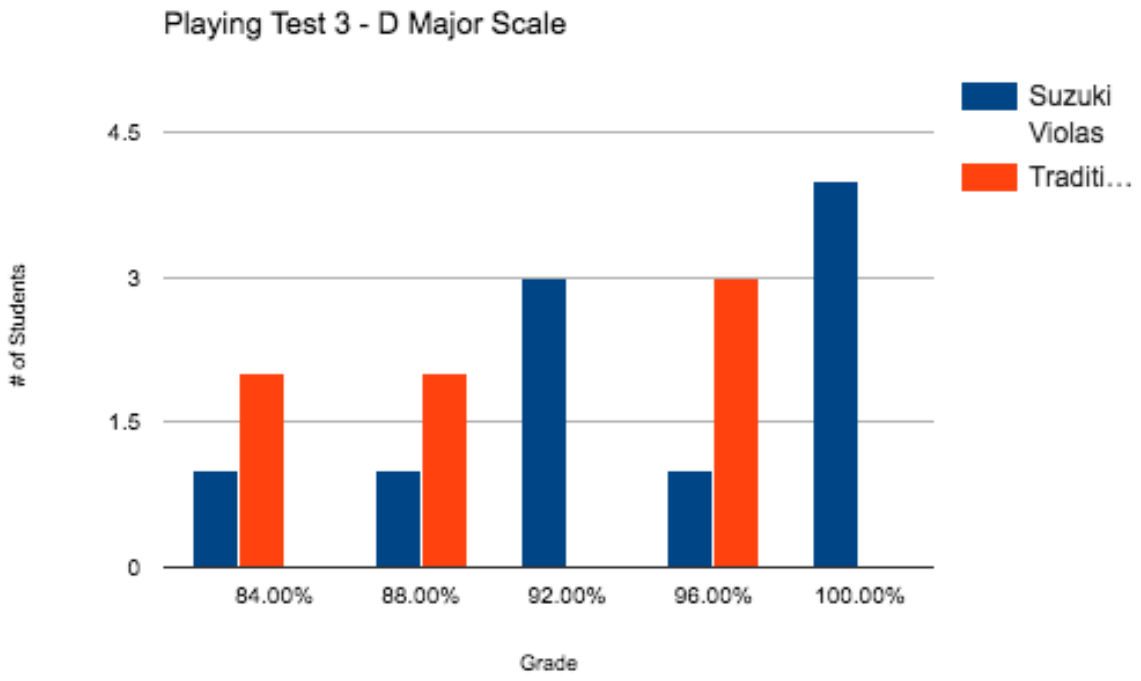


For the final playing test, D Major Scale, all students were required to use the bow. The Suzuki violin group averaged 91.6%, the Suzuki viola group averaged 94.3%, the traditional violin group averaged 78.54%, and the traditional viola group averaged 90%. Overall the Suzuki groups performed better (92.98%) over the traditional groups (84.27%). As I studied the comments from this playing test, it became obvious that students who struggled with the other playing tests because of note reading or left hand concerns did better with the D Major Scale

because they memorized the finger pattern. The Suzuki groups spent more time on pre-bow activities and were more comfortable using the bow.

Many of the comments on the traditional groups' tests were that students needed to use more bow for a better sound and that their bow was crooked/not straight. Having the mirror in the Suzuki classroom immediately remedied right hand technique on the first lesson where we put bow to string. I will be putting another mirror at the other school so students can self-assess themselves in class, instead of hoping they remember to practice in front of a mirror when they go home. There are two graphs below, the first compares the Suzuki violins and the traditional violins and the second compares the Suzuki violas and the traditional violas. In both graphs the Suzuki groups have the higher scores. Below the graph there is a chart listing the students by group and their scores for the different tests.





Student Numbers	**Note Reading 1**	**Note Reading 2**	**Note Reading 3**	**Playing Test 1- #118 B**	**Playing Test 2 - #41**	**Playing Test 3 - D Major Scale**	
(Suzuki	Group)-	Berwyn	Heights ES				
Violin (12):							**Key**
Student 1	40%	95%	94%	79%	63%	88%	A= 90-100%
Student 2	80%	90%	94%	67%	71%	83%	B= 80-89%
Student 3	100%	100%	100%	100%	96%	100%	C= 70-79%
Student 4	100%	100%	100%	100%	100%	100%	D= 60-69%
Student 5	100%	100%	100%	96%	96%	100%	E= <60%
Student 6	100%	100%	100%	100%	83%	100%	
Student 7	100%	57%	72%	79%	50%	79%	
Student 8	100%	14%	17%	88%	54%	88%	
Student 9	90%	100%	100%	100%	100%	100%	
Student 10	90%	95%	100%	88%	75%	83%	
Student 11	100%	90%	44%	100%	83%	96%	
Student 12	100%	100%	100%	71%	71%	83%	
Viola (10):							
Student 13	80%	100%	94%	100%	96%	100%	

Student 14	100%	86%	50%	75%	71%	88%	
Student 15	100%	100%	94%	100%	100%	100%	
Student 16	100%	100%	67%	92%	92%	92%	
Student 17	100%	95%	100%	96%	96%	92%	
Student 18	100%	100%	83%	88%	92%	100%	
Student 19	100%	100%	89%	100%	96%	96%	
Student 20	100%	95%	100%	100%	88%	92%	
Student 21	100%	57%	44%	63%	42%	83%	
Student 22	100%	100%	100%	100%	100%	100%	
(Traditional	Group)-	Greenbelt	ES				
Violins (12):							
Student 23	50%	95%	100%	67%	67%	71%	
Student 24	50%	100%	100%	71%	75%	75%	
Student 25	50%	57%	No longer in orchestra	46%	29%	No longer in orchestra	
Student 26	100%	100%	100%	54%	67%	63%	
Student 27	100%	100%	94%	100%	100%	100%	
Student 28	100%	100%	100%	100%	92%	88%	
Student 29	100%	100%	100%	100%	100%	92%	
Student 30	100%	100%	100%	100%	100%	100%	
Student 31	100%	100%	78%	92%	83%	71%	
Student 32	100%	100%	100%	100%	92%	83%	
Student 33	80%	19%	39%	29%	29%	29%	
Student 34	100%	100%	100%	100%	96%	92%	
Violas (7):							
Student 35	100%	100%	100%	100%	92%	96%	
Student 36	100%	100%	94%	100%	88%	88%	
Student 37	100%	100%	100%	100%	92%	88%	
Student 38	100%	100%	56%	100%	83%	83%	
Student 39	100%	100%	67%	100%	96%	96%	
Student 40	100%	100%	100%	100%	88%	83%	
Student 41	100%	100%	100%	100%	92%	96%	

Conclusions

Before I start to draw conclusions on the data collected, I feel it is important to mention some of the circumstances that could have impacted this project. One major issue that all teachers deal with is interruptions to the schedule. Since I am an itinerant teacher, I sometimes

am not informed of last minute changes to the schedule. I often find out about assemblies, field trips, standardized testing, etc. last minute. Luckily, I have improved when it comes to combining groups and improvising adjustments so I can see all of my students, even if only for an abbreviated lesson. PGCPS is one of the 'most tested' public school systems in all of Maryland's 24 counties, which means that students spend above average time on standardized tests and test preparation. Fortunately, we are moving in the right direction with the More Learning, Less Testing Act of 2017.

Another consideration is the physical space I teach in at each school. At Berwyn Heights Elementary School, I teach on the stage, which is part of the cafeteria. Unlike most stage-classrooms, where there is only a curtain barely blocking out distracting lunchtime sounds, I am blessed to have a temporary wall that folds up easily. Also I have a mounted projector and decent set of speakers so we can use SmartMusic in our lessons. Last year at Greenbelt Elementary School, I shared a classroom with the part-time general music teacher, but this year the school needed two full-time general music teachers. Instead of working out a shared space schedule where we could alternate using the classroom, computer lab, etc. I was given a closet to teach in.

This closet was previously used to store extra chairs for assemblies and church on the weekends. Most of this year I have been rethinking how to do my job at this school. First I had to figure out how many students could fit in this closet at one time safely and relatively comfortably. The answer was at the most 12 students, but once the string classes started to use the bow it was very crowded! The 2015-16 school year I had over 20 beginning violin students, but this year I instituted instrument caps for 4th grade. Once 12 students signed up for violin and all the spots were full, students would have to pick another instrument to play. Obviously I

would never choose to do this again because I want students to play their first choice instrument, but it was done out of necessity.

One of the only saving graces is that this closet was built off of the cafeteria and has half of the stage next to it (the stage is split by a two-story high, motorized wall that divides the gym and cafeteria. For 4 lesson slots in the morning and 2 in the afternoon I was able to use the cafeteria for larger group lessons like 2nd year orchestra, 2nd year band, etc. The half of the stage that the closet was next to was used to store the instruments for the day so they did not take up space in the teachers' classrooms. The stage also has the only electrical outlet, so all year I have been running an extremely long power cord from there to the cart with my computer, speakers, and projector set-up. Though this sometimes negatively impacted my classes this year, overall I feel like I handled this as well as I could.

As much as I would like to take credit for my students successes in music, I know that our school's general music teacher(s) should be credited. At Berwyn Heights Elementary School there is only one general music teacher, but she is one of the role models in the county. She goes above and beyond for the students by planning fun and engaging lessons. The 6th graders last year wrote their own musical, she does a 4th-6th grade chorus, recorders for 3rd-4th grades, and this year she started ukuleles. She uses technology in each lesson though Staff Wars, SmartMusic, Quaver, YouTube, etc. Some students come to band and orchestra already very confident in reading treble clef music.

At Greenbelt we have had a lot of teacher-turnover so our one general music teacher is a first year teacher, but she has done a great job this year of trying new activities with the students. They just wrapped up a unit using GarageBand with the mobile computer carts. The main general music teacher for the past 5 years is focused on becoming an administrator so his heart

has not been into preparing for his classes. He ordered the recorders so late that it has now become the unit for the 4th quarter instead of the 3rd quarter like it is recommended in the curriculum. At both schools my students learn how to read treble clef with their general music teachers so that certainly could have impacted the results of all three note reading tests.

The viola students cannot use much of the note reading strategies in general music, but I do try to recruit certain students to play viola. A colleague in my county told me her very successful way to do recruitment and I have been doing it ever since. She showed me how to pull off an instrument petting zoo my first year teaching and the 3rd grade students really look forward to doing it at the end of the year. Students get to try all the string and band instruments and I clean all mouthpieces in between students. This way students choose an instrument more based on what they have experienced and less on what someone else says or thinks. Many students normally want to play violin so in order to excite students about viola, I ask who gets A's and high test scores in reading/writing class. I tell them how alto clef is more challenging to read and how only the brightest students play viola. Once students hear that everyone plays violin and that viola is more rare, special, and unique, some students are usually sold.

While I was looking through my data it was interesting to me that the traditional viola class, which was the smallest class, did better on the majority of the assessments. I think most people would say class size makes a difference when students are trying to learn new skills like how to play an instrument. I certainly felt like this group had more time for feedback, extra practice, and personal attention. Future studies on how class size impacts results in elementary instrumental music would be evidence for why programs still need sectionals. Other future studies could test whether Suzuki concepts could be used in teaching band instruments, or if age-

level affects success in Suzuki classes. Most students are younger when they start Suzuki classes, but could this method be used to teach adolescents or even adults?

I hope that some of my colleagues can use my work in their own classroom and I look forward to sharing ideas with other teachers that might be new to teaching strings. I still have a lot to to learn when it comes to string pedagogy, but this project has been very valuable for me and my students. It has given me the opportunity to try new teaching methods and activities. I even started some of these activities at Greenbelt Elementary (traditional group) in January and February and I have noticed significant improvement, especially in bow technique. The time I once spent wondering what will help my students succeed has been realized through research and discussion with strings specialists. I am pleased that the result is that I have more tools than ever for teaching beginning strings. This experience has been a beneficial way to reflect on my teaching and has me looking forward to exciting new activities I can do with my beginning string classes.

APPENDICES

Appendix A: Lesson Outline (Suzuki Group)

Test Group (Berwyn Heights Elementary School
Tuesday, September 6th, 2016

- Procedures/Rules & Consequences
- Commitment and Handbook Forms
- Folders (pass out and put names on)
- How to read a schedule and use sectional passes (optional)
- Practice Log
- Supply List, Loaner forms, Instrument (Rent, ?)

