

Liberty University

School of Music

**The Impact of Modeling Music Literacy After English Literacy on Elementary Students’
Music Reading Abilities**

A Thesis Submitted to
the Faculty of the School of Music
in Candidacy for the Degree of
D.M.E. in Music Education

by

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Thesis Defense Decision Form

Doctor of Music Education

Thesis Defense Decision

The Thesis Advisor and Reader have rendered the following decision concerning the defense for

Madeline A. Lee

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**"The Impact of Modeling Music Literacy After English Literacy on Elementary Students'
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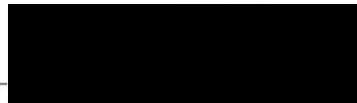
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Abstract

Although numerous studies have been conducted to determine music's ability to improve student achievement in other content areas, integrating general education pedagogy practices for the purpose of enhancing music education has not received the same attention. Music and language share one of the strongest and most recognizable connections, yet parallels drawn between music and language do not typically extend to the pedagogy used to teach music literacy acquisition and application. This applied research study compared the music literacy abilities of students instructed using traditional music literacy practices to those instructed using techniques modeled after English literacy practices. To determine the impact of modeling music literacy acquisition and application after English literacy acquisition and application, this applied method included weekly instruction and assessment of two groups of students ranging from grades three through five over the course of six weeks. A control group learned through traditional music literacy acquisition and application, while an experimental group learned music literacy modeled after English literacy acquisition and application. Upon investigating the impact of approaching music literacy through the lens of English literacy, this study demonstrated that music literacy instruction modeled after English literacy instruction was most effective in teaching music literacy. Additionally, the study revealed that the music literacy skills of music symbol identification and composition showed the most significant improvement among elementary students. This work was necessary to combat the music literacy challenges educators face and determine a more effective means to navigate music literacy in an elementary setting.

Keywords: music literacy, English literacy, acquisition, application, practices

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Abbreviations

AOSA	American Orff-Schulwerk Association
BA	Baseline Assessment
ELAA	English Literacy Acquisition and Application
ELL	English Language Learner
FCA	Final Cumulative Assessment
FFR	Foundations for Reading
HMHIR	Houghton Mifflin Harcourt: <i>Into Reading</i>
RV	Reading and Vocabulary
MENC	Music Educators National Conference
MLAA	Music Literacy Acquisition and Application
NAfME	National Association for Music Educators
U1A	Unit 1 Assessment
U2A	Unit 2 Assessment
VA SOLS	Virginia Standards of Learning
VBODA	Virginia Band and Orchestra Directors Association
VCDA	Virginia Choral Directors Association
VDOE	Virginia Department of Education
VLA	Virginia Literacy Act (2022)
VMEA	Virginia Music Educators Association
W	Writing

Chapter One: Introduction

Background

“To learn to read is to light a fire; every syllable that is spelled out is a spark.”¹ This sentiment of renowned author, Victor Hugo, rings true not only in the realm of literacy, but of music as well. Music undoubtedly enriches the lives of all who experience it, but being truly musically literate can ignite a lifelong passion for the medium, and foster a deep understanding that is unrivaled by merely listening or performing. The International Kodály Society defines music literacy as “the ability to read and write musical notation and to read notation at sight without the aid of an instrument.”² This applied research study encompassed Music Literacy Acquisition and Application (MLAA) and English Literacy Acquisition and Application (ELAA). In order to establish their connection within the context of this topic, specific details regarding ELAA practices are presented and compared to MLAA. For consistency of this comparison, the Virginia Standards of Learning (SOLs) and other Virginia Department of Education (VDOE) information are utilized as a reference point since the study was conducted in a Virginia public elementary school.³

Organizational Profile

This study was conducted as applied research for the purpose of identifying and solving a problem of practice pertaining to music literacy in a specific elementary school.⁴ Data for this

¹ “Victor Hugo,” Quotes, Goodreads, accessed October 20, 2024, <https://www.goodreads.com/quotes/33967-to-learn-to-read-is-to-light-a-fire-every>.

² “Music Literacy,” Education, International Kodály Society, accessed January 19, 2025, <https://www.iks.hu/zoltan-kodalys-life-and-work/education/musical-literacy.html#:~:text=Music%20literacy%20refers%20to%20the,of%20musical%20examples%20and%20styles>.

³ “Home,” Virginia Department of Education, accessed June 13, 2024, <https://www.doe.virginia.gov/home>.

⁴ Kate L. Turabian, *A Manual for Writers of Research Papers, Theses, and Dissertations: Chicago Style for Students and Researchers*, 9th ed. (Chicago: University of Chicago Press, 2018), 18.

study was collected via assessments given to third through fifth-grade students at the elementary school in which the researcher served as the music teacher. There were five classes of third-grade students, four classes of fourth-grade students, and four classes of fifth-grade students, with twenty-five or more students per class, totaling approximately three hundred and twenty-five students eligible for this sample. The elementary school where this study was conducted is located in the Northwest region of Virginia. Per the most recent available data for the 2023-2024 school year, the elementary school served a population of 612 students in kindergarten through fifth grade.⁵ Racial/ethnic makeup of the student body was 46.4% White, 35.8% Hispanic, 7.2% Multiple Races, 5.4% Black, 4.9% Asian, 0.1% American Indian, and 0.1% Native Hawaiian.⁶ Nearly half of the students, 43.7%, were considered economically disadvantaged, with 43.1% qualifying for free and reduced meals.⁷ The elementary school also catered to an English Learner population of 15.1%.⁸ Demographic factors such as these can have a remarkable impact on student performance on standardized tests.

Assessment

In Virginia, elementary school students begin participating in state assessments at the conclusion of third grade. The Virginia Standards of Learning (SOLs) are designed to “establish minimum expectations for what students should know and be able to do at the end of each grade

⁵ “Jordan Springs Elementary School Quality Profile,” School Quality Profiles, Virginia Department of Education, accessed March 30, 2025, <https://schoolquality.virginia.gov/schools/jordan-springs-elementary>.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

or course in English, Mathematics, Science, History, Social Science, and other subjects.”⁹ Core subject standards use a number to indicate the grade level, followed by an abbreviation to indicate the specific standard and subcategory. Throughout the course of the school year, educators use the Virginia SOLs to guide their instruction in an effort to prepare students to take and pass these assessments. Each test is scored on a points-based scale from 0-600, with 0-399 as “fail/does not meet,” 400-499 as “pass/proficient,” and 500-600 as “pass/advanced.”¹⁰

At the elementary and middle school levels, these scores do not have a bearing on whether an individual will advance to the next grade. Instead, most teachers utilize a letter grading system to determine student mastery and subsequent grade advancement. Elementary students in the researcher’s school division are graded on an “O, S, N” grading scale, where “O” means “outstanding” and indicates mastery (100%-86.5%), “S” means “satisfactory” and indicates competency (86.49%-59.50%), and “N” means “needs improvement” and indicates that a skill is developing (59.49%-0%).¹¹ However, there are assessment requirements for English, math, science, and history that affect a student’s ability to graduate from high school, whereas each student must receive at least a pass/proficient rating in those areas.¹² State assessment scores also affect accreditation for schools on an individual and subsequent division-level

⁹ “Virginia SOL Assessment Program: Virginia Standards of Learning,” Student Assessment, Virginia Department of Education, accessed June 28, 2024, <https://www.doe.virginia.gov/teaching-learning-assessment/student-assessment/virginia-sol-assessment-program>.

¹⁰ “Performance Level Descriptors,” Student Assessment, Virginia Department of Education, accessed June 28, 2024, <https://www.doe.virginia.gov/teaching-learning-assessment/student-assessment/virginia-sol-assessment-program/performance-level-descriptors>.

¹¹ “O, S, N Scale,” Report Cards, Frederick County Public Schools, accessed July 13, 2025, <https://www.frederickcountyschools.net/learning/report-cards>.

¹² “Profile of a Virginia Graduate,” Policy and Initiatives, Virginia Department of Education, accessed June 13, 2024, <https://www.doe.virginia.gov/parents-students/for-students/graduation/policy-initiatives/profile-of-a-virginia-graduate>.

basis.¹³ Accreditation status affects the amount of federal funding that a school is eligible to receive and can ultimately affect the validity of a student's diploma.¹⁴ It is imperative for students to have experience with testing from an early age so that teachers and school divisions can collect student achievement data and make more informed decisions about instruction.

Elementary students no longer take an English writing test as part of the end-of-year Virginia SOLs cumulative skills assessment, though they are given an English reading test. Recent English reading test scores available from the researcher's elementary school are from the 2023-2024 school year, in which all students who participated in state testing for Reading Performance averaged a 69% proficiency rate.¹⁵ These assessments extend beyond English reading to cover all core subject areas, and continue through twelfth grade.

Though Virginia Music SOLs exist, this content is not formally assessed at the state or district level in elementary school. Like core subject standards, music standards use a number to indicate grade level. However, instead of using a letter abbreviation to represent the skills being used, the music standards use an additional number. More often, these skills are assessed at the secondary level by outside entities on an individual division, school, or ensemble basis. In the case of this Northwestern Virginia school division, only secondary music programs participate in any sort of state assessment. The VDOE assesses the core content areas, such as language arts, history, math, and science, for the division but is not currently involved in the assessment of music standards.

¹³ "Accreditation and Accountability," Virginia Board of Education, Virginia Department of Education, accessed June 28, 2024, <https://www.doe.virginia.gov/data-policy-funding/data-reports/statistics-reports/accreditation-federal-reports>.

¹⁴ Ibid.