Thursday, September 8th, 2016

- Collect Forms
- Establishing clear procedures:
    - Getting quiet
    - Where to put cases and how to unpack instruments.
    - Label cases
- Instrument and bow care (show presentation)
- Rest Position
- Instrument Parts Song (Suzuki) (also give ditto)
- Preliminary bow hold exercises
    - Popcorns (both hands): tips of each finger hitting the thumb creates a popping sound.
    - Knuckle Wars (both hands): partners needed, index finger touches thumb and partner pushes on knuckle closest to nail to try to make it collapse.
    - Floppy hands (both hands): gently flap relaxed hands.
- Mini-Workout with music (combination of popcorns, floppy hands, rotating wrists circularly both directions using different rhythms) Use "I Like to Move It" by Crazy Frog.
- Bow hand bunnies (just right hand): relaxed hand with curved thumb, bend thumb and touch the middle of the 2nd and 3rd fingers, first straight then bent.

Tuesday, September 13th, 2016

- Review/Warm-up:
    - Parts of instrument song
    - Bow exercises to "You Spin Me Right Round" - Chipmunks. (combination of popcorns, floppy hands, rotating wrists circularly).
    - Getting quiet.
    - Where to put cases, set up.
- Explain importance of good position for good tone.
- Bunny bow hold with straws
- Instrument Position (Violin/Viola)
    - Ruff-ruff game: teacher says "ruff-ruff" and students have to let go of left hand on instrument and pat legs with both hands as if calling a dog to them.

    - Balancing game: put a balled up piece of paper on one side of fingerboard while in playing position. Holding instrument with weight of head and have left hand on right shoulder. Countdown from 10 to begin game. Have students do different tasks like sitting/standing, giving a high-five or handshake to their neighbor, walking around the room, etc.
    - Freeze! Game: weird position? Have everyone freeze and take away instrument to see/point out the strange angle of arm (etc) correct and move on.
- Hide the pennies game: good posture- knees over top ankles
- Pizzicato: Where to put right hand to pluck.
- Names of open strings: The Ants Song
    - Open string fingering charts/ditto.

Thursday, September 15th, 2016

- Review/Warm-up: Playing position, string names, The Ants Song, Ruff-ruff game
- Balancing game with lollipops
- Pencil bow hold relay race
- Introducing the bow
    - Parts of bow
    - Tightening and loosening the bow hair
    - Add rosin smoothing up and down the full length of the bow
    - Put a corn cushion where right hand thumb goes in the frog's mouth
- Holding the bow
    - Hold the bow with the left hand at the balancing point
    - Bunny bow hold adjust for real bow
    - Put a sticker on thumbnail so students can see bent thumb through bow
    - Use plastic pinkie houses for violins and violas
- Bow Games and Exercises
- Bow exercises video with music
    - (Rocket ship, windshield wipers), elevators, pot of soup, (spider crawl), side to side- (move the bow left to right with right arm straight to work the shoulder muscles), open and shut- (moving the bow by opening and shutting the elbow), tic tocs- (moving the bow back and forth like a second hand on a clock), pinkie taps (violins and violas), disco- (moving bow from top left to down right)
    - Rhyme: "Up like a rocket, down like the rain, back and forth like a metro train round and round like a great big sun, check your pinkie, check your thumb."
- Pre-string bowing
    - Use the toilet paper rolls so students do not get rosin everywhere. Violins and violas hold the tube up over their shoulder in their left hand and cellos and basses hold it in front of them. Have student echo rhythms.

Tuesday, September 20th, 2016

- Review/Warm-up: finger strengthening activities, instrument rest and playing positions, plucking songs and open strings, bow hold and bow games
    - Popcorns and Knuckle Wars – are you getting stronger?
- Marble Relay Race. (right hand) Thumb and index finger, thumb and middle finger, thumb and ring finger, thumb and pinkie.

- Instrument position. Rest, Ready (stand by, on knee, standing in front of music stand), Playing. Let students have a turn doing conductor job…have them point out who is doing rest, ready, playing well.
- Longest ring contest. Students pluck a string in unison at the right spot on the string. Have them start standing and sit down when they can no longer hear their string.
- Bow hold exercises and games. Stayin' Alive – BeeGees. Rosin bowing- use "I like chocolate ice cream" rhythm, rocket ship, windshield wipers, elevators, pot of soup, spider crawl, side to side- (move the bow left to right with right arm straight to work the shoulder muscles), open and shut- (moving the bow by opening and shutting the elbow), tic tocs- (moving the bow back and forth like a second hand on a clock), pinkie taps (violins and violas), disco- (moving bow from top left to down right)
- Bow hold checklist – have stand partner do it for one another. (bent thumb, thumb is half on frog bump and half on stick, middle fingers above thumb and over the stick—curved, middle of the fingers touch the stick—not fingertips, violin/viola—bent pinky on top of stick, cello/bass—middle finger touches silver—pull open drawer, relaxed/natural.)
- Bow on the string! First time!
    - Bow wiggles (arm weight) put bow 5 inches from bottom, about where the winding starts. Sink the bow into the string so that the stick flexes a little. Then try to move it a little without making sound…with the weight. "wiggle, wiggle, wiggle, pull"
    - Bow placement: not too close to the bridge or the fingerboard. Sweet spot!
    - Set, Sink, Straight, Watch. Only try to use 4 inches of bow at first, keep straight- think of cars on a road, they should not swerve into other lanes.
    - Rock n' Rolls: cross to different strings without making sound.
- Students one at a time go to practice in front of the large mirror to see if their bow is straight/parallel to the bridge.

Thursday, September 22nd, 2016

- Review/Warm-up:
    - Electric Daisy - Lindsey Stirling
    - Hand strengthening games
    - Bow exercises
    - Play position "Strawley Says" Like Simon Says.
    - Plucking songs
- "I like chocolate ice cream" rhythms on each string
- Left hand preparatory exercises (Violin/Viola)
    - Smiley hand- draw a face on the side of the left hand under the pinkie. Student hold up arm without instrument so that their smiley face is about at face level with their own. Relax fingers and point elbow at the floor.
    - Balance on the V- left hand balance a bouncy ball between thumb and index finger first knuckle.
- Introduce Note-reading
    - Music Notation Presentation
    - The True Beginnings: Before the Method Book (pg. 39)
    - Note reading cheat sheet (treble, alto, bass clef)
    - Do #17 on page 6 of String Basics, Book 1

Tuesday, September 27th, 2016

- Review/Warm-up (Bow/Position Warm-ups):
    - Funkytown - Lipps
    - Hand strengthening games
    - Bow exercises
    - Play position
    - Rote warm-ups
    - Copy-cats: "I like chocolate ice cream" rhythm on all strings.
    - Plucking open strings: echoes with a back-up track created by tonematrix. Change notes more frequently.
- Theory/Note Reading
    - Draw 5-7 clefs (on the 1st staff); 5-7 D half notes (2nd staff); 5-7 A quarter notes (3rd staff). (Bell-work staff paper)
- New Material/Rehearse music:
    - Mississippi Reel
    - Pizzicato part (slap strings in rests)
    - "I like chocolate ice cream" rhythm on open strings.
- Homework: practice Mississippi Reel & Note Reading Ditto (alto, bass, treble)

Thursday, September 29th, 2016

- Warm-ups:
    - Bow Games- put a penny on right hand thumb knuckle and do rocket ship, pot of soup, disco. Then put penny on the top of right hand and do elevator and finger taps.
    - Popcorns (both hands)
    - 10 "I like chocolate ice cream" rhythms on each string.
- Left Hand work:
    - Use a marker or highlighter draw dots on the students' left hands.
    - Put a smiley face on violin/viola thumbs.
    - Students should also have a "thumb fuzzy" to mark proper thumb placement on the neck of their instrument.
    - Clothes hanger exercise for a heavy arm.
    - Violin/Viola: watch out for collapsed wrists.
- Left hand notes:
    - Start by showing them a keyboard and how the 7 notes repeat. Have them say "A, B, C, D, E, F, G, repeat."
    - Fill out Fingering Chart. Do the open strings first then the fingered notes. "If the string is open and we press one finger down it makes the note higher or lower?" "What comes after A?" "So the first note of the A string is B." Etc.
- Mississippi Reel (part 1)
    - Students will learn the first 4 notes (High D, C#, B, A – this will be most challenging for bass). First have them play each note 4 times on it's own before changing notes. Try doing G, F#, E, D. Start with fingers on tapes for better hand position. Pluck first then try with "I like chocolate ice cream" rhythm.
- Homework: practice Mississippi Reel & Spelling Words with Notes 1 Ditto (all clefs)

Tuesday, October 4th, 2016

- Warm-ups:
  - Bow Games- put a penny on right hand thumb knuckle and do rocket ship, pot of soup, disco. Then put penny on the top of right hand and do elevator and finger taps.
  - Popcorns (both hands): are they getting louder. Walk around and listen.
  - 10 "I like chocolate ice cream" rhythms on each string.
- Left hand exercises:
  - Let students just tap fingers on a book/music stand in no particular order, quickly- they will do it naturally and without tension. They should feel the heavy strong fingers from popcorn exercises.
  - Rolland & Sevcik (all combination of stepwise notes)
    Example: 0101, 1212, 2323, 3434, 0121, etc.
  - Pizzicato in guitar position first then quickly into shoulder position.
- Homework: practice Mississippi Reel & Spelling Words with Notes 2 Ditto (all clefs)

Thursday, October 6th, 2016

- Bell-work: "List the names of your open strings from lowest to highest."
- Bow/Position Warm-ups
- Balloon Game: give each student a balloon that is not very full of air (so that they last longer- some will pop! And it'll be loud!) They have to keep the balloon in the air with the tip of their bow with a perfect bow hold!
- Rote warm-ups: show the differences between good and bad posture/position.
  - Copy Cats- open strings. Start with "I like chocolate ice cream" rhythm.
  - Add new rhythms like "watermelon, watermelon" (8 eighth notes) and "Yum, yum, yum, yum" (4 quarter notes). Use note cards so they start reading rhythms.
- Theory/Note-reading
  - Reading notes- open strings. Use notecards- give each student a set. Explain that the note furthest down is the lowest, etc. Ask them to put it in order from lowest to highest, vice versa. Let student put them in an order and try plucking their pattern.
- New material
  - D and A string ladder: Review notes that students learned on the strings. Explain that when we add fingers the note gets higher. Start with open A and add a finger while keep the previous ones down. Pause between each note so students have time to place finger. Try 3 quarter notes, 1 quarter rest rhythm. When we get to high D come back down. Do both D and A strings.
  - D scale: Try ascending first.
- Simple Rote Tunes: Hot Cross Buns and Mary Had a Little Lamb. (Use pg. 64-65 of The True Beginnings: Before the Method Book)
- Review/rehearse music
  - Do first 2 measures of Mississippi Reel.
- Homework: practice Mississippi Reel & Hot Cross Buns & Mary Had a Little Lamb.

Tuesday, October 11th, 2016

- Bell-work: "Describe how to perform a 'wiggle pull' with the bow."
- Warm-up:

    - Bow games: paper or plastic cups some have musical notation in them. Students stand in a circle and pass the cups. Cannot pass the cups until the next person has a good bow hold. Have music playing. When music stops check the cups. Student with a special marked cup is out, keep going till all are out.
- D Scale- Ascending and Descending
    - Make sure 2nd and 3rd fingers touch for violin/violas for good intonation. Do scale ascending on each of the rhythm cards, pause between notes to allow time to set fingers.
    - Explain that when moving from open A to G we have to move our fingers really fast to the next string. Relate to karate, chopping a board in half requires speed and power or else it won't break.
    - Explain we have to move our fingers quick and with a lot of weight to get a good sound and to get there in time. Short cut- let violins/violas only put 3rd finger down for G when coming from A- it's okay if the 1st and 2nd finger don't make it in time – the 3rd finger must!
- Left Hand Strength/Left hand pizzicato (new material)
    - Have violin/viola students press G down and try to pluck with the pinky while they press. They can just tap the string. Try playing the Plucking Song and the Ants Song using just LH pizz.
- Rote Tunes – Note Tunes (review- new): Review Hot Cross Buns & Mary Had a Little Lamb. Then teach #31 on page 9 of String Basics, Bk. 1.
- New Music and Note reading: Ragtime Fiddles (part 3)- give music and take them through it. (Point and sing first part, pizz and sing it, Teach part 2 if there is time.
    - Review/New: Mississippi Reel- measure 3-4 of melody.
- Homework: practice Ragtime Fiddles & Mississippi Reel.

Thursday, October 13th, 2016

- Bell-work: "What do you have to do with your bow to create a quality sound?"
- Warm-up:
    - Bow Game: Sabotage- each student gets a penny to balance on their right thumb while doing a perfect bow hold. Students must try to knock off other students pennies without letting theirs fall. Left arms have to be behind students' backs.
- D scale: Do it ascending and descending on the 3 basic rhythms- see rhythm cards.
- Left hand pizzicato: Mississippi Reel (part 3)
- Rote Tune (new material): Twinkle, Twinkle Little Star (pizz.)- no paper, make one or have students write it down somewhere.
- New (play through for reading): page 4-6 of String Basics, Book 1. #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (homework)
- Review: Ragtime Fiddles and Mississippi Reel
- Homework: practice Ragtime Fiddles & Twinkle & Spelling Words with Notes 3 Ditto (all clefs)

Tuesday, October 18th, 2016

- Bell-work: "Create some new words for the "I like chocolate ice cream rhythm."
- Rote Warm-up:
    - Marshmallows: bag of small marshmallows that have been opened over night so are a little stale. Students have to put them in between their left hand thumb and

the neck of their instrument. Do not squeeze/choke the neck- makes the sound/tone worse.

- D scale with a drone on D. Ascending and descending all 3 warm-up rhythms with bow.
- Rote Tune (review/new material): Twinkle, Twinkle Little Star with the bow. Before playing the whole song with the bow do echoes using the "I like chocolate ice cream" rhythm. Say, "Ready, play" each time.
- New Georgia Railroad (part 3): new rhythm, slaps in the rest. Teach rote and give out sheet too.
- New: page 6-7 of String Basics, Book 1. #13, 14, 15, 16, #18, 19 A+B+C, 20, 21 A+B, 22 (homework)

Thursday, October 20th, 2016

- Rote Warm-up:
  - D scale: 4 of each, 3 of each, 2 of each, 1 of each. Use PGCPS Exit Proficiency paper.
- Rote Tune (new material): Twinkle, Twinkle Little Star (harmony version)- no paper, make one or have student write it down somewhere.
- New Georgia Railroad (part 2): straight quarter notes "Yum" or "Ta" syllable. Teach rote and give out sheet too. Try to put it together with students on part 2 & 3 and you play part 1.
- Book: Review- #22. (New) page 8-9 of String Basics, Book 1. #23, 24, 25, 26, 27, 28 & #29, 30, 31, 32 A+B, 33, 34 (homework)

Tuesday, October 25th, 2016

- Rote Warm-up:
  - Ghostbusters – Ray Parker, Jr.
- Hand strengthening games
- Bow exercises
  - D scale: 4 of each, 3 of each, 2 of each, 1 of each. Use PGCPS Exit Proficiency paper.
- Rote tune (review- new=putting it together): Melody + Harmony of Twinkle, Twinkle Little Star.
- Book: (Review) page 8-9 of String Basics, Book 1. #27, 28 (sticker), 31, 34
- Book: (New) page 10. #35, 36, 37, 38, 39, 40, 41 (homework)

Thursday, October 27th, 2016

- Rote Warm-up:
  - Monster Mash - Bobby Pickett (song at 40 seconds)
- Hand strengthening games (popcorns, knuckle wars, roll wrists)
- Bow exercises (finger taps, metro rhyme, windshield wipers)
- D scale: 4 of each, 3 of each, 2 of each, 1 of each. Use PGCPS Exit Proficiency paper.
- Rote/note tune (review): Mary Had a Little Lamb (#31)
- Book: Review- #41. New: #42, 43, 44 A+B, 45, 46, 47 & #48 A+B, 49 A+B, 50, 51, 52, 53

Appendix B: Lesson Outline (Traditional Group)

Control Group (Greenbelt Elementary School)

Wednesday, September 7th, 2016

- Procedures/Rules & Consequences
- Commitment and Handbook Forms
- Folders (pass out and put names on)
- How to read a schedule and use sectional passes (optional)
- Practice Log
- Supply List, Loaner forms, Instrument (Rent, ?)

Monday, September 12th, 2016

- Collect Forms
- Music Notation Presentation
- Note reading cheat sheet (treble, alto, bass clef)
- Establishing clear procedures:
    - Getting quiet
    - Where to put cases and how to unpack instruments.
    - Label cases
- Instrument and bow care (show presentation)
- Rest Position

Wednesday, September 14th, 2016

- Review Parts of Instrument (quiz)
- Playing position – (guitar and shoulder position)
- Posture and Hand Position
- Pizzicato
- Name of strings (homework: make a short song with only open strings- say it and play it and write it down.)

Monday, September 19th, 2016

- Warm-up: review rest and playing position, posture and hand position, pizzicato, and names of open strings
- Objective: open D and A
- Review: listed with warm-up.
- New: page 4-6 of String Basics, Book 1. #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (homework)

Wednesday, September 21st, 2016

- Warm-up: playing position D and A rhythm echoes
- Objective: repeat sign
- Review: #3, 4, 5, 9. 10, 11, 12
- New: page 6 of String Basics, Book 1. #13, 14, 15, 16, 17 (homework)

Monday, September 26th, 2016

- Warm-up: D and A rhythm echoes
- Objectives: whole notes, duet, trio
- Review: #(13, 14), 15, 16, 17 (#17 – sticker in book)

- New: page 7 of String Basics, Book 1. #18, 19 A+B+C, 20, 21 A+B, 22 (homework)

Wednesday, September 28th, 2016
- Warm-up: D and A rhythm echoes
- Objectives: E
- Review: #(18, 19 A+B+C, 20), 21 A+B, 22
- New: page 8 of String Basics, Book 1. #23, 24, 25, 26, 27, 28 (homework)

Monday, October 3rd, 2016
- Warm-up: D, E, A rhythm echoes
- Objectives: F#
- Review: #(23, 24), 25, 26, 27, 28 (#28 – sticker in book)
- New: page 9 of String Basics, Book 1. #29, 30, 31 (homework)

Wednesday, October 5th, 2016
- Warm-up: D, E, F#, A rhythm echoes
- Objectives: G & beginning bow exercises
- Review: #29, 30, 31
- New: page 9 of String Basics, Book 1. #32 A+B, 33, 34 (homework)
- Beginning bow hold: bow hold with pencil first, parts of bow, tightening and loosen bow, exercises- rocket ship, windshield wipers, elevators, pot of soup, spider crawl. (homework)

Monday, October 10th, 2016
- Warm-up: D, E, F#, G, A rhythm echoes
- Objectives: Keeping left hand fingers down while playing open A & bow on string
- Review: #32 A+B, 33, 34 & Bow hold and exercises- rosin bow while doing rocket ships
- New: page 10 of String Basics, Book 1. #35, 36 (homework)
- Bow: page 14 of String Basics, Book 1. # 58, 59, 60, 61, 62, 63. Wiping down strings – remove rosin from instrument. (homework)

Wednesday, October 12th, 2016
- Warm-up: D, E, F#, G, A rhythm echoes (pizzicato) & bow on string D & A
- Objectives: Continued - Keeping left hand fingers down while playing open A & bow on string
- Review: #35, 36 (pizz.) & #61, 62, 63 (bow)
- New: page 10 of String Basics, Book 1. #37, 38 A+B (homework)
- Bow: page 15 of String Basics, Book 1. # 64, 65, 66, 67, 68, 69 (homework)

Monday, October 17th, 2016
- Warm-up: D, E, F#, G, A rhythm echoes (pizzicato) & bow on string D & A
- Objectives: Solo and Tutti
- Review: #37, 38 A+B (pizz.) & #67, 68, 69 (bow)
- New: page 10 of String Basics, Book 1. #39, 40, 41 (homework)
- Bow: page 16 of String Basics, Book 1. # 70, 71, 72, 73, 74, 75 (homework)

Wednesday, October 19th, 2016

- Warm-up: D, E, F#, G, A rhythm echoes (pizzicato) & bow on string D & A
- Objectives: B
- Review: #39, 40, 41 (pizz.) & #73, 74, 75 (bow)
- New: page 11 of String Basics, Book 1. #42, 43, 44 A+B. Scale # 6 on PGCPS Exit Proficiencies Sheet. (homework)
- Bow: page 4-6 of String Basics, Book 1. #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (homework)

Monday, October 24th, 2016

- Warm-up: D, E, F#, G, A rhythm echoes (pizzicato) & bow on string D & A
- Objectives: More B!
- Review: #42, 43, 44 A+B (pizz.) & #3, 4, 5, 9. 10, 11, 12 (bow)
- New: page 11 of String Basics, Book 1. #45, 46, 47. Scale # 8 on PGCPS Exit Proficiencies Sheet. (homework)
- Bow: page 6 of String Basics, Book 1. #13, 14, 15, 16 (homework)

Wednesday, October 26th, 2016

- Warm-up: D, E, F#, G, A rhythm echoes & Scale # 6, 8 (pizzicato) & bow on string D & A
- Objectives: C#
- Review: #45, 46, 47. Scale # 8 (pizz.) & #13, 14, 15, 16
- New: page 12 of String Basics, Book 1. #48 A+B, 49 A+B, 50 (homework)
- Bow: page 7 of String Basics, Book 1. #18, 19 A+B+C, 20, 21 A+B, 22 (homework)

Monday, October 31st, 2016

- Warm-up: D, E, F#, G, A rhythm echoes & Scale # 6 (pizzicato) & bow on string D & A
- Objectives: More C# and High D. Pressing fingers down on left hand and bowing.
- Review: #48 A+B, 49 A+B, 50 (pizz.) & #18, 19 A+B+C, 20, 21 A+B, 22
- New: page 12 of String Basics, Book 1. #51, 52, 53. Scale #1 on PGCPS Exit Proficiencies Sheet. (homework)
- Bow: page 8 of String Basics, Book 1. #23, 24, 25, 26, 27 (homework)

Appendix C: PGCPS Music Performance Rubric

PGCPS Instrumental Music Performance Rubric

	0=No Attempt	1=Undeveloped	2=Partially Developed	3=Proficient	4=Distinguished
1.) Tone	Student made no attempt.	A demonstration that displays a **lack of understanding** in tone quality. Characteristic tone, style and expression are **inconsistent or unrecognizable** in ranges and registers.	A demonstration **approaching proficiency** in tone quality. Characteristic tone, style and expression are maintained in **some** ranges and registers.	A **proficient** demonstration of tone quality. Characteristic tone, style and expression are maintained in **most** ranges and registers.	An **exemplary** demonstration of characteristic tone quality. Characteristic tone, style and expression are maintained in **all** ranges and registers.
2.) Note Accuracy	Student made no attempt.	A demonstration that displays a **lack of understanding** in note accuracy and intonation throughout ranges and registers. Centered pitch and accurate notes are **inconsistent or unrecognizable**.	A demonstration **approaching proficiency** in note accuracy and intonation throughout **some** ranges and registers. Centered pitch and accurate notes are performed **some** of the time.	A **proficient** demonstration of note accuracy and intonation throughout **most** ranges and registers. Centered pitch and accurate notes are performed **most** of the time.	An **exemplary** demonstration of note accuracy and intonation throughout **all** ranges and registers. Centered pitch and accurate notes are performed **almost always.**
3.) Rhythmic Accuracy	Student made no attempt.	A demonstration that displays a **lack of understanding** in rhythmic accuracy. **Many** hesitations were observed at an **inconsistent or unrecognizable** tempo.	A demonstration **approaching proficiency** in rhythmic accuracy. **Some** measures performed at an appropriate tempo with **several hesitations.**	A **proficient** demonstration of rhythmic accuracy. **Most** measures performed at an appropriate tempo with **slight hesitations.**	An **exemplary** demonstration of rhythmic accuracy. **All** measures performed at an appropriate tempo with **no hesitations.**
4.) Articulation/ Sticking/ Bowing	Student made no attempt.	A demonstration that displays a **lack of understanding** in correct articulation, sticking or bowing. **Inconsistent or unrecognizable** technique used throughout ranges and registers.	A demonstration **approaching proficiency** in correct articulation, sticking or bowing throughout **some** ranges and registers.	A **proficient** demonstration of correct articulation, sticking or bowing throughout **most** ranges and registers.	An **exemplary** demonstration of correct articulation, sticking or bowing throughout **all** ranges and registers.
5.) Playing Position	Student made no attempt.	A demonstration that displays a **lack of understanding** in correct embouchure, posture, hand position and instrument angle. **Inconsistent or unrecognizable** playing position displayed.	A demonstration **approaching proficiency** in correct embouchure, posture, hand position and instrument angle throughout **some** ranges and registers.	A **proficient** demonstration of correct embouchure, posture, hand position and instrument angle throughout **most** ranges and registers.	An **exemplary** demonstration of correct embouchure, posture, hand position and instrument angle throughout **all** ranges and registers.