¹⁵ "Jordan Springs Elementary School Quality Profile," School Quality Profiles, Virginia Department of Education, accessed March 30, 2025, <https://schoolquality.virginia.gov/schools/jordan-springs-elementary>.

The National Association for Music Education (NAfME) is an entity that oversees music education programs and standards.¹⁶ Members of this organization advocate on a national level to ensure that music receives the same consideration as the other core subjects. NAfME is also responsible for developing a series of standards for music education that are then implemented at the state level by individual state music education associations.¹⁷ Virginia's arm of NAfME is referred to as the Virginia Music Educators Association (VMEA). Their primary objective is to advocate for music education in the Commonwealth and ensure that all music classes align with Virginia-specific educational initiatives.¹⁸ Additionally, VMEA hosts annual conferences that are designed to provide professional development for music educators of all disciplines.¹⁹ Though NAfME and VMEA do not explicitly oversee the assessment of music standards, both groups support educators through their many available resources. VMEA also collaborates with other music education organizations within the state to facilitate the standard implementation process and supervise the areas of primary school music education that are not covered by the ensemble assessment associations.

The organization that assesses bands and orchestras is known as the Virginia Band and Orchestra Directors Association (VBODA).²⁰ Similarly, choirs are assessed by the Virginia

¹⁶ "About NAfME," About, National Association for Music Education, accessed June 28, 2024, <https://nafme.org/about/>.

¹⁷ "Standards," Publications and Resources, National Association for Music Education, accessed June 28, 2024, <https://nafme.org/publications-resources/standards/>.

¹⁸ "About the VMEA," About, Virginia Music Educators Association, accessed June 28, 2024, <https://www.vmea.com/about>.

¹⁹ "2024 Professional Development Conference," Conference, Virginia Music Educators Association, accessed June 28, 2024, <https://www.vmea.com/vmeaconference2024>.

²⁰ "Concert Assessment," Assessments, Virginia Band and Orchestra Directors Association, accessed June 13, 2024, <https://www.vboda.org/index.php/forms.html>.

Choral Directors Association (VCDA).²¹ These organizations are primarily geared toward secondary music because they are involved in the ensemble aspect of music making. Elementary band, orchestra, or choir programs exist on a division-to-division basis. These ensembles can partake in annual formal assessments, performing three pieces from the approved repertoire list and sightreading a new composition.²² Upon adjudicator review using a standardized rubric, a school will earn a rating of I through V, with I as “superior,” II as “excellent,” III as “good,” IV as “fair,” and V as “poor.”²³ Factors such as instrumentation, ensemble size, and music difficulty can have a significant bearing on the overall rating of an ensemble, and can adversely affect programs with fewer resources. State assessments for core subjects function oppositely, granting more supports that will ensure a higher student pass rate for schools with greater needs. This inconsistency may be a result of less scrutiny for fine arts compared to core subjects, especially in the eyes of the VDOE.

Without implementing an official assessment, there is not currently a VDOE-sanctioned method for ensuring the music SOLs are being met by each school division. Despite this, fine arts are still included among the other academic requirements as part of the VDOE “Profile of a Virginia Graduate,” which ensures that students receiving a diploma from a Virginia high school are well-rounded individuals.²⁴ Ultimately, the Virginia graduate’s success is contingent on

²¹ “Stage Assessment,” Assessment, Virginia Choral Directors Association, accessed June 13, 2024, <https://www.vcda.net/index.php/events/assessment.html>.

²² “Large Ensemble Music List,” Music Lists, Virginia Band and Orchestra Directors Association, accessed June 28, 2024, <https://www.vboda.org/index.php/band-2.html>.

²³ “Band Performance- 2024 Revision,” Concert Assessment, Virginia Band and Orchestra Directors Association, accessed June 28, 2024, <https://www.vboda.org/index.php/forms.html>.

²⁴ “Profile of a Virginia Graduate,” Policy and Initiatives, Virginia Department of Education, accessed June 13, 2024, <https://www.doe.virginia.gov/parents-students/for-students/graduation/policy-initiatives/profile-of-a-virginia-graduate>.

developing that crucial skill of literacy from a young age, as this will serve as the foundation of their education.

Theoretical Framework

Reading fluency is attained through many steps, but for the purposes of this study, these steps were divided into two main categories: acquisition and application. Based on Bloom's Taxonomy, this dichotomy follows the steps of remember, understand, apply, analyze, evaluate, and create.²⁵ The first two steps of "remember" and "understand" were classified under the label of "acquisition."²⁶ The steps of "apply," "analyze," "evaluate," and "create" were classified under the label of "application."²⁷ In order to make the appropriate comparisons between MLAA and ELAA, it is imperative to understand how an individual begins the literacy acquisition process.

English Literacy Acquisition

Humans rely heavily on the practice of oral communication, reading, and writing as the necessary components of literacy. On the surface, literacy enables individuals to interact and understand one another. On a deeper level, it also bridges the gap between people, cultures, and generations. At its core, "[w]ord recognition is the foundation of reading; all other processes are dependent on it."²⁸ Before individuals develop the skills for reading and writing, the process for literacy acquisition begins in the womb, as humans are capable of recognizing and distinguishing

²⁵ "What Is Bloom's Taxonomy?" Bloom's Taxonomy, accessed June 8, 2024, <https://bloomstaxonomy.net/>.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Margaret J. Snowling, Charles Hulme, and Kate Nation, eds., *The Science of Reading: A Handbook*, 2nd ed. (Hoboken: Wiley-Blackwell Publishing, 2022), 1.

a multitude of different sounds before birth.²⁹ This process unfolds over the course of several stages during a child’s early development.

The first stage of literacy, known as “emergent literacy,” is the period when children acquire very basic skills, such as symbol and print recognition, phonological recognition and memory, and a rudimentary understanding of certain language norms.³⁰ Additionally, the emergent stage of ELAA is marked by the association of specific letters with sounds, otherwise known as “grapheme-phoneme correspondence.”³¹ The Virginia English SOLs begin in kindergarten with standards like K.FFR.3 (Phonics and Word Analysis) that involve identifying “common letter-sound correspondences,” and building “phonemic awareness,” both of which are applicable to the emergent literacy phase.³²

Following the emergent literacy stage, “early literacy” takes place in elementary school as students broaden their focus from letter and word identification to include recognition of unfamiliar words.³³ The corresponding Virginia English SOL, K.RV.1, guides students in expanding their vocabulary.³⁴ Skills involving print concepts receive significant attention during this time and are highlighted in English SOL K.FFR.1.³⁵ Some print concepts include

²⁹ Adam Kluck, “The Music Literacy Conundrum,” *The Choral Journal* 61, no. 2 (2020): 56, <https://www.jstor.org/stable/27034944>.

³⁰ Dima Safi, Pascal Lefebvre, and Marie Nader, “Literacy Acquisition: Reading Development,” *Handbook of Clinical Neurology* 173 (2020): 187, <https://doi.org/10.1016/b978-0-444-64150-2.00017-4>.

³¹ Ibid.

³² “2024 English Standards of Learning,” English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

³³ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 188.

³⁴ “2024 English Standards of Learning,” English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

³⁵ Ibid.

differentiating words from pictures, reading sentences from left to right, and recognizing simple features of a sentence.³⁶ Early literacy is also marked by the acquisition of “constrained skills,” which pertain to “finite” knowledge, such as the twenty-six letters of the alphabet or the twenty to thirty common spelling rules.³⁷ Students further explore these ideas as they progress through first and second grade. As letter identification evolves into coding and decoding, individuals are required to convey more complex ideas on paper, develop a sense for proper syntactic structure, and comprehend age-appropriate reading materials.³⁸ These elements lay the foundation for children to communicate through reading and writing.

Music Literacy Acquisition

Origins of music and language are inextricably linked, as the innate ability to differentiate sound supports the suggestion that music acquisition is as natural as language acquisition.³⁹ Similar to the phonemic awareness in ELAA, music’s equivalent skill is referred to as “audiation.”⁴⁰ Audiation is the sense of tonal understanding that enables an individual to look at a piece of music and “hear” it in their head based on the notation.⁴¹ Musicians with advanced audiation skills can even determine musical patterns and sounds without printed music.⁴² The

³⁶ “2024 English Standards of Learning,” English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

³⁷ Catherine E. Snow and Timothy J. Matthews, “Reading and Language in the Early Grades,” *The Future of Children* 26, no. 2 (2016): 58, <http://www.jstor.org/stable/43940581>.

³⁸ “2024 English Standards of Learning,” English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

³⁹ Kluck, “The Music Literacy Conundrum,” 56.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

ability to audiate and recognize specific notes on staff is less common at this stage because children are still developing grapheme-phoneme correspondences. Despite this being a more advanced skill, the Virginia Music SOL K.12 incorporates this, requiring high and low pitch recognition through audiation, as well as visual recognition with a notation system.⁴³ However, if music literacy or audiation is not developed prior to starting formal education, this skill may remain permanently underdeveloped compared to other language skills.

Much like English, music enters the early literacy stage in kindergarten, where children begin seeing music represented on the visual spectrum. Virginia Music SOL K.12 introduces notation systems that are built upon by the 1.12 and 2.12 standards, which present music written on the staff and other forms of note identification.⁴⁴ Music literacy acquisition also expands the symbol-sound relationship with preliminary instruction on the workings of form, or the musical “sentence” structure.⁴⁵ “Constrained skills” of the music classroom begin to mirror those of English, as finite elements like clefs, the seven-letter musical alphabet, rhythmic values, and the function of a time signature emerge.⁴⁶ Even with an expanding knowledge base, students in this stage must still focus on basic note identification. This is especially true for children learning pitched instruments.