Appendix D: Pictures

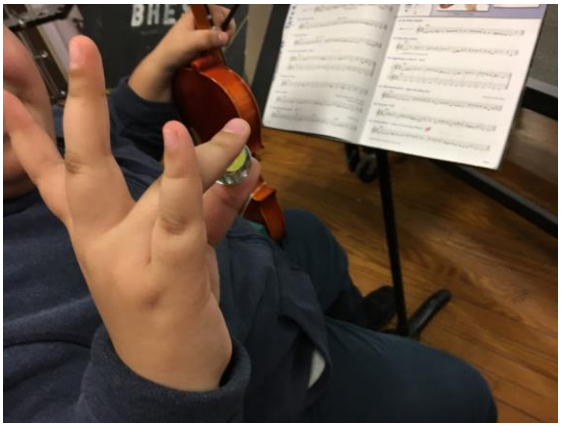
Picture 1: Bow Buddies (Frog and Goldfish)

Picture 2: Twinkle Bow (easier to practice bow hold shape on a smaller, lighter bow.

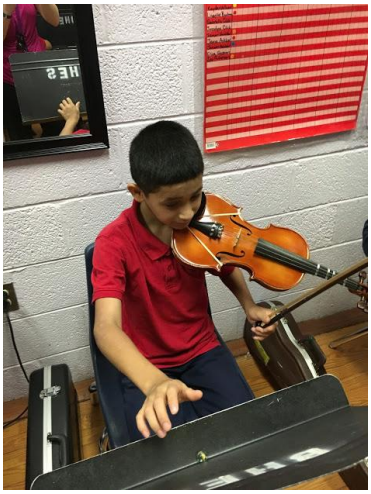
Picture 3: This picture is of the karate belt challenge for learning scales. Students get a different colored belt based on what scale they learn. I used yarn and students normally tie them on the pegs.

Picture 4: This picture is of the marshmallow activity to remind students not to grip the neck to hard. We warmed up to this activity by first tapping our thumbs. I tried to explain that one day they would learn to shift up the neck so they could play really high notes. Of course we ate some of the extra marshmallows!

Picture 5



Picture 6

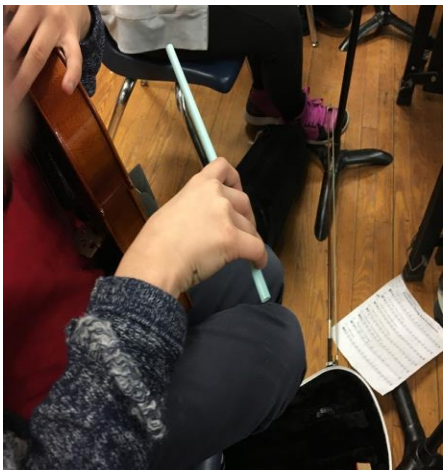


Picture 7 (Pictures 5-7): These three pictures are all of the finger dexterity games. Students had to pick up marbles with their them and only one other finger. They had the most trouble with their pinkie and thumb and their ring finger and thumb.

Picture 8

Picture 9

Picture 10 (Picture 8-10):These three pictures are over the balancing instrument position games. Students had to support the violin or viola with only their shoulder and the weight of their jaw on the chin rest. The stakes were higher when we used lollipops!



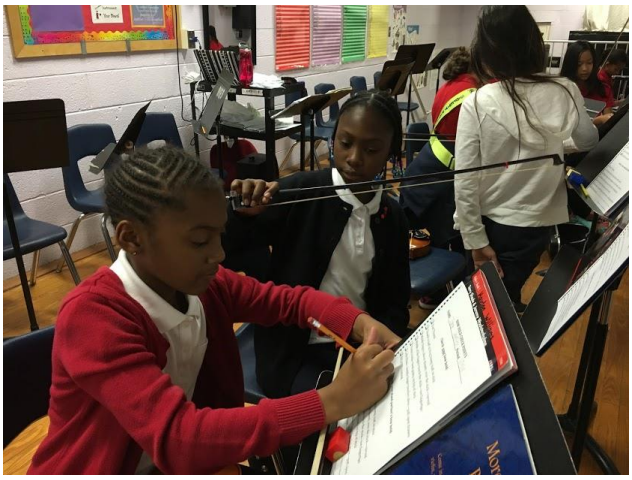
Picture 11

Picture 12 (Picture 11 & 12): These two pictures are of the straw bow building activity we did. Students were more successful when they made a bow hold on pencils and straws before the real bow because of the weight.

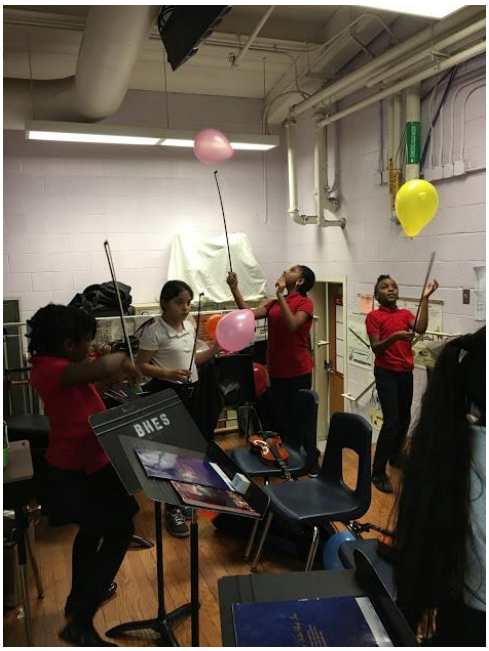
Picture 13

Picture 14

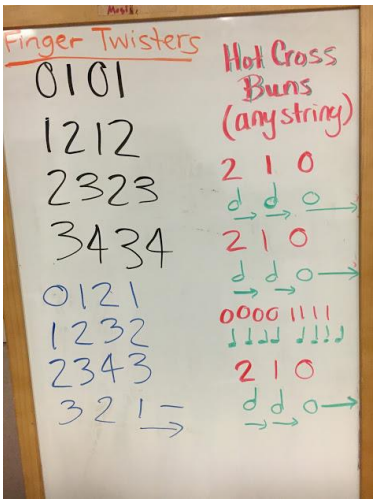
Picture 15



Picture 16 (Picture 13-16): These four pictures were of the bow hold checklist activity we completed. At first I did not want to do this activity because I sometimes feel like pencil and paper activities in instrumental music class are a waste of time. I thought students needed to be constantly playing for our 30 minutes 2x a week to be productive, but students told me that this was helpful and they had a good time working in pairs and an occasional group of three.



Picture 17: This picture is of a fun activity we did to work on our bow hold while playing a game of keep the balloon off the floor. Students had a lot of fun and got to take a balloon home at the end of the day.

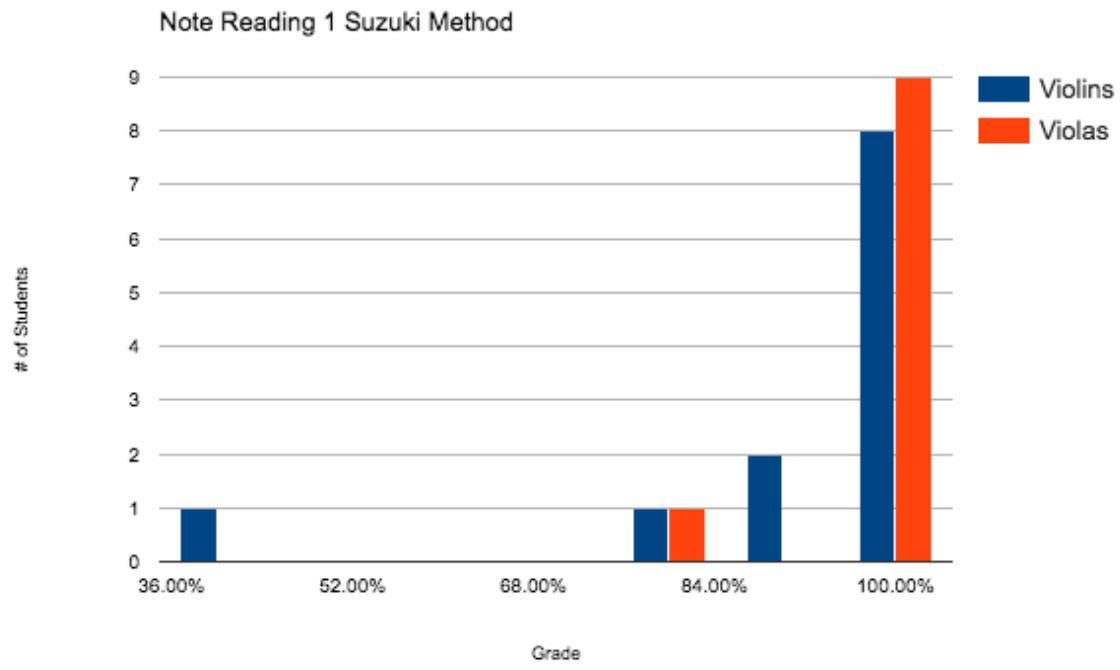


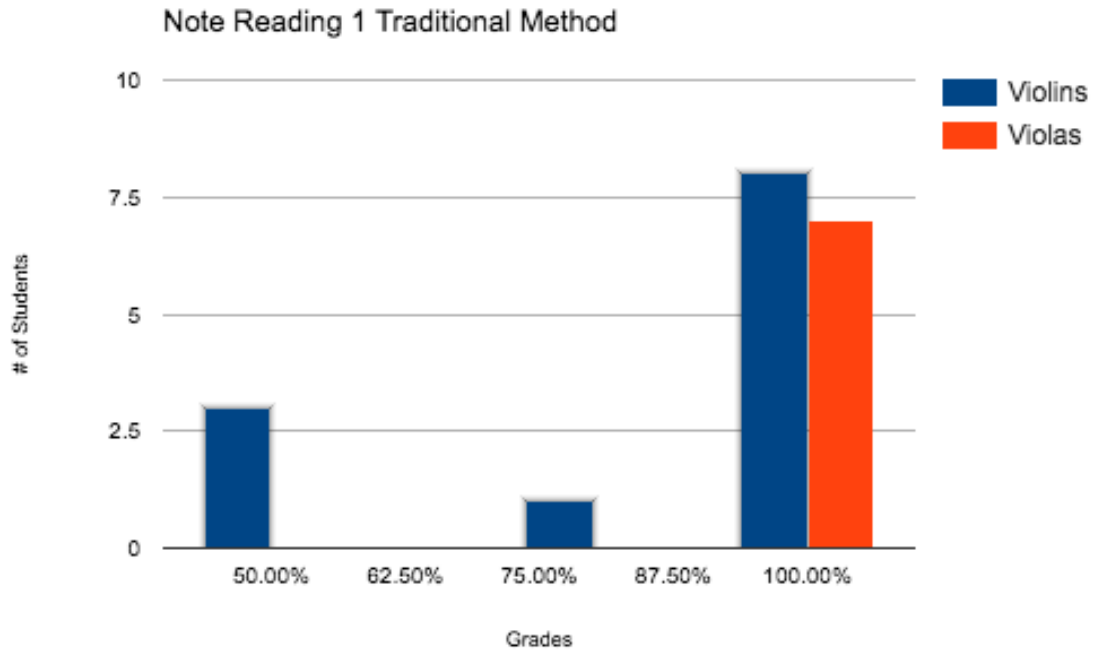
Picture 18: This is a picture of my board and one of our warm-up activities for the left hand. One great thing about teaching numbers is being able to change the string you are playing on.

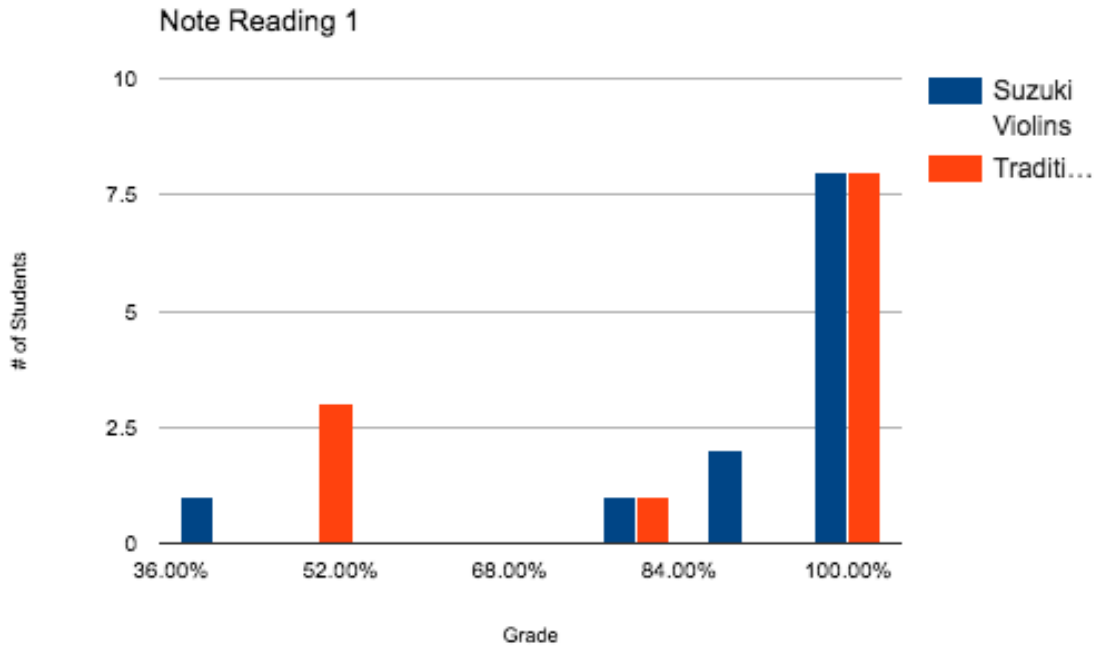
Picture 19: This picture is of the bow bumpers I made out of paper to help students bow parallel to the bridge. Once one of them fell into the sound hole and it took a surprisingly long time to get out!