English Literacy Application

“Conventional literacy” is the next phase of developing literacy, and is demonstrated by an individual’s ability to read fluently and comprehend a message or concept.⁴⁷ This delineates

⁴³ “Music- Elementary Standards Progression Chart,” Music, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/2024/637949943111470000>.

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ Ibid.

the shift from “learning to read” to “reading to learn,” in which a child’s reading becomes strong enough to utilize higher-level thinking processes and enable deeper connection and understanding of the material.⁴⁸ Educators develop a student’s constrained skills into “unconstrained skills” by gradually introducing new words and texts that a child might not encounter in typical, age-appropriate conversation.⁴⁹ As students acquire a more concrete understanding of reading, expand their vocabulary, and refine their writing skills, they are ready to generate their own ideas.

Students in Virginia are not formally tested on English writing until the secondary level. However, starting in third grade, children undergo rigorous reading assessment to quantify literacy levels.⁵⁰ The 3.W.2 English SOL supplements this skill by increasing the volume and frequency of writing that is expected for grade-level composition.⁵¹ Emphasizing independent, student-generated writing, even in response to a prompt, is an important step in the application process. Students must apply previously-learned skills, analyze and address various questions or topics, evaluate their own writing, and generate ideas to create an appropriate response for the assignment. The process of ELAA builds on concepts of written and oral communication that are learned in school and utilized throughout a lifetime.⁵² When students enter fourth and fifth grade,

⁴⁷ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 189.

⁴⁸ Ibid.

⁴⁹ Snow and Matthews, “Reading and Language in the Early Grades,” 59.

⁵⁰ Ibid., 60.

⁵¹ “2024 English Standards of Learning,” English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

⁵² Ibid.

they can achieve the top steps of Bloom’s Taxonomy more readily due to the carefully-constructed standards present in the acquisition stage.

Music Literacy Application

The significant leap in the notational and compositional concepts outlined by the Virginia Music SOLs is intended to align with the sudden increase in rigor in the Virginia English SOLs for third-grade students.⁵³ Each successive year of music education includes an increased number of concepts and an increase in difficulty.⁵⁴ Unlike its English counterpart, the requirements for MLAA in second grade starkly contrast those of third grade.⁵⁵ An educator’s approach to these concepts might impede student learning if content is not based on prior knowledge, or a logical progression is not followed.

During this stage of music literacy application, the practice of composition shifts from indiscriminate creation that resembles improvisation to formal composition that is properly notated and can be replicated by other musicians. As students advance from constrained skills to “unconstrained skills,” they can test higher-level application skills before they have mastered the basic acquisition skills of audiation and notation.⁵⁶ Students are expected to demonstrate this new knowledge through music composition using notation, as highlighted in Virginia Music SOLs 3.1, 4.1 and 5.1, while still building on previous literacy skills outline in SOL 3.12, 4.12,

⁵³ “Music- Elementary Standards Progression Chart,” Music, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/2024/637949943111470000>.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Snow and Matthews, “Reading and Language in the Early Grades,” 59.

and 5.12.⁵⁷ Per Bloom’s Taxonomy, the practice of composition is equivalent to the highest level of creation, placing it under the “application” label.⁵⁸

English Literacy Methodology

The Virginia SOLs work in conjunction with specific school division curriculums to serve as guiding principles for teaching English literacy in Virginia. The researcher’s school division has implemented an instructional approach to reading developed by Houghton Mifflin Harcourt, called *Into Reading* (HMHIR). This methodology boasts literacy instruction that is grounded in the research of *The Science of Reading* and claims to align with the literacy goals being measured in elementary school.⁵⁹ One of the featured accompanying programs is a platform for tracking student literacy data to compare assessment results over time.⁶⁰ Additionally, HMHIR is student-centered and features reading materials that are attainable for young readers and help them develop a positive relationship with reading.⁶¹ Teachers may supplement instruction with materials that align with the Virginia SOLs and *The Science of Reading*, which “bring[s] together scientific studies of reading into a state-of-the-art review.”⁶² Music educators in the division are given more leeway to select their preferred music literacy methodology.

⁵⁷ “Music- Elementary Standards Progression Chart,” Music, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/2024/637949943111470000>.

⁵⁸ “What Is Bloom’s Taxonomy?” Bloom’s Taxonomy, accessed June 8, 2024, <https://bloomstaxonomy.net/>.

⁵⁹ “Literacy Instruction Grounded in Research,” HMH Into Reading, Houghton Mifflin Harcourt, accessed June 28, 2024, <https://www.hmhco.com/programs/into-reading>.

⁶⁰ Ibid,

⁶¹ Ibid.

⁶² Snowling, Hulme, and Nation, eds., *The Science of Reading: A Handbook*, 2nd ed., xv.

Music Literacy Methodology

The music educators in the researcher's school division are not held to one uniform music literacy methodology. The division purchased a music curriculum through Savvas Learning Company, but the elementary music teachers use other instructional approaches, such as Orff-Schulwerk, Kodály, and Dalcroze instead. The Orff-Schulwerk method creates a space for students to experiment with music creation and expression, developing performing skills at their own pace.⁶³ The Kodály concept's primary goal is to use singing and physical movement to develop a child's timing and rhythmic competence.⁶⁴ Similarly, the Dalcroze method also utilizes whole-body movement and ear training in order to teach music.⁶⁵ Each of these methodologies teaches a variety of musical skills, but there is not a significant emphasis on music literacy in terms of notation. Further instruction in the reading and writing of music can come from outside resources based on teacher preference. However, the predominant methodologies used in the researcher's school division may not facilitate strong music literacy abilities if used alone.

Connections

MLAA and ELAA have a long-standing partnership, though the onus has typically been on music to aid in learning language.⁶⁶ Additionally, educational legislative decisions have

⁶³ "What is Orff Schulwerk?" About, American Orff-Schulwerk Association, accessed June 28, 2024, <https://aosa.org/about/what-is-orff-schulwerk/>.

⁶⁴ "What is the Kodály Concept?" KMI's Mission, Kodály Music Institute, accessed June 28, 2024, <https://kodalmusicinstitute.org/about-kodaly-music-institute>.

⁶⁵ "What is Dalcroze Eurhythmics?" About, Dalcroze UK, accessed June 28, 2024, <https://dalcroze.org.uk/About-us/What-is-Dalcroze/>.

⁶⁶ Cynthia L. Wagoner, "Integrating Literacy within the Performance Classroom," *Music Educators Journal* 106, no. 4 (2020): 25, <https://www.jstor.org/stable/27000796>.

created scenarios where music teachers are responsible for incorporating literacy activities, making the bond inescapable.⁶⁷ Some music educators are preemptively incorporating more literacy-based strategies in the classroom to promote critical thinking and a deeper understanding of musical concepts.⁶⁸

Though the Virginia SOLs share overarching strategies between MLAA and ELAA, the music standards do not outline the specific skills involved in each standard like the English standards do. Moreover, some musical skills like audiation and composition are phased out in lieu of learning more complex written notation.⁶⁹ This becomes problematic for a child's music education, as music literacy is reduced to simply reading notes while playing.⁷⁰ The neglect of auditory development also hinders a student's understanding of more complex musical ideas.⁷¹ Conversely, the English standards do not omit the equivalent skills of phonemic awareness and syntactic structure, but rather continue to develop them throughout subsequent grade levels.⁷² By modeling MLAA practices after ELAA practices, music educators can reap the benefits of using specific and intentional practices derived from English literacy can have on music literacy.

Statement of the Problem

A significant challenge for elementary music educators is the acquisition and application of music literacy. The lack of a uniform curriculum and detailed standards makes it difficult to

⁶⁷ Wagoner, "Integrating Literacy within the Performance Classroom," 25.

⁶⁸ Pamela Beach and Benjamin Bolden, "Music Education Meets Critical Literacy: A Framework for Guiding Music Listening," *Music Educators Journal* 105, no. 2 (2018): 45, <https://www.jstor.org/stable/26588692>.

⁶⁹ Kluck, "The Music Literacy Conundrum," 56.

⁷⁰ Ibid.

⁷¹ Ibid., 59.

⁷² "2024 English Standards of Learning," English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

establish vertical alignment like the other core subjects. Additionally, the Virginia Music SOLs for elementary general music do not provide explicit scaffolding for music literacy development, causing inconsistencies from school division to school division.⁷³ It can be arduous to align these music standards horizontally with the updated grade-level English literacy standards, especially with regards to audiation, music symbol identification, and composition.⁷⁴ Without a consistent and adequate methodology for developing music literacy during this critical period, the effectiveness of elementary music programs can suffer, potentially impacting secondary music education for years to come.

Statement of the Purpose

The purpose of this applied research study was to determine if there is a difference in music literacy abilities between students taught using standard music literacy practices and those who received instruction modeled after English literacy methods. Additionally, the study revealed which specific music literacy acquisition and application skills showed the most significant level of improvement in elementary students. Findings yielded by this research will be used to inform instructional practices in the music classroom and possibly create a new methodology for teaching music literacy in the elementary general music classroom.

Significance of the Study

This applied research study addressed an aspect of music education that is imperative for long-term student success and future retention in music programs. However, the use of written notation as the primary means for learning music receives opposition because it does not account

⁷³ “Music- Elementary Standards Progression Chart,” Music, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/2024/637949943111470000>.

⁷⁴ “2024 English Standards of Learning,” English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

for literacy gaps or developmental disparities in younger students, nor does it mirror the process for language acquisition.⁷⁵ It is argued that music teachers neglect compositional exercises to reinforce literacy, eliminating another useful parallel with ELAA.⁷⁶ The rationale for selecting this topic was to identify and implement successful practices of ELAA and determine if these could be utilized to create a model of MLAA that will have a positive impact on the music literacy abilities of elementary students. Ineffective practices of MLAA can negatively impact musical understanding, limit creative potential, stagger performance ability, and ultimately deter students from pursuing music past the compulsory elementary level.

Research Questions

The following research questions address the impact of modeling music literacy acquisition and application after English literacy acquisition and application:

Research Question One: Does modeling music literacy acquisition and application after English literacy acquisition and application improve the music literacy abilities of elementary students in grades three through five more than using traditional music literacy practices?

Hypothesis One: Modeling music literacy acquisition and application after English literacy acquisition and application is more effective in improving music literacy abilities of elementary students in grades three through five than traditional music literacy practices.

Research Question Two: What practices of music literacy acquisition and application show the most significant level of improvement in music literacy ability among elementary students based on student assessment?

⁷⁵ Constance L. McKoy and Vicki R. Lind, *Culturally Responsive Teaching in Music Education*, 2nd ed. (New York, NY: Routledge, 2023), 48.

⁷⁶ David Waller, "Language Literacy and Music Literacy: A Pedagogical Asymmetry," *Philosophy of Music Education Review* 18, no. 1 (2010): 31-32, <https://doi.org/10.2979/pme.2010.18.1.26>.

Hypothesis Two: Practices of music literacy acquisition and application that show the most significant level of improvement in music literacy ability in elementary students based on student assessment include music symbol identification and composition.

Definition of Terms

Acquisition. The gathering of bodies of knowledge through gradual experience.⁷⁷

Arrangement. A version of a piece that is rewritten for instrumentation different than the original.⁷⁸

Application. The use of basic literacy principles for the mapping of sounds to print form, as well as translating printed materials to sound within a specific context.⁷⁹

Audiation. The ability to use one's mind to perceive sound based on aural memory and written notation.⁸⁰

Bloom's Taxonomy. A classification system used for developing learning goals that establishes the hierarchy of the levels of thinking.⁸¹

Composition. The act of writing music.⁸²

⁷⁷ Snow and Matthews, "Reading and Language in the Early Grades," 57.

⁷⁸ "Arrangement," Dictionary, Merriam-Webster, accessed October 19, 2024, <https://www.merriam-webster.com/dictionary/arrangement#:~:text=%3A%20a%20piece%20of%20music%20that,type%20of%20voices%20or%20instruments>.

⁷⁹ Snow and Matthews, "Reading and Language in the Early Grades," 58.

⁸⁰ Kluck, "The Music Literacy Conundrum," 56.

⁸¹ "What Is Bloom's Taxonomy?" Bloom's Taxonomy, accessed June 8, 2024, <https://bloomstaxonomy.net/>.

⁸² Waller, "Language Literacy and Music Literacy: A Pedagogical Asymmetry," 27.

Conventional Literacy. The third stage of literacy used to understand the meaning of written material.⁸³

Dalcroze Eurhythmics Method. A teaching approach designed by composer Émile Jaques-Dalcroze that uses whole-body movement and ear training to acquire music-making proficiency.⁸⁴

Dictation. The act of notating music that has been performed.⁸⁵

Early Literacy. The second stage of literacy that combines word recognition and comprehension to facilitate reading of sentences and more complex material.⁸⁶

Emergent Literacy. The initial stage of literacy characterized by letter and word identification and sound association.⁸⁷

Grapheme. The written representation of a Phoneme, or small unit of sound.⁸⁸

Houghton Mifflin Harcourt: *Into Reading*. A literacy program designed to develop reading skills in children using the most current research on literacy.

Kodály Concept. A teaching approach designed by composer Zoltán Kodály to provide music instruction through singing and movement.⁸⁹

⁸³ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 189.

⁸⁴ “What is Dalcroze Eurhythmics?” About, Dalcroze UK, accessed June 28, 2024, <https://dalcroze.org.uk/About-us/What-is-Dalcroze/>.

⁸⁵ “Dictation,” Dictionary, Merriam-Webster, accessed October 19, 2024, <https://www.merriam-webster.com/dictionary/dictation>.

⁸⁶ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 188.

⁸⁷ Ibid., 187.

⁸⁸ Ibid.

⁸⁹ “What is the Kodály Concept?” KMI’s Mission, Kodály Music Institute, accessed June 28, 2024, <https://kodalmusicinstitute.org/about-kodaly-music-institute>.

Music Literacy. The ability to read and write music using a notation system.⁹⁰

Music Educators National Conference. A national-level organization that was created with the intention of advocating for music education. This organization later became known as the National Association for Music Education.⁹¹

National Association for Music Education. A national-level organization founded for the advocacy of music education at every stage of schooling in the United States.⁹²

Orff-Schulwerk Method. A teaching approach designed by composer Carl Orff to foster student expression and creativity through music.⁹³

Orthography. A system of word identification that combines visual elements, such as letters and words, and their given meaning within a language.⁹⁴

Phoneme. The smallest unit of sound used to distinguish different words.⁹⁵

Phonology. The science of speech and the sounds that present in a language or related languages.⁹⁶

⁹⁰ “Music Literacy,” Education, International Kodály Society, accessed January 19, 2025, <https://www.iks.hu/zoltan-kodalys-life-and-work/education/musical-literacy.html#:~:text=Music%20literacy%20refers%20to%20the,of%20musical%20examples%20and%20styles>.

⁹¹ Corin Overland and Alison Reynolds, “The Role of MENC: The National Association for Music Education in Early Childhood Music Education 1980-2007,” *Journal of Historical Research in Music Education* 31, no. 2 (2010): 100, <http://www.jstor.org/stable/20789866>.

⁹² “About NAFME,” About, National Association for Music Education, accessed June 28, 2024, <https://nafme.org/about/>.

⁹³ “What is Orff Schulwerk?” About, American Orff-Schulwerk Association, accessed June 28, 2024, <https://aosa.org/about/what-is-orff-schulwerk/>.

⁹⁴ Snowling, Hulme, and Nation, eds., *The Science of Reading: A Handbook*, 2nd ed., 7.

⁹⁵ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 187.

⁹⁶ “Phonology,” Dictionary, Merriam-Webster, accessed September 22, 2024, <https://www.merriam-webster.com/dictionary/phonology>.

The Science of Reading. A body of work comprised of studies on literacy acquisition aimed at determining the most effective methods for teaching reading.⁹⁷

Sightreading. The ability to use prior knowledge of music notation and perform a musical passage at first sight.⁹⁸

Suzuki Method. A teaching approach developed by Shinichi Suzuki that claims all students possess the ability to learn music and are best taught through a nurturing environment.⁹⁹

Takadimi. A rhythm syllable counting system created by Richard Hoffman, William Peltó, and John W. White that is employed as part of the Kodály concept.¹⁰⁰

Virginia Band and Orchestra Directors Association. A facet of the Virginia Music Educators Association that oversees the assessment of concert band, marching band, and orchestra programs, and provides guidance for honor band events.¹⁰¹

Virginia Choral Directors Association. A face of the Virginia Music Educators Association that oversees the assessment of choral programs and provides guidance for honor choir events.¹⁰²

⁹⁷ Snowling, Hulme, and Nation, eds., *The Science of Reading: A Handbook*, 2nd ed., 1.

⁹⁸ Waller, “Language Literacy and Music Literacy: A Pedagogical Asymmetry,” 32.

⁹⁹ “The Suzuki Method,” Suzuki Method, International Suzuki Association, accessed September 22, 2024, <https://internationalsuzuki.org/method.htm>.

¹⁰⁰ James Bowyer, “More than Solfège and Hand Signs: Philosophy, Tools, and Lesson Planning in the Authentic Kodály Classroom,” *Music Educators Journal* 102, no. 2 (2015): 71, <http://www.jstor.org/stable/24755663>.

¹⁰¹ “Virginia Band and Orchestra Directors Association,” Home, Virginia Band and Orchestra Directors Association, accessed June 28, 2024, <https://www.vboda.org/index.php>.

¹⁰² “Virginia Choral Directors Association,” Home, Virginia Choral Directors Association, accessed June 28, 2024, <https://www.vcda.net/>.

Virginia English SOL FFR.1. A Virginia Standard of Learning that addresses the organization and reading of printed materials.¹⁰³

Virginia English SOL FFR.3. A Virginia Standard of Learning that addresses phonics and word analysis, as well as reading and spelling words.¹⁰⁴

Virginia English SOL RV.1. A Virginia Standard of Learning that addresses vocabulary development and word analysis.¹⁰⁵

Virginia English SOL W.1. A Virginia Standard of Learning that addresses the different modes of purpose for writing.¹⁰⁶

Virginia English SOL W.2. A Virginia Standard of Learning that addresses the organization of a work of writing, as well as composition.¹⁰⁷

Virginia Literacy Act. A piece of legislature passed by the Virginia General Assembly in 2022 that aims to improve early literacy through the science of reading and evidence-based practices.¹⁰⁸

Virginia Music Educators Association. The governing body of music education in the Commonwealth of Virginia that is responsible for promoting quality music education.¹⁰⁹

¹⁰³ “2024 English Standards of Learning,” English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ “Virginia Literacy Act,” English, Reading, and Literacy, Virginia Department of Education, accessed September 8, 2024, <https://www.doe.virginia.gov/teaching-learning-assessment/k-12-standards-instruction/english-reading-literacy/literacy/virginia-literacy-act#update>.