Appendix E: Graphs

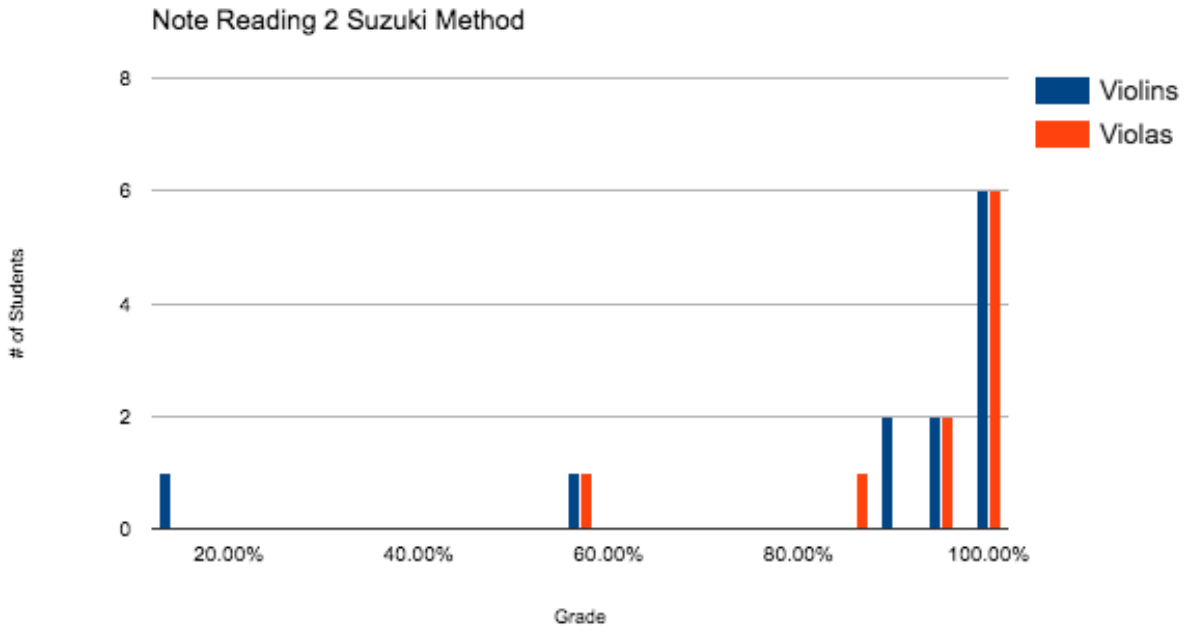
Note Reading Test 1 Extra Graphs:

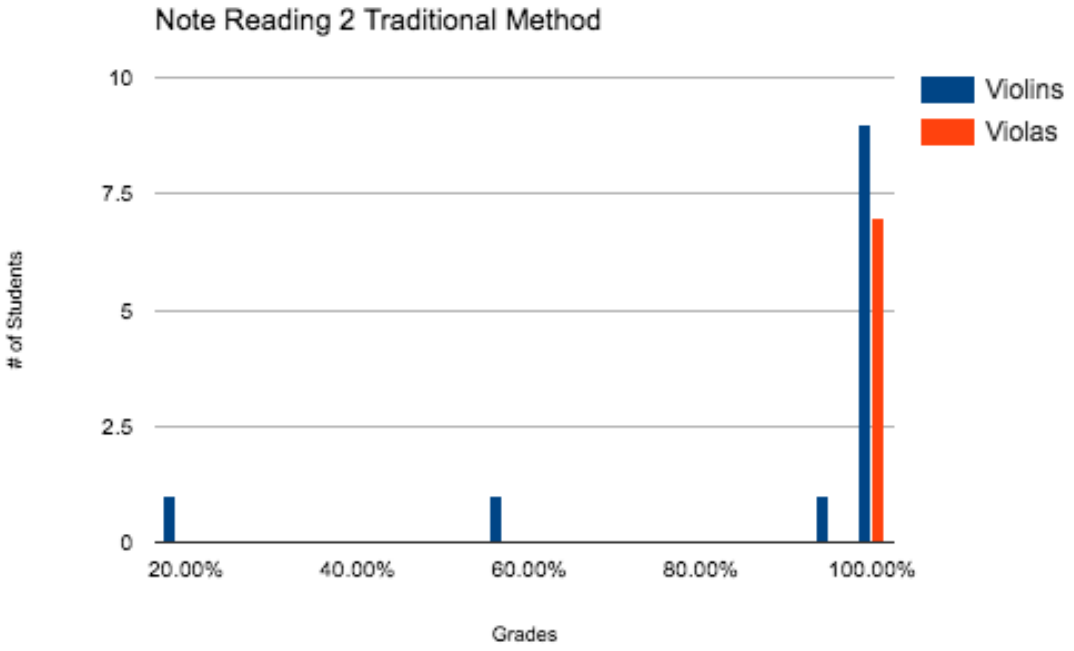


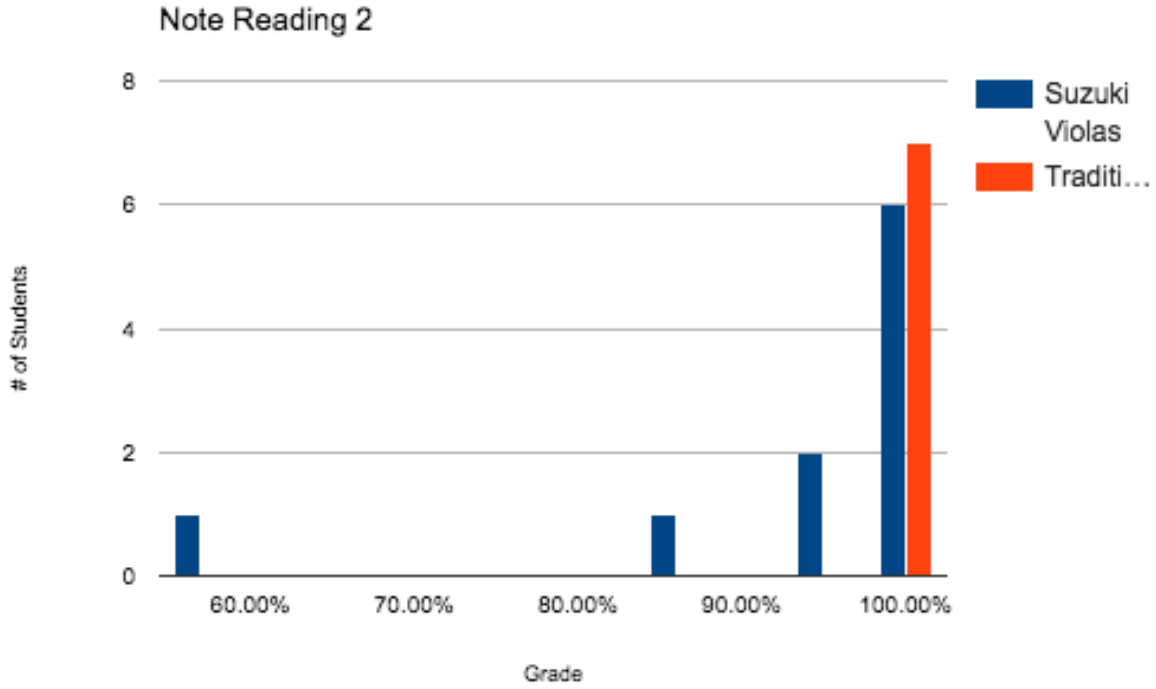




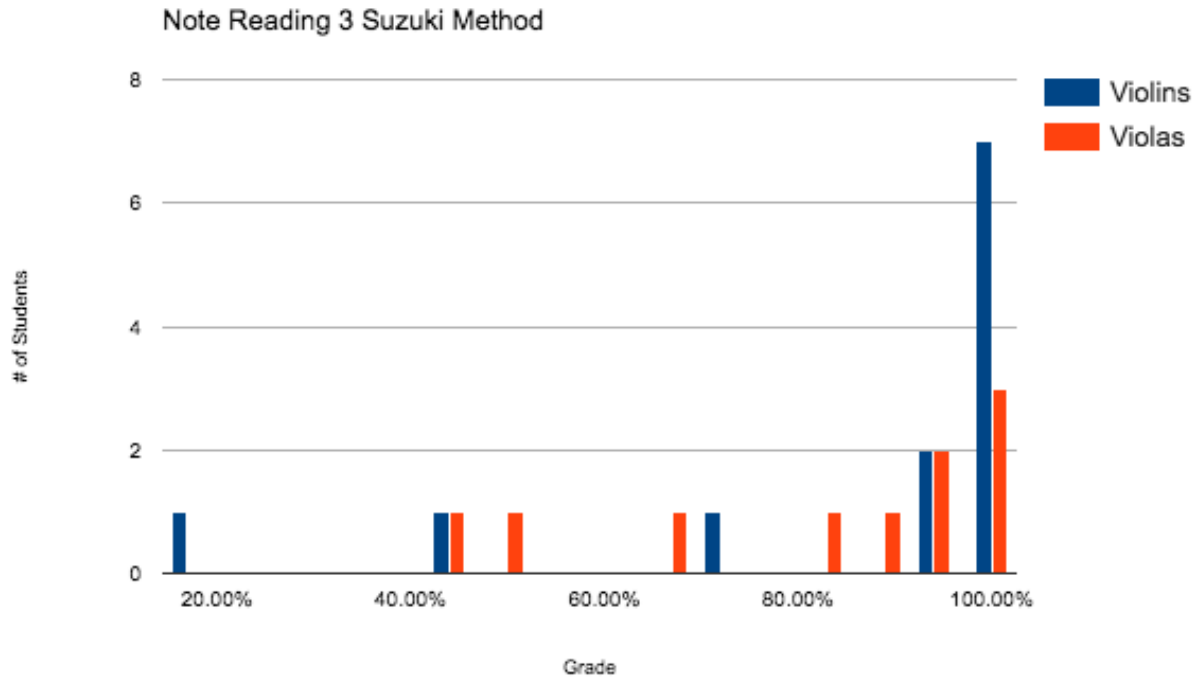
Note Reading Test 2 Extra Graphs:

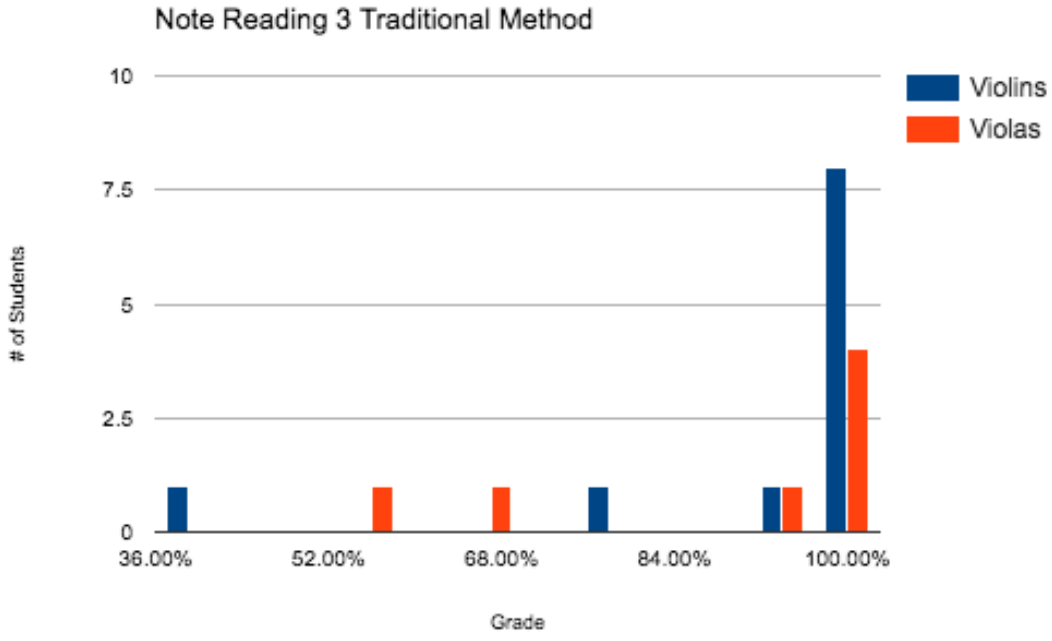


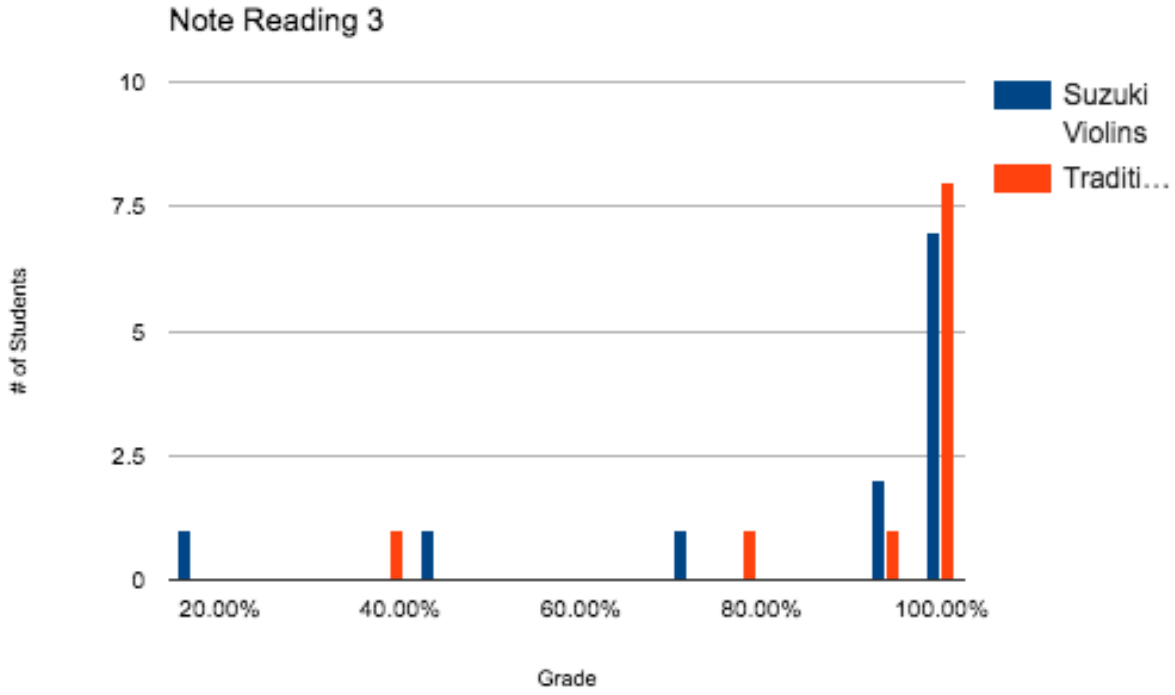

Note Reading 2 Traditional Method
10
7.5
5
2.5
0
# of Students
20.00%
40.00%
60.00%
80.00%
100.00%
Grades
Violins
Violas

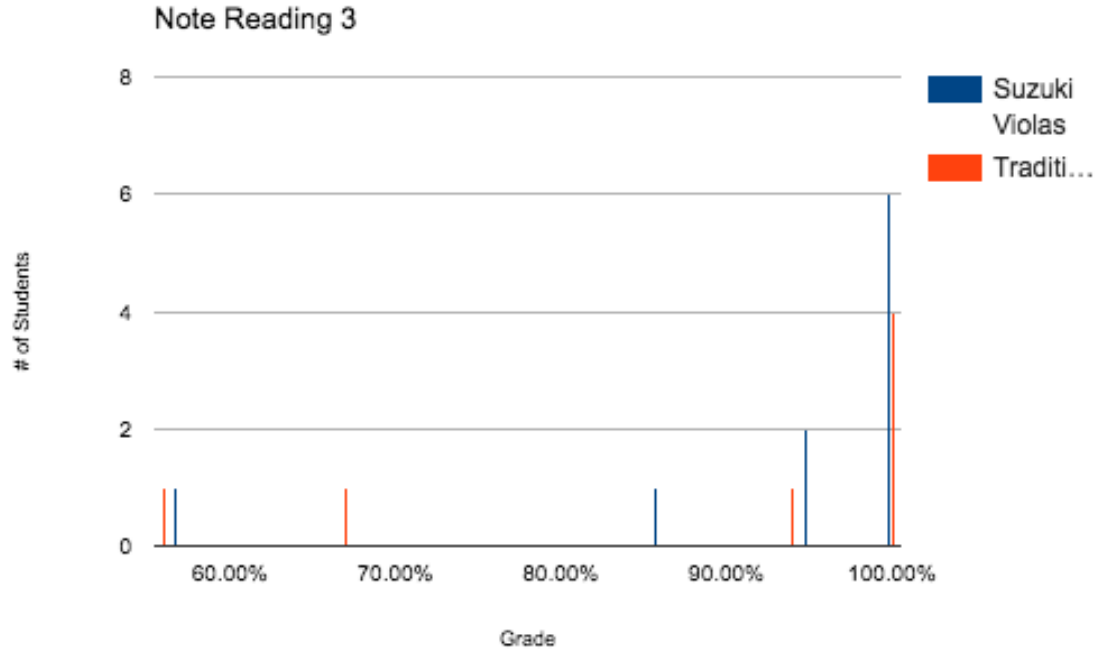

Note Reading 2
8
6
4
2
0
# of Students
60.00%
70.00%
80.00%
90.00%
100.00%
Grade
Suzuki Violas
Traditi…

Note Reading Test 3 Extra Graphs:

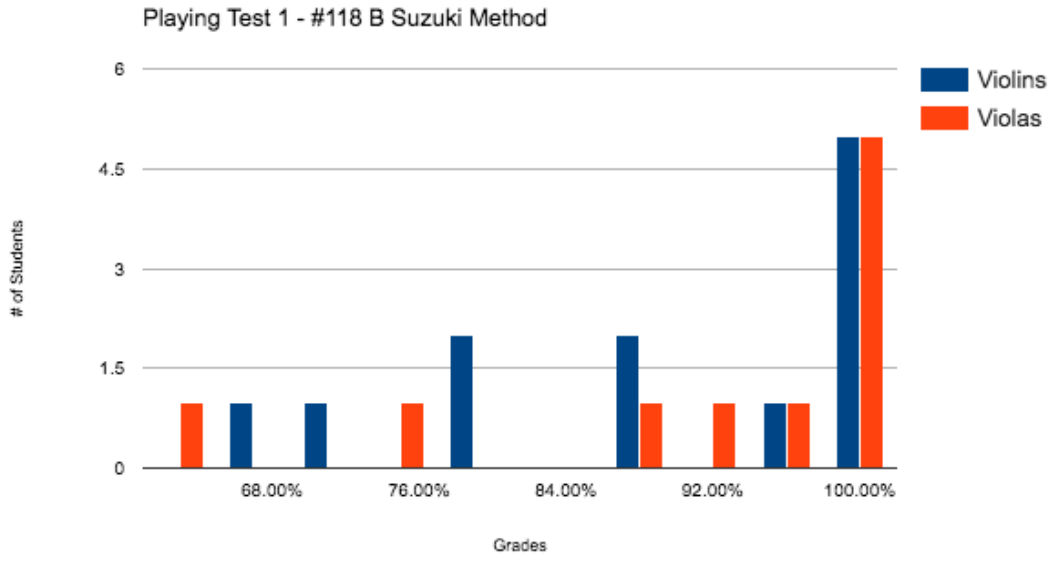


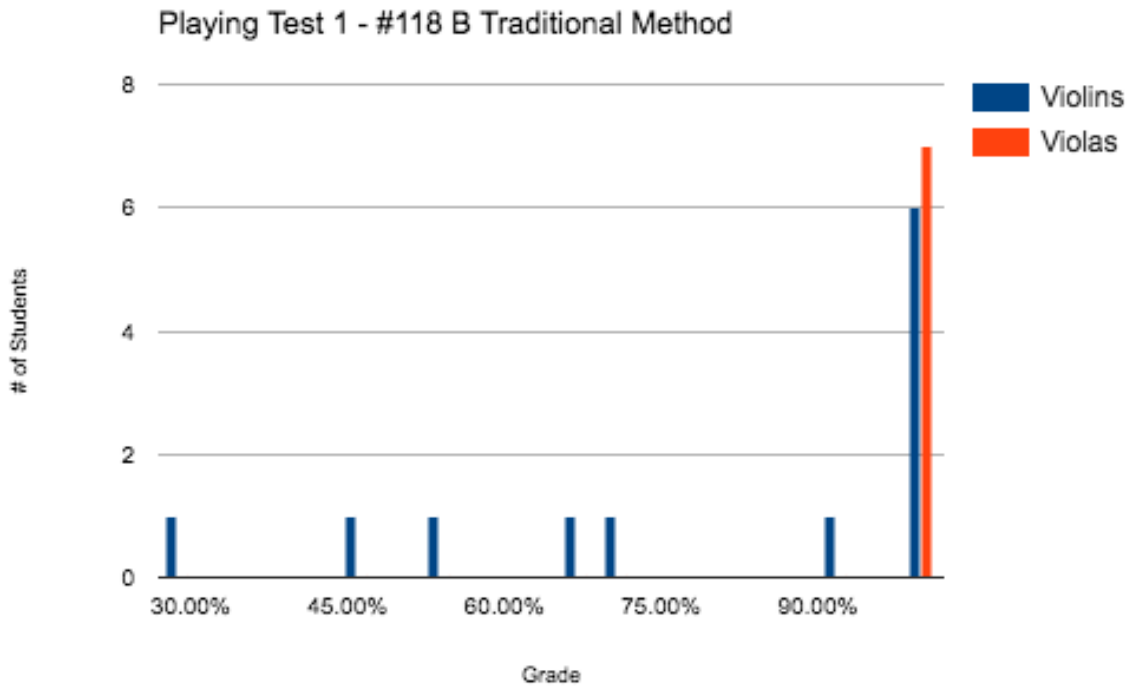


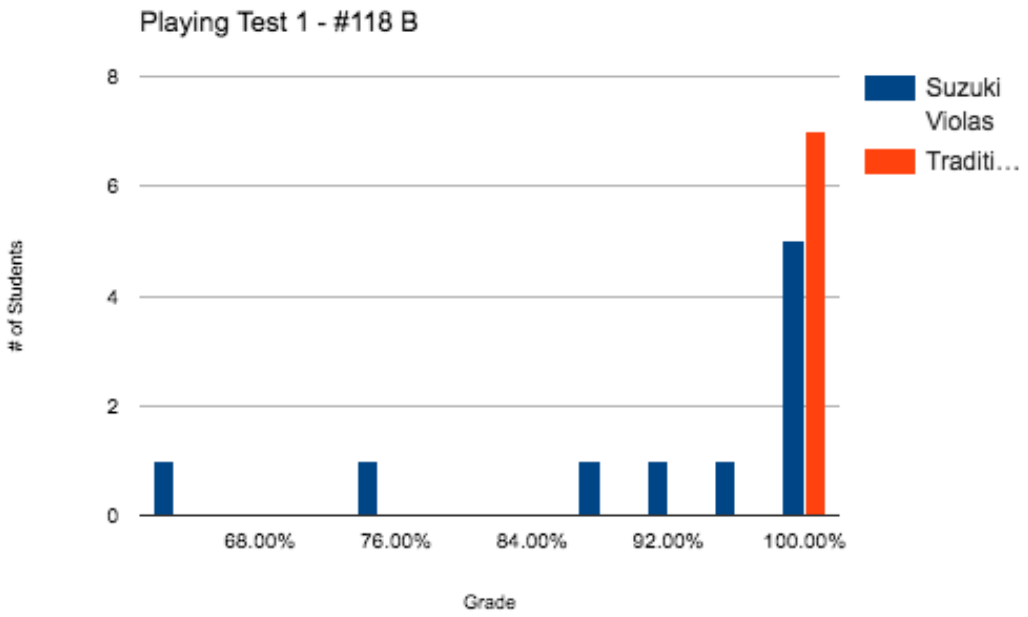

Note Reading 3
10
7.5
5
2.5
0
# of Students
20.00%
40.00%
60.00%
80.00%
100.00%
Grade
Suzuki Violins
Traditi…


Note Reading 3
8
6
4
2
0
# of Students
60.00%
70.00%
80.00%
90.00%
100.00%
Grade
Suzuki Violas
Traditi…