¹⁰⁹ “About the VMEA,” About, Virginia Music Educators Association, accessed June 28, 2024, <https://www.vmea.com/about>.

Virginia Music SOL 3.1. A Virginia Standard of Learning that addresses music improvisation and composition the third-grade level.¹¹⁰

Virginia Music SOL 4.1. A Virginia Standard of Learning that addresses music improvisation and composition the fourth-grade level.¹¹¹

Virginia Music SOL 5.1. A Virginia Standard of Learning that addresses music improvisation and composition the fifth-grade level.¹¹²

Virginia Music SOL K.12. A Virginia Standard of Learning that addresses basic music literacy, such as low and high pitches and basic rhythmic symbols.¹¹³

Virginia Music SOL 1.12. A Virginia Standard of Learning that addresses basic music literacy, such as pitch and simple notational systems.¹¹⁴

Virginia Music SOL 2.12. A Virginia Standard of Learning that addresses intermediate music literacy, such as melodic contour, note patterns, musical alphabet, and simple notational systems.¹¹⁵

Virginia Music SOL 3.12. A Virginia Standard of Learning that addresses intermediate music literacy, such as melodic contour, notational systems, rhythmic patterns, and basic music symbols.¹¹⁶

¹¹⁰ “Music- Elementary Standards Progression Chart,” Music, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/2024/637949943111470000>.

¹¹¹ Ibid.

¹¹² Ibid.

¹¹³ Ibid.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

¹¹⁶ Ibid.

Virginia Music SOL 4.12. A Virginia Standard of Learning that addresses advanced music literacy, such as traditional notation, complex rhythms, time signatures, and dynamics.¹¹⁷

Virginia Music SOL 5.12. A Virginia Standard of Learning that addresses advanced music literacy, such as treble and bass clefs, traditional notation, complex rhythms, compound meter, and tempo markings.¹¹⁸

Virginia Standards of Learning. A series of standards designed to assess the success of students learning and achievement in the state of Virginia.¹¹⁹

Summary

Music and language share a multitude of commonalities in terms of both acquisition and application. However, the similarities in pedagogy are not highlighted in the actual teaching of these two concentrations. Music has often been relegated to the supporting role for language, but the inverse of language's effect on music has hardly been investigated. The goal of this applied research study was to compare the music literacy abilities of students who received instruction using traditional music literacy practices inspired by the state standards to those who received instruction that was modeled after English literacy practices.

The applied study consisted of weekly instruction and assessment to determine if students following the MLAA model or students using the ELAA model were showing more significant improvement of music literacy abilities. Study samples consisted of two groups of students ranging from grades three through five over the course of six weeks. The control group used the model of traditional music literacy acquisition and application, and the experimental group used

¹¹⁷ "Music- Elementary Standards Progression Chart," Music, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/2024/637949943111470000>.

¹¹⁸ Ibid.

¹¹⁹ "Virginia SOL Assessment Program," Student Assessment, Virginia Department of Education, accessed June 12, 2024, <https://www.doe.virginia.gov/teaching-learning-assessment/student-assessment>.

the model of music literacy modeled after English literacy acquisition and application.

Additionally, the study sought to identify which specific MLAA practices resulted in the most notable advancements in student music literacy.

Chapter Two: Literature Review

Overview

Music literacy is a crucial, foundational skill to any student engaging in music education, especially during the transition from elementary general music to secondary music programs. Therefore, this study was conducted to determine the impact of modeling music literacy after English literacy, and if certain skills would show more improvement in terms of music reading ability. This chapter examines the pertinent literature in the form of a Systematic Review. Literature addressed in this review is sorted under three main headings: English Literacy, Music Literacy, and Related Organizations. “English Literacy” will explore works related to the early acquisition and application of literacy skills that are developed in the first few years of a child’s life. “Music Literacy” will draw connections between literacy practices and the popular methodologies used to teach these skills in the elementary general music classroom. “Related Organizations” will identify the entities that are responsible for creating and assessing teaching practices in both the English classroom and music classroom.

Systematic Review

English Literacy

The Science of Reading

As Virginia educators in the K-12 classroom begin the 2024-2025 school year, they are faced with a new series of initiatives to improve student literacy through the use of science and evidence-based practices, per the Virginia Literacy Act (VLA) passed in 2022.¹ A selection of programs have been approved for use by the Virginia Department of Education (VDOE), all of

¹ “Virginia Literacy Act,” English, Reading, and Literacy, Virginia Department of Education, accessed September 8, 2024, <https://www.doe.virginia.gov/teaching-learning-assessment/k-12-standards-instruction/english-reading-literacy/literacy/virginia-literacy-act#update>.

which are derived from *The Science of Reading*.² Originally published in 2007, *The Science of Reading* has been updated to reflect the immense changes in literacy that are a direct result of the Covid-19 Pandemic, as well as the general trends seen in education.³ However, many of the overarching concepts that underpin literacy in a general sense remain the same.

The Science of Reading is a comprehensive work that delves into the minutia of childhood literacy as it dissects the specific stages of literacy development. Different stages of literacy are closely associated with the stages of childhood development. As a result, educational companies catering to elementary-aged students are keen to model their products after this particular book. Even through shifts in educational trends, ideology, pedagogy, and technology, the pragmatic approach of *The Science of Reading* remains relevant and is “driven by theoretical insights and methodological advances.”⁴

The Science of Reading is broken down into six major sections. Part I is devoted to the overarching concept of word recognition. This process begins with orthographic processing, which combines the visual input of seeing letters and words with their assigned meaning.⁵ Part II focuses on the connections between reading and spelling, particularly the challenges of solidifying letter-sound mapping in words that do not adhere to inherent orthographic and

² “Virginia Literacy Act,” English, Reading, and Literacy, Virginia Department of Education, accessed September 8, 2024, <https://www.doe.virginia.gov/teaching-learning-assessment/k-12-standards-instruction/english-reading-literacy/literacy/virginia-literacy-act#update>.

³ Margaret J. Snowling, Charles Hulme, and Kate Nation, eds., *The Science of Reading: A Handbook*, 2nd ed. (Hoboken: Wiley-Blackwell Publishing, 2022), xv.

⁴ Snowling, Hulme, and Nation, eds., *The Science of Reading: A Handbook*, 2nd ed., xv.

⁵ Ibid., 7.

phonological rules.⁶ For Part III, the authors introduce the study of reading comprehension, which “will involve many of the same processes as comprehending speech.”⁷

In the second half of *The Science of Reading*, Part IV evaluates how developing the skills to read and write in English can translate to the variations of orthography seen in other languages, specifically Chinese.⁸ Part V introduces a number of reading disorders that affect both children and adults, including the differing types and degrees of dyslexia.⁹ Lastly, Part VI elaborates on the biological and social correlates that affect reading ability.¹⁰ According to the book’s authors, “the science of reading should not be specific to one language or one writing system.”¹¹ The implication is that a literacy system based on the science of reading is applicable to another orthography, such as music. Considering the longevity and influence that this book has had in the field of education, it is worth exploring how these techniques can affect music literacy.

Literacy Acquisition: Reading Development

Much like *The Science of Reading*, this chapter of *Handbook of Clinical Neurology* breaks down the periods of literacy based on childhood development.¹² The first period begins with “emergent literacy,” which typically takes place before children are formally enrolled in

⁶ Snowling, Hulme, and Nation, eds., *The Science of Reading: A Handbook*, 2nd ed., 121.

⁷ Ibid., 235.

⁸ Ibid., 323.

⁹ Ibid., 391.

¹⁰ Ibid., 487.

¹¹ Ibid., 1.

¹² Dima Safi, Pascal Lefebvre, and Marie Nader, “Literacy Acquisition: Reading Development,” *Handbook of Clinical Neurology* 173 (2020): 186, <https://doi.org/10.1016/b978-0-444-64150-2.00017-4>.

school.¹³ The authors note that during this emergent period, “children do not mandatorily go through all proposed stages in a sequential manner, but rather, go through overlapping phases.”¹⁴ Music literacy sequencing is similar to this, as students are often required to recall previously learned information that overlaps. For instance, reading a musical passage requires knowledge such as the value of a note, how this is affected by a time signature, what pitch is indicated on the designated staff, etc. Considering that emergent literacy usually takes place before students enroll in school, students who learn music literacy solely in a school setting potentially start at a disadvantage.

In the “early literacy” period, students are acquiring the skills to identify words through the use of letter recognition and basic grapheme-phoneme correspondence.¹⁵ Early literacy is also characterized by the increased use of blends to create new lexical pathways that will help with identifying unfamiliar or uncommon words.¹⁶ As with emergent literacy, early literacy relies on a child’s ability to access previously learned orthographic representations of words in order to reinforce these skills.¹⁷ Students in the music classroom learning standard, Western music notation will also rely on their ability to recall orthographic representations of rhythms, note names, and other music vocabulary.

“Conventional literacy” is the final period of literacy in early childhood development, where children are reading to decipher a message.¹⁸ Children are able to accomplish a higher

¹³ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 186.

¹⁴ Ibid.

¹⁵ Ibid., 188.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid., 189.

level of communication because “the automatization of low-level processes (highly engaged in word identification at the single-word level) frees up cognitive resources, which in turn allows high-level processes to increase their contribution to the overall reading performance.”¹⁹

Constant overlapping in both emergent and early literacy has created and reinforced lexical pathways, allowing for a deeper level of comprehension. Part of this higher level of comprehension includes understanding sentences, recognizing linguistic structures, and adhering to certain language constraints.²⁰ In musical terms, this level of literacy is represented by a student’s ability to sightread a line of music, understand melodic contour, and use additional symbols, such as key signatures, accidentals, dynamics, etc.

Reading and Language in the Early Grades

Similar to classifying literacy into emergent, early, and conventional phases, literacy is also broken down into constrained and unconstrained skills.²¹ Throughout the acquisition phase, there are several observable skills promoted in young children, such as “reciting the alphabet, recognizing and writing letters, writing one’s own name, reading environmental print (signs and labels), and knowing how to hold a book upright and turn the pages.”²² Snow and Matthews explain that it is crucial for children to learn to manipulate these phonemes, or units of sound, as it creates a more comprehensive understanding of the functionality of letters, words, and sentences.²³ These constrained skills are further categorized as “finite” due to the inherent

¹⁹ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 189.

²⁰ Ibid.

²¹ Catherine E. Snow and Timothy J. Matthews, “Reading and Language in the Early Grades,” *The Future of Children* 26, no. 2 (2016): 58, <http://www.jstor.org/stable/43940581>.

²² Ibid.

²³ Snow and Matthews, “Reading and Language in the Early Grades,” 58.

limitations of the alphabet, the number of phonemes, and common spelling rules.²⁴ Finite musical skills might include identifying the seven notes of the musical alphabet and understanding how notes repeat as pitch goes up or down, identifying basic rhythmic units and understanding how rhythms fit into a measure based on a time signature, and recognizing that melodic material consists of a combination of varying pitches and rhythms that fall within this scheme of rules.

Unconstrained skills are more ambiguous and are considered to be “infinite” because they are more abstract in nature.²⁵ The authors explain that “[v]ocabulary and background knowledge are *unconstrained* skills- large domains acquired gradually through varied experience, rather than through focused instruction.”²⁶ As student knowledge surpasses the basic principles of literacy, it becomes difficult to pinpoint areas of need. Educators must expand their teaching practices beyond constrained skills and finite knowledge, even though these abilities are simpler to teach and assess than unconstrained skills.²⁷ Limited instructional time for general music in elementary school can pose a challenge to learning unconstrained skills, such as music composition and improvisation.

One initiative designed to improve reading accuracy and fluency was “Reading First,” which was implemented in 2002.²⁸ “Reading First” provided schools with government funding to support students who struggled with literacy, including an allotted ninety minutes of focused

²⁴ Snow and Matthews, “Reading and Language in the Early Grades,” 58.

²⁵ *Ibid.*, 59.

²⁶ *Ibid.*

²⁷ *Ibid.*

²⁸ *Ibid.*, 61.

literacy instruction per day.²⁹ “Success for All” was another program created to expand student literacy in the early stages of schooling, but like “Reading First,” was only as effective as the teachers and schools implementing it.³⁰ Such programs are often supplementary to curriculums that are already being used with a school system. Though school divisions often use entire curricula developed by textbook publishers, Snow and Matthews explain that there is “limited evidence that such curricula are effective, or that picking one curriculum over another matters much for elementary children’s literacy skills.”³¹ Music teachers face a similar dilemma, as the available methodologies introduce music literacy concepts and notation systems, but with much ambiguity and inconsistency. Depending on the selected methodology and its implementation, students could potentially leave elementary school with an extremely limited knowledge of notational structure, terminology, and compositional rules.

Curricula’s minimal impact on literacy skills means the onus of literacy development must be placed on the learning environment itself, including teachers, specialists, and parents or caregivers.³² A constrained skill such as phonemic awareness is addressed through interventions that strengthen the letter and sound relationships in young readers.³³ Emphasizing phonics may not be necessary for every student, but directing intervention strategies at only the poorest readers in a group is ineffective.³⁴ Reading abilities of the poorest readers vary by class and school, and are affected by outside factors of race, socioeconomic status, or learning

²⁹ Snow and Matthews, “Reading and Language in the Early Grades,” 61.

³⁰ *Ibid.*, 63.

³¹ *Ibid.*, 64.

³² *Ibid.*, 65.

³³ *Ibid.*

³⁴ *Ibid.*, 66-67

disabilities.³⁵ Within the elementary music context, teachers will likely encounter children who study an instrument or voice privately. In addition to focusing on the music literacy skills students who are still in the acquisition phase, teachers can utilize the experienced musicians within the classroom to assist in music literacy activities. This ensures that all students are building the same foundation, while allowing for differentiation of instruction for those with more advanced musical skills.

Unconstrained skills are approached in a similar manner, primarily focusing on the most essential concept of vocabulary.³⁶ Similar to constrained skills, unconstrained skills are also affected by student “social class differences,” and children with better access to resources generally see more benefit from programs aimed at expanding and refining vocabulary.³⁷ Another effective program for vocabulary growth is “World of Words,” which “focuses on teaching words that fit together into conceptual structures.” Such curriculums help close the gap in literacy achievement by teaching students to decode words based on categorically similar words, and prompting them to make more informed inferences about new vocabulary.³⁸ Though music literacy has the potential to be broad and nebulous, it does not compare to the sheer scope of a spoken language in terms of infinite knowledge. The smaller scale of music literacy lends itself to more specific categories of musical jargon, allowing for a more deliberate approach when teaching unconstrained skills to young musicians.

³⁵ Snow and Matthews, “Reading and Language in the Early Grades,” 66-67.

³⁶ *Ibid.*, 67.

³⁷ *Ibid.*

³⁸ *Ibid.*

Houghton Mifflin Harcourt: *Into Reading*

Houghton Mifflin Harcourt’s (HMH) curriculum, *Into Reading*, is the current curriculum of all elementary schools in the researcher’s school division. The division has implemented this program for the 2024-2025 school year following the Virginia Literacy Act (2022) to ensure that the division’s curriculum continues to align with the Virginia Standards of Learning for English and Reading. The program includes digital content for use on 1:1 technology, such as computers, Chromebooks, or other devices, as well as materials for handwritten assignments.³⁹ A primary text associated with HMHIR is *The Science of Reading*, which serves as the basis of the curriculum as it provides “explicit, systematic instruction for foundational skills.”⁴⁰ HMHIR also includes components such as multi-sensory phonemic awareness lessons, sequenced phonics instruction, spelling instruction, practice materials for handwriting, and high-frequency words.⁴¹ Materials are intended to engage and motivate students of all abilities to master the important foundational skills during the early stages of literacy acquisition.⁴² Having a multitude of instructional options enables teachers to adhere to the state-mandated standards and assessments while tailoring lessons to suit student needs.

HMHIR’s platform enables teachers to complete daily practice exercises as an entire class or at an individual pace.⁴³ Additionally, this program has curated a robust selection of authentic, multi-genre literature designed to connect with and inspire diverse populations of

³⁹ “Program Overview,” Sample HMH *Into Reading* Grades K-6, Houghton Mifflin Harcourt, accessed October 12, 2024, <https://s3.amazonaws.com/prod-hmhco-vmg-craftcms-public/programs/Into-Reading-V2-NTL-K-6-Connected-Overview-1.pdf>.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

students.⁴⁴ One key feature that accompanies reading selections is the “*myBook*” tool, which “encourages students to interact with the text with note taking, annotating, and responding.”⁴⁵ HMHIR also offers an adaptive vocabulary platform that guides students through word morphology, such as prefixes, suffixes, roots, and base words.⁴⁶ These content offerings allow students to engage with literacy instruction at their own pace while staying within parameters set by the teacher.

An attractive aspect of the HMHIR curriculum and platform is the ability to create differentiated lessons and small-group content.⁴⁷ Each lesson can be scaffolded to accommodate individual learners by either scaling back the difficulty to ensure understanding, or providing more rigorous coursework to keep students challenged and engaged.⁴⁸ Students can access content at home and continue practicing literacy concepts with assistance from parents or other caretakers.⁴⁹ English language learners (ELL) have access to all lessons in Spanish, which is crucial in a school division that caters to a large Spanish-speaking population.⁵⁰ Though elementary students in the researcher’s school division are not permitted to take 1:1 technology devices off campus, students may still access HMHIR and use the platform outside of school as program developers intended.

⁴⁴ “Program Overview,” Sample HMH *Into Reading* Grades K-6, Houghton Mifflin Harcourt, accessed October 12, 2024, <https://s3.amazonaws.com/prod-hmhco-vmg-craftcms-public/programs/Into-Reading-V2-NTL-K-6-Connected-Overview-1.pdf>.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Ibid.

In addition to a myriad of reading supports, HMHIR offers extensive writing support with “[d]aily writing and purposeful scaffolding [that] ensure students receive the support and practice they need to become independent writers.”⁵¹ As with the reading platform, teachers can create scaffolded and differentiated writing lessons that provide direct instruction and guided practice, as well as implement lessons designed for English language learners.⁵² Writing conference pages, rubrics, and assessment worksheets are also available as printed materials to give students writing practice while refining handwriting skills.⁵³ School divisions can purchase optional add-ons such as “Writable” and “¡Arriba la Lectura!” depending on the specific needs of the student population.⁵⁴ With the large ELL population at the researcher’s elementary school, teachers utilize both additional programs to differentiate instruction for students who are not native English speakers.

In response to the post-Covid-19 push for increased social-emotional learning, HMHIR “supports the development of the whole child with a focus on social and emotional learning,” and “understanding themselves and others.”⁵⁵ The curriculum incorporates activities for promoting self-awareness, self-management, and social awareness.⁵⁶ HMHIR offers a comprehensive assessment interface to monitor student progress that “provides ongoing,

⁵¹ “Program Overview,” Sample HMH *Into Reading* Grades K-6, Houghton Mifflin Harcourt, accessed October 12, 2024, <https://s3.amazonaws.com/prod-hmhco-vmg-craftcms-public/programs/Into-Reading-V2-NTL-K-6-Connected-Overview-1.pdf>.

⁵² Ibid.

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Ibid.

balanced assessment and integrated, actionable reporting.”⁵⁷ The program measures growth through three annual assessments, twelve module tests, and lesson-level homework assessments.⁵⁸ HMHIR’s curriculum is not only a series of texts and materials, but an entire system aimed at educating the whole child in the most important subject area of literacy.

Music Literacy

The Music Literacy Conundrum

An unfortunate reality for music teachers of this era is the significant decline in the ability and desire to read notated music.⁵⁹ Kluck explains that “young singers are becoming less adept and perhaps even less interested in reading music, and long-term effects can be seen even in collegiate ensembles.”⁶⁰ Though technology has enabled musicians with minimal music literacy prowess to perform and even compose music, many educators feel that reading written notation is still paramount to the act of music making.⁶¹ The perception of music literacy as the conversion of musical signs into sounds and vice versa does not negate teaching by aural transmission, but rather encourages educators to combine these methodologies to enable students to “converse in musical language.”⁶² Audiation, or the ability to understand how written music will sound without physically hearing it, is perhaps one of the most integral aspects of music

⁵⁷ “Program Overview,” Sample HMH *Into Reading* Grades K-6, Houghton Mifflin Harcourt, accessed October 12, 2024, <https://s3.amazonaws.com/prod-hmhco-vmg-craftcms-public/programs/Into-Reading-V2-NTL-K-6-Connected-Overview-1.pdf>.

⁵⁸ Ibid.

⁵⁹ Adam Kluck, “The Music Literacy Conundrum,” *The Choral Journal* 61, no. 2 (2020): 55, <https://www.jstor.org/stable/27034944>.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid.

literacy.⁶³ The author notes that collegiate musicians frequently do not possess this foundational ability at a high level, let alone in any useful capacity.⁶⁴ Music education innovators such as Zoltán Kodály, Carl Orff, and Shinichi Suzuki recognized its importance and used audiation as the underpinning of their methodologies.⁶⁵ Even so, collegiate and professional musicians still struggle to make the connection between notated music and sound regardless of the prominence of audiation in these methodologies and the general music classroom.

One advantage to combatting this deficiency in aural skills is the inherent connections between music and language that take place within the human brain.⁶⁶ Kluck states that with the linguistic and musical processing systems in the brain, “music is as natural for humans as language.”⁶⁷ He further explains the numerous similarities between music and language acquisition, and that these similarities make it possible for musical learning to keep pace with that of language.⁶⁸ Though the process for acquiring music literacy is predominantly based on the act of copying, there has been a shift toward creating expert musicians whose sole focus is learning and executing written notation, as opposed to exploring the more creative aspects of conversational music.⁶⁹ Rather than using music literacy as a vehicle for musical independence, students are merely learning to recreate the works of composers with little thought or deeper exploration of these musical ideas at the tonal level.⁷⁰ Just as a child learning to read eventually

⁶³ Kluck, “The Music Literacy Conundrum,” 56.

⁶⁴ Ibid.

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ Ibid.

⁶⁹ Ibid.

learns meaning, allegory, symbolism, rhetoric, etc., a musician must learn harmonic language, text painting, compositional techniques, and musical significance. Literature does not occur in the vacuum of academia, and neither should music.

Music educators must frequently justify the subject's existence within a school curriculum as a result of focusing on musical experience over academic skills, such as literacy.⁷¹ While performing is a valuable and meaningful part of making music, solely emphasizing performance rather than the transferable skills of reading, counting, history and social context, make it difficult to legitimize music as a subject.⁷² Furthermore, neglecting these aspects of musicianship is detrimental to creating well-rounded students capable of more than pushing buttons or repeating lyrics.⁷³ Kluck states that "[i]f we truly believe that our content is of high value to all students, we must be able to demonstrate its academic benefits."⁷⁴ Specifically, he refers to the deep connections between the written word and the written note, explaining that both are crucial to the preservation of the artform.⁷⁵ Music literacy is crucial to the teaching of music itself and solidifying music's role in the development of intellectual and emotional sensibilities that individuals carry into other facets of life.

Another barrier that music literacy must overcome is the shortage of collegiate-level music students who possess very basic literacy skills, such as dictation or discriminating between

⁷⁰ Kluck, "The Music Literacy Conundrum," 57.

⁷¹ *Ibid.*, 58.

⁷² *Ibid.*

⁷³ *Ibid.*

⁷⁴ *Ibid.*

⁷⁵ *Ibid.*

pitch.⁷⁶ Though Kluck claims that “[t]his speaks to our failures specifically at the collegiate level in creating well-versed, independent, literate musicians,” music teachers at the elementary and secondary level are equally culpable for the underdevelopment of this skillset.⁷⁷ If the next generation of music teachers cannot perform simple music literacy tasks, the students under their tutelage have little hope to become adept at these skills.⁷⁸ One reason for the disconnect between pedagogy and outcome is the absence of a uniform music curriculum at the national, state, and school division level.⁷⁹ Without a “universally agreed-upon music curriculum,” it is nearly impossible to ensure that all children are developing music literacy skills at the same level.⁸⁰ Moreover, a school division without required assessment and accountability measures actually enables music teachers to address standards without fostering the music literacy abilities of their students. It is possible for one music educator to teach literacy concepts while never going beyond surface-level instruction, while another within the same general location might teach students as much as sightreading, dictating, arranging, and composing.

The musical ability of a program also hinges on the requirement of ensemble participants to read and perform music, though they are “almost never [asked] to write even simple melodic or rhythmic passages.”⁸¹ Even comparable pedagogical techniques between language and music often omit the written component.⁸² Excluding exercises in creativity can make rehearsals

⁷⁶ Kluck, “The Music Literacy Conundrum,” 59.

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Ibid.

⁸² Ibid.

passive and do not permit students to actively engage in music making beyond simple mimicry.⁸³ Kluck further explains that “the authors of many articles on this subject bemoan the fact that there seems to be almost no useful research on the specific topic of this type of music literacy.”⁸⁴ Usual studies are based on empirical evidence or specific attributes of literacy that are common to musicians, rather than an in-depth exploration of how students develop a holistic understanding of music literacy.⁸⁵ A lack of uniformity in music literacy pedagogy creates inconsistencies in measuring and comparing the effectiveness of literacy methods, and can obscure the most necessary techniques for teaching music literacy and musicianship.

The disparity of music literacy abilities between individual students and entire music programs is further impacted by the use of instruments in the curriculum.⁸⁶ Kluck specifically compares the areas of choir and band, as choral programs can more readily accept members regardless of music literacy ability.⁸⁷ However, band students are less likely to join a program at the secondary level due to the hurdles of acquiring music literacy and applying these skills to an instrument.⁸⁸ He further explains that band students must continue to learn more complex techniques for their instrument in order to keep up with the demands of more challenging repertoire, yet choir students can often sing music that is beyond the complexity of that which they can actually read.⁸⁹ An emphasis on performance for secondary band or choir students often

⁸³ Kluck, “The Music Literacy Conundrum,” 59.

⁸⁴ *Ibid.*, 60.

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*

⁸⁹ *Ibid.*

forces ensemble directors to focus on programming impressive concerts with incredibly challenging repertoire rather than investing in an ensemble's musicality or literacy.⁹⁰ It is counterintuitive to concentrate on the final product before teaching the necessary skills to achieve this desired result. Similarly, it is unrealistic to expect a student to read an entire chapter book before learning the alphabet.

Although issues of declining music literacy begin as early as elementary school, the negative effects of an improper musical foundation can be visible through the collegiate level.⁹¹ Kluck surmises that “[i]ncoming students’ aptitude in reading even the simplest rhythms and intervals in their choir auditions has been noticeably declining” and that this issue is not limited to his specific school, but exists at other institutions as well.⁹² He admits previously neglecting efforts to instill true music literacy and instead settling for basic reading and imitation.⁹³ Kluck also points out that this travesty often occurs in collegiate music education programs that are insufficient in preparing future educators to effectively teach music literacy.⁹⁴ In conjunction with the innumerable challenges new teachers face, deficits in an educator’s musical abilities cause key skills, i.e. music literacy, to be subverted by overtly pressing matters, such as classroom management, discipline, and organization.⁹⁵ First-year teachers often overlook the fundamental basics of music literacy in order to meet the demands of performance-based ensembles, while also establishing themselves as musicians and educators. Unfortunately, a

⁹⁰ Kluck, “The Music Literacy Conundrum,” 60.

⁹¹ *Ibid.*, 61.

⁹² *Ibid.*

⁹³ *Ibid.*

⁹⁴ *Ibid.*, 61-62.

⁹⁵ *Ibid.*

pattern of planning and curriculum that is always results-driven as opposed to process-driven can leave students without a holistic understanding of music literacy.