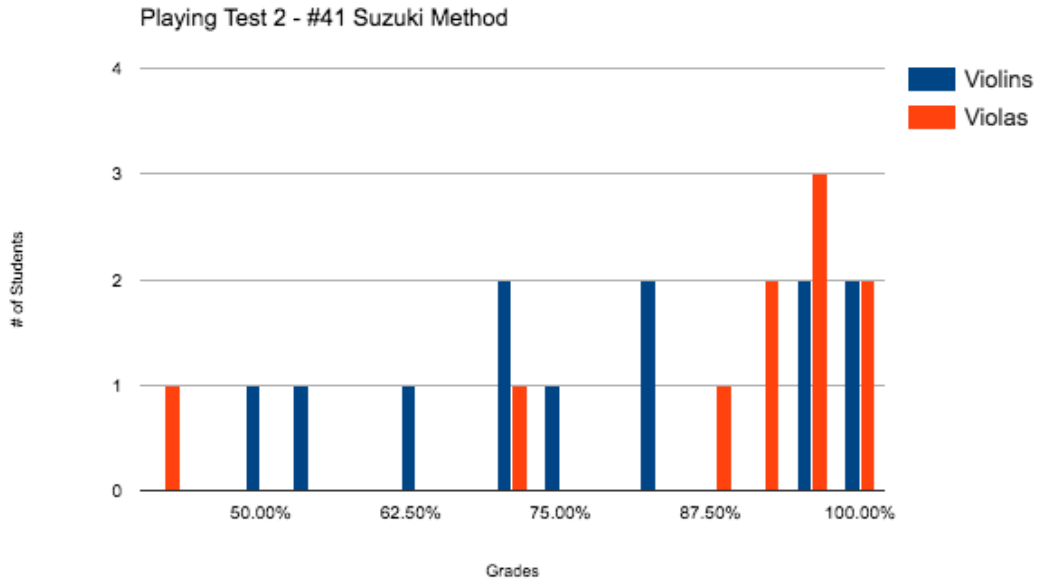
Playing Test 1 Extra Graphs:

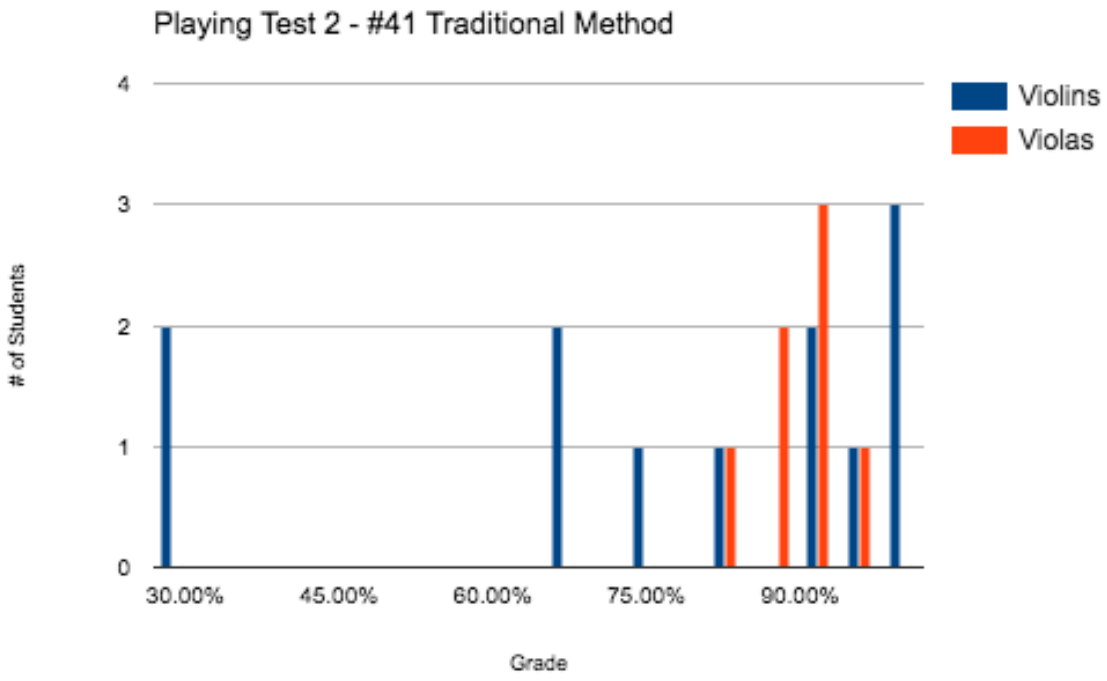


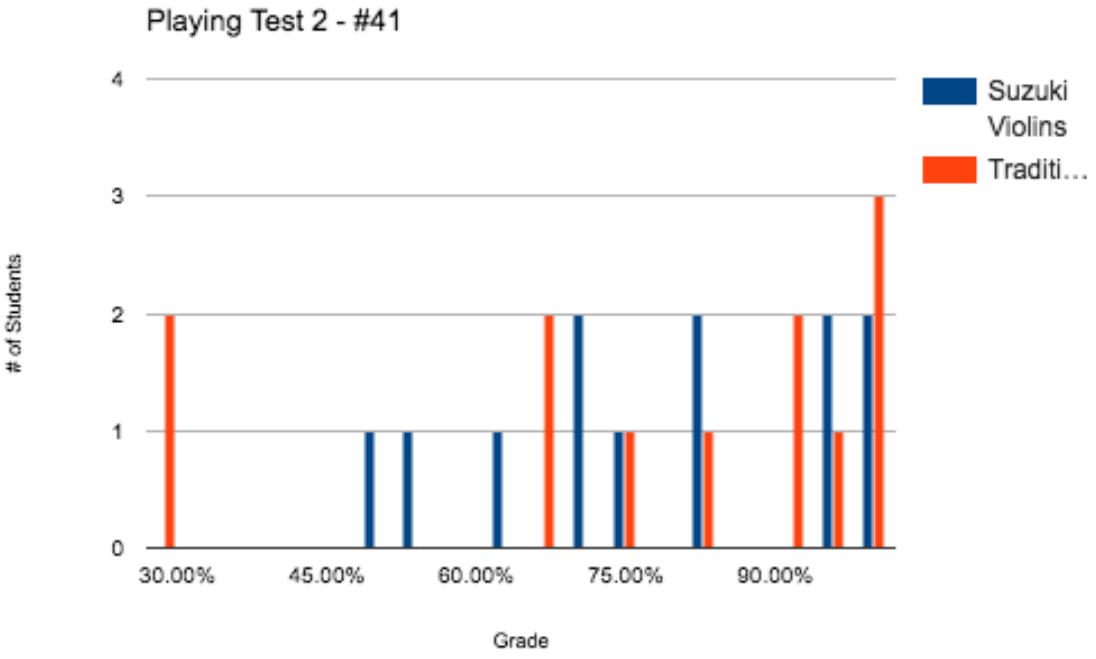


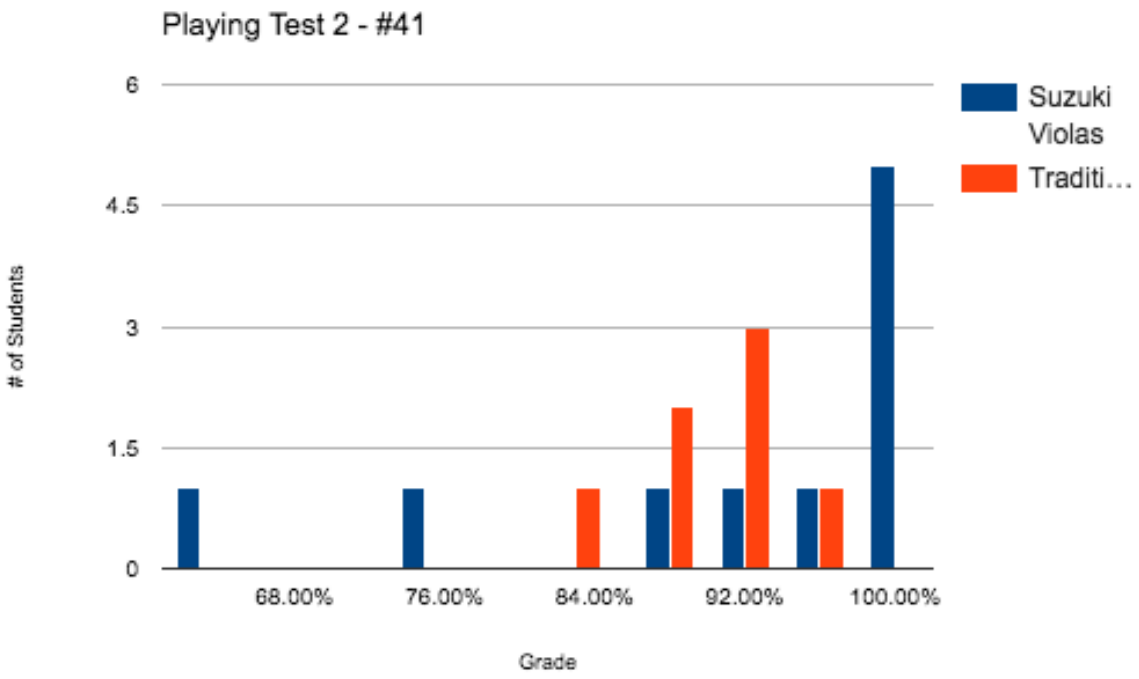


Playing Test 2 Extra Graphs:

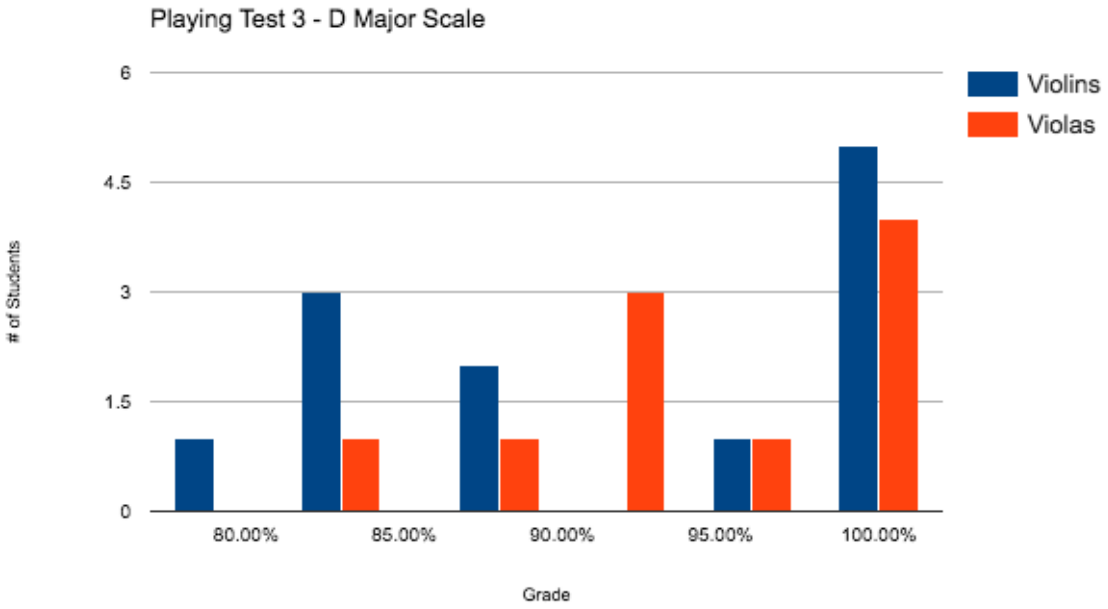


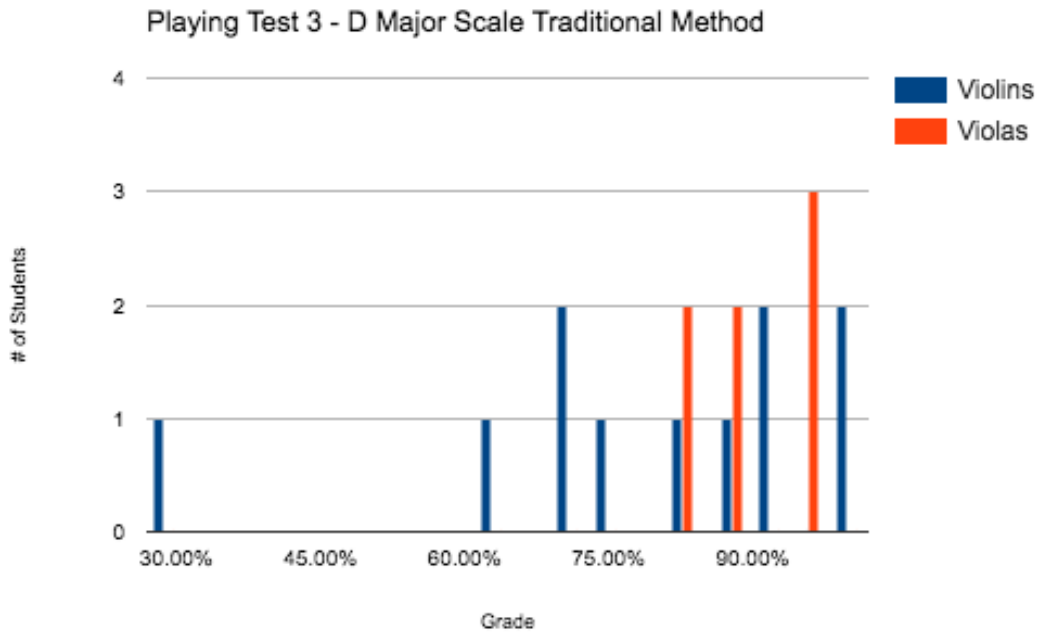

Playing Test 2 - #41 Traditional Method
4
3
2
1
0
# of Students
30.00%
45.00%
60.00%
75.00%
90.00%
Grade
Violins
Violas