Music education has been in need of serious reform and Kluck asserts that the area of focus should be music literacy and the approaches used to teach this content.⁹⁶ Educators must endow students with a true mastery of the written components of music, as this is the only way that students can become “fully literate equals.”⁹⁷ Such a learning gap would be unthinkable in a language arts classroom because it would render children unable to communicate in virtually any setting. However, young musicians are often left functionally illiterate, making the learning process more arduous for both student and teacher. The author suggests using attainable music that provides a basis for thorough understanding, and allows students to determine the musical attributes on their own.⁹⁸ He also recommends using materials that are conducive to teaching specific concepts and to approach instruction in a “purposeful, sequential way.”⁹⁹ This improves music literacy from multiple angles: it encourages effective scaffolding that can be differentiated for individual students, provides a more definitive music curriculum for an otherwise abstract subject, and creates a greater sense of legitimacy among core subjects with more established pedagogy.¹⁰⁰ Teaching music literacy with intention and consistency is perhaps the most crucial step in creating well-rounded, literate musicians who are capable of conversing through music with their teachers, other musicians, and audiences.

⁹⁶ Kluck, “The Music Literacy Conundrum,” 62.

⁹⁷ Ibid.

⁹⁸ Ibid.

⁹⁹ Ibid.

¹⁰⁰ Ibid.

In addition to using ability-based materials, Kluck urges educators to create a system of assessment that is objective and can identify specific areas of need.¹⁰¹ Similar to the primers used to help elementary-aged children work through uncharted territory with literacy, music educators can create exercises that include common rhythms or scalar patterns that appear in repertoire.¹⁰² Furthermore, teachers must consider gravitating toward a system of music literacy that invites opportunities for composition, dictation, and other music-writing exercises, as opposed to “the system of read-only literacy.”¹⁰³ Writing music promotes a sense of creativity among students, allowing them to engage in music as more than just spectators watching notes on a page go by. Utilizing class time to practice and reinforce music literacy skills might be viewed as an imposition on valuable rehearsal hours. Instead, educators should consider this an early investment in their program that will pay dividends in the years to come.

Language Literacy and Music Literacy: A Pedagogical Asymmetry

Waller begins this article by juxtaposing music literacy and English literacy, claiming that performing in a music class is a matter of reading an excerpt of notation and playing the correct notes on the prescribed instrument.¹⁰⁴ He further explains that “the operating standard of literacy within music pedagogy continues to be markedly imbalanced, demanding fluency in reading while, for the most part, neglecting writing unless the student eventually pursues advanced studies in composition.”¹⁰⁵ However, the absence of consistent written exercises runs

¹⁰¹ Kluck, “The Music Literacy Conundrum,” 65.

¹⁰² Ibid.

¹⁰³ Ibid.

¹⁰⁴ David Waller, “Language Literacy and Music Literacy: A Pedagogical Asymmetry,” *Philosophy of Music Education Review* 18, no. 1 (2010): 27, <https://doi.org/10.2979/pme.2010.18.1.26>.

¹⁰⁵ Ibid.

contrary to nearly every other subject, but especially English, making it “deeply ironic” that the two disciplines are so frequently compared.¹⁰⁶ A commonly cited reason for this difference is the mixed consensus on music notation itself; its complexity can be seen as a barrier, but without proper understanding, students cannot achieve true musical independence.¹⁰⁷ Music literacy pedagogy fails to encourage an active engagement in music-making, and instead promotes a passivity among young musicians as they merely reproduce musical works.¹⁰⁸ A populace of music readers who are unable to do basic dictation effectively eliminates the majority of truly literate musicians, despite the need for this skill in the later stages of one’s musical studies.

An inherent issue with promoting music literacy in the form of written notation is the sheer number of musicians and instructors who are averse to teaching it.¹⁰⁹ There is a belief that using written notation only serves to squelch creativity and style, limiting the possibilities of music that does not yet exist.¹¹⁰ Waller points out that “the dictatorial qualities of music notation are not inherent in the typeset page,” meaning that some music scholars reject written notation because it impedes originality, but members of the literary field do not see the written word in the same restrictive light.¹¹¹ Like written text, written notation is void of meaning apart from the information already conveyed, unless additional context or experience imparts a new connotation.¹¹² Waller uses Carl Phillip Emanuel Bach and Igor Stravinsky as prime examples

¹⁰⁶ Waller, “Language Literacy and Music Literacy: A Pedagogical Asymmetry,” 27.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid., 28.

¹¹⁰ Ibid.

¹¹¹ Ibid., 29.

¹¹² Ibid.

of composers whose musical intentions are extremely clear in both notation and recordings.¹¹³ Even with every musical facet explicitly notated, restrictiveness stems from the obligation of performers to follow these details to the extreme, not from the ink on the paper itself.¹¹⁴ In literature, writings are frequently analyzed at the microscopic level, yielding a variety of interpretations. Yet, authors are not deterred from putting their ideas to paper by the fear of appearing uninspired or being misunderstood. To the contrary, having a piece of writing in hard copy will ensure the longevity of an author's ideas and solidify their legacy. Societies have record of culturally significant pieces of literature and music because they are written down, so the hesitance for teaching notation as a part of music literacy merits further exploration.

Another argument for the relationship between language and music is that “just as people learn to speak before they learn to read, it is fitting to learn music aurally and to put off the use of notation.”¹¹⁵ Though both share nearly identical methods of acquisition, their application varies, as language literacy relies on the active process of writing, whereas music literacy emphasizes a more passive process of merely reading.¹¹⁶ Waller references several articles that claim language and music are analogous, yet fail to include music composition as part of a solution for improving one's music literacy abilities.¹¹⁷ Articles published by the Music Educators National Conference (MENC, now NAfME) even describe music literacy as the reading and performing of music, where “the *activity of writing* music is so downplayed in music pedagogy that the

¹¹³ Waller, “Language Literacy and Music Literacy: A Pedagogical Asymmetry,” 29.

¹¹⁴ Ibid., 29-30.

¹¹⁵ Ibid., 31.

¹¹⁶ Ibid.

¹¹⁷ Ibid., 31-32.

expression ‘written music’ can be more accurately rendered as ‘printed music.’”¹¹⁸ Music programs frequently rely on the clear association with language and other subjects to garner support within school divisions. However, current practitioners of music education are not fostering this relationship with complete fidelity by omitting the compositional aspect of music literacy under the guise that reading and performing at a high level is sufficient.

Waller discusses materials, such as note spellers, that are designed to aid in music literacy and specifically created with the intention of improving student sightreading.¹¹⁹ While these books effectively teach students to name notes, their benefit does not extend to rhythms or other parts of music notation outside of identifying notes.¹²⁰ Note spellers prompt students to name the notes by letter, but rarely require students to write notes on a staff or use other musical symbols, diminishing their compositional value.¹²¹ In addition to note spellers, other music theory texts tend to emphasize responses that do not involve writing music symbols or using notation.¹²² Waller explains that “the pedagogy of language literacy- so often appealed to by music pedagogues- is not always so conscientious in balancing reading with writing,” meaning this problem is not limited to music literacy.¹²³ However, music texts miss opportunities to reinforce student learning because the majority of exercises prioritize reading music over writing it. Music literacy instruction is often ineffective due to the absence of writing, composition, and dictation. Such methods are also inefficient because a large portion of materials are devoted to developing

¹¹⁸ Waller, “Language Literacy and Music Literacy: A Pedagogical Asymmetry,” 32.

¹¹⁹ *Ibid.*, 33.

¹²⁰ *Ibid.*, 33-34.

¹²¹ *Ibid.*

¹²² *Ibid.*, 34.

¹²³ *Ibid.*, 35.

the single skill of note identification. From the English literacy perspective, this is the equivalent of only teaching the alphabet with the goal of reading books. Neither are realistic strategies and will not set students up to be successful readers or musicians.

A misconception of music literacy is that written music, or typography, is considered to be the ideal finished product in spite of a push toward improvisation.¹²⁴ Waller references Plato's dialogue, the *Phaedrus*, explaining that it is erroneous to "take knowledge in its written form too seriously," as this causes learners to consider the "*written* word as the *last* word."¹²⁵ Though this reads as an argument against written notation, it merely supports the notion that printed music is not the *final* authority on written music, and students are capable of writing music with inherent value in their own hand.¹²⁶ Music educators must strike this delicate balance by valuing all forms of written notation, from engraved works to rudimentary scribbles, to avoid discouraging students from writing simply because their work lacks formality. The ultimate goal of music literacy is to deepen a child's understanding, appreciation, and love of music by making them a competent musician who can convey ideas and expression through performance and writing.

Waller concludes by describing an experience he had in college with a piano instructor who insisted on precisely following the notation of a watered-down rendition of "Jingle Bells."¹²⁷ Instead of pedantically following the book, Waller suggests that "the teacher might have invited the students to try on for themselves the role of fully-literate *writers* of music- rather than mere readers- and counter the textbook version of the melody by writing what they believed

¹²⁴ Waller, "Language Literacy and Music Literacy: A Pedagogical Asymmetry," 36.

¹²⁵ Ibid.

¹²⁶ Ibid., 37.

¹²⁷ Ibid., 39.

was the correct version.”¹²⁸ Denying students the opportunity to write music at any stage of literacy is detrimental to their learning and can be described as disenfranchising, as it leaves them at the mercy of other more “qualified” writers.¹²⁹ An educator can ameliorate this issue by simultaneously requiring reading and writing, which also negates the opinion that reading must always precede writing, or that reading supersedes writing in the music classroom.¹³⁰ Comparing music to language is powerful because literacy is the basis of all communication. Music is equally capable of conveying emotions, ideas, and other intangible qualities. If music educators are to capitalize on this strong association, they should consider following the pedagogy and expanding beyond the reading of music to incorporate writing at all levels.

The Orff-Schulwerk Method: Music Literacy

Per the American Orff-Schulwerk Association (AOSA), learning music by rote is a valid starting point for young musicians, with written notation as a “logical extension of being able to make music.”¹³¹ However, this methodology does not specify a means for teaching music literacy, but