Playing Test 2 - #41
4
3
2
1
0
# of Students
30.00%
45.00%
60.00%
75.00%
90.00%
Grade
Suzuki Violins
Traditi…



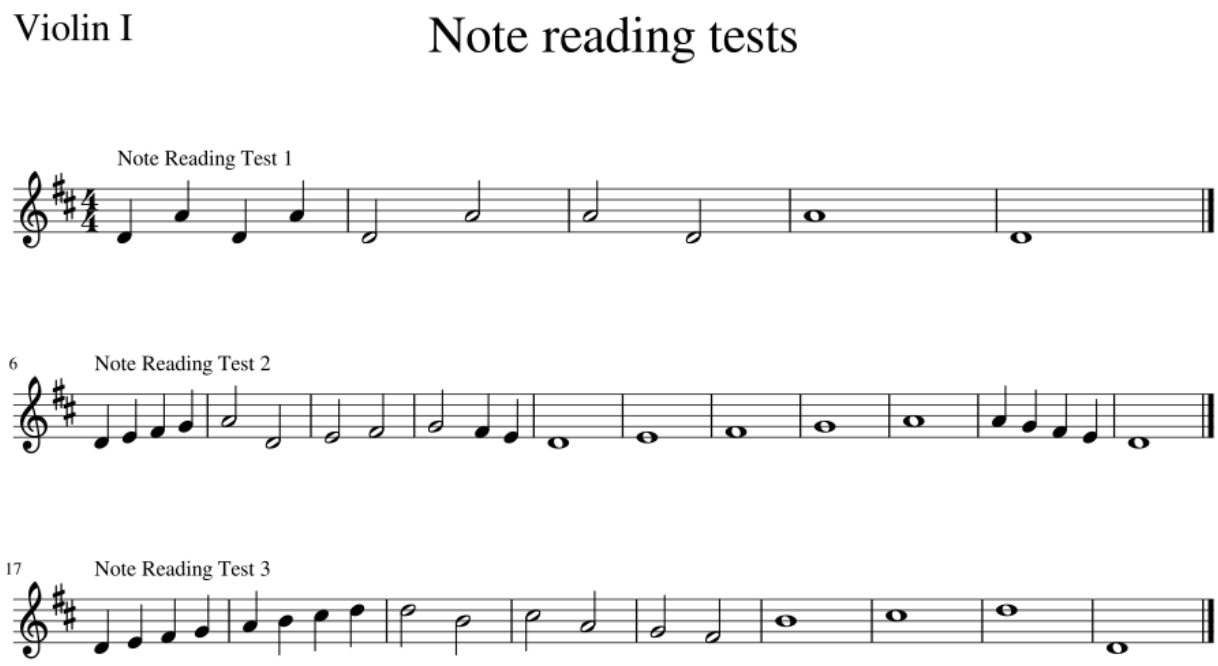
Playing Test 3 Extra Graphs:



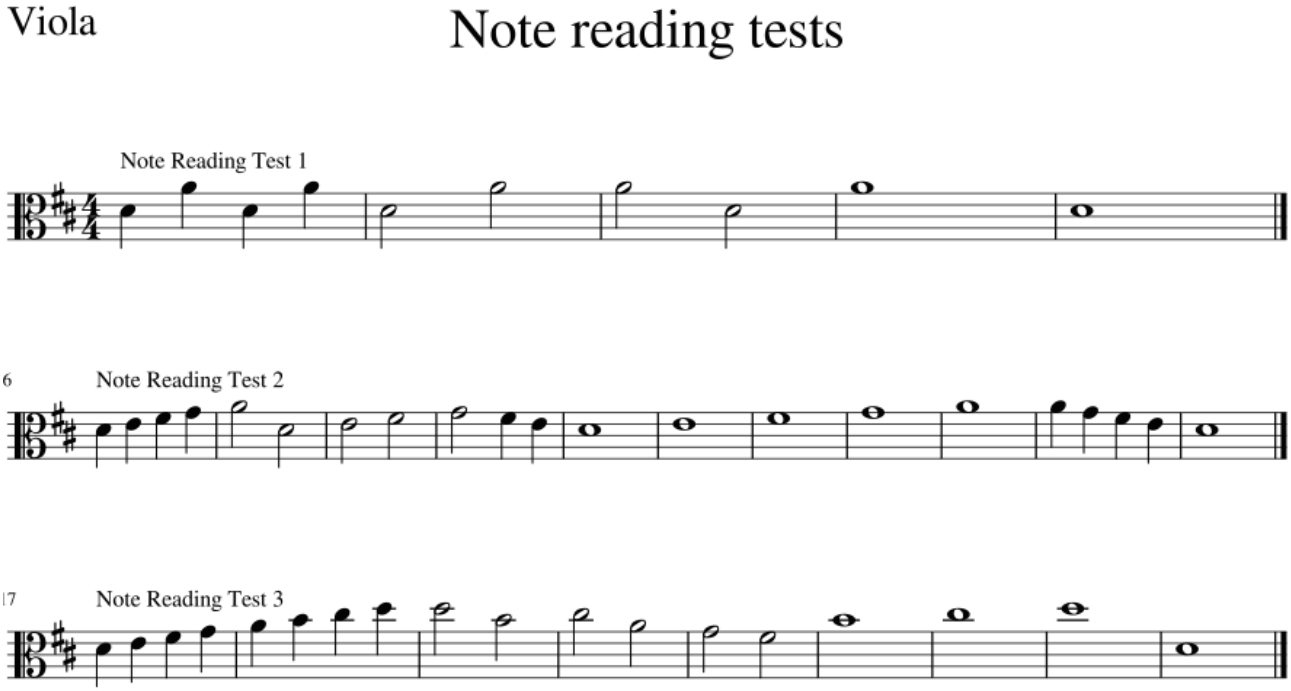

Playing Test 3 - D Major Scale Traditional Method
Violins
Violas
# of Students
4
3
2
1
0
30.00%
45.00%
60.00%
75.00%
90.00%
Grade

Appendix F: Note-reading Tests

Violin I



Viola



WORKS CITED

Applefeld Olson, Cathy. “The Picture Brightens (Slightly) for String Programs”. *Teaching Strings* (2010): 18.

Barrett, Carolyn M. *The Magic of Matsumoto: The Suzuki Method of Education*. Palm Springs, CA: ETC Publications, 1995. Print.

Bergonzi. “Effects of Finger Markers and Harmonic Context on Performance of Beginning String Students”. JRME 45.2 (1997): 197-211. Web. 29 Jul. 2015.

Brenner, Brenda. “Reflecting on the Rationales for String Study in Schools”. *Philosophy of Music Education Review* 18.1 (2010): 45-64. IUP. Web. 29 Jul. 2015.

Brunson, Theodore Roland. *An Adaptation of the Suzuki-Kendall Violin Method for Heterogeneous Stringed Instrument Classes*. Diss. University of Arizona, 1970. Web. 29 Jul. 2015.

Colprit, Elaine J. “Observation and Analysis of Suzuki String Teaching”. JRME 48.3 (2000): 206-221. Web. 8 Jul. 2016.

---. “Teacher Verbalization of Targets in Suzuki String Lessons”. *Bulletin of the Council for Research in Music Education* 157 (2003): 49-61. University of Illinois Press. Web. 29 Jul. 2015.

Dickey, Marc R. “A Review of Research on Modeling in Music Teaching and Learning”. *Bulletin of the Council for Research in Music Education* 113 (1992): 27-40. University of Illinois Press. Web. 29 Jul. 2015.

Duke, Robert A. “Teacher and Student Behavior in Suzuki String Lessons: Results from the International Research Symposium on Talent Education”. JRME 47.4 (1999): 293-307.

Web. 30 Jul. 2015.

Gillespie, Robert, and Donald L. Hamann. "The Status of Orchestra Programs in the Public Schools". JRME 46.1 (1998): 75-86. Web. 8 Jul. 2016.

Hamann, Donald L., and Robert Gillespie. *Strategies for Teaching Strings: Building a Successful String and Orchestra Program*. 3rd ed., Oxford University Press, 2013. Print.

Harman, Angela. *The True Beginning: Before the Method Book.* www.orchestraclassroom.com. 2015. Print.

Haston, Warren. "Teacher Modeling as an Effective Teaching Strategy". *Music Educators Journal* 93. 4 (2007): 26-30. Sage Publications, Inc. Web. 29 Jul. 2015.

Hendricks, Karin S. "The Philosophy of Shinichi Suzuki: 'Music Education as Love Education'".

Philosophy of Music Education Review 19.2 (2011): 136-154. IUP. Web. 29 Jul. 2015.

Kendall, John D. *The Suzuki Violin Method in American Music Education*. MENC. Reston, VA: MENC, 1973. Print.

Lesniak, Melissa. "Attitudes Towards String Education Among Collegiate String Faculty". *Bulletin of the Council for Research in Music Education* 175 (2008): 59-69. University of Illinois Press. Web. 30 Jul. 2015.

MENC: The National Association for Music Education. *Spotlight on Teaching Orchestra: Selected Articles from State MEA Journals.* Lanham, MD: First Rowman & Littlefield Education, 2005. Print.

Morrison, Sarah. Teaching Strong Fundamentals in the Beginning String Class: It's All Fun and Games. *Florida Music Educators' Association,* January 2008, Florida. Unpublished conference paper. Rochelle School of the Arts, Lakeland. Web. 29 Jul. 2015.

Morrison, Steven J., et al. “The Effect of a Recorded Model on Band Students’ Performance Self-Evaluations, Achievement, and Attitude”. JRME 52.2 (2004): 116-129. MENC. Web. 29 Jul. 2015.

Morrison, Steven J. “The Use of Recorded Models in the Instrumental Rehearsal: Effects on Ensemble Achievement”. JRME 20.2 (2002): 21-26. Web. 29 Jul. 2015.

Nelson, Julia A. *An Investigation of Mimi Zweig’s Violin Pedagogy and its Application to the American Public School String Orchestra Classroom in the 21st Century.* Undergraduate Thesis. 2011. Web. 29 Jul. 2015.

Rosenthal, Roseanne K. “The Relative Effects of Guided Model, Model Only, Guide Only, and Practice Only Treatments on the Accuracy of Advanced Instrumentalists’ Musical Performance”. JRME 32.4 (1984): 265-273. Web. 29 Jul. 2015.

Sang, Richard C. “A Study of the Relationship between Instrumental Music Teachers’ Modeling Skills and Performance Behaviors”. *Bulletin of the Council for Research in Music Education* 91 (1987): 155-159. University of Illinois Press. Web. 29 Jul. 2015.

Shade, Terry, and Jeremy Woolstenhulme. *String Basics: Steps to Success for String Orchestra.* San Diego, CA: Kjos Music Press, 2010. Print.

Suzuki, Shinichi. *Nurtured By Love: A New Approach to Education.* Translated by Waltraud Suzuki, Exposition Press, 1969. Print.

---, et al. *The Suzuki Concept: An Introduction to a Successful Method for Early Music Education.* Berkeley, CA: Diablo Press, 1973. Print.

---. *The Writings of Shin’ichi Suzuki: Where Love is Deep.* Translated by Kyoko Selden, World-Wide Press, 1982. Print.

“String Programs in Low Socioeconomic Level School Districts.” Docplayer,

http://docplayer.net/8672243-String-programs-in-low-socioeconomic-level-school-districts.html.Accessed 30 Jul. 2015.

Wieland Howe, Sondra. "Sources of the Folk Songs in the Violin and Piano books of Shinichi Suzuki. *The Bulletin of Historical Research in Music Education* 16.3 (1995): 177-193. Ithaca College. Web. 30 Jul. 2015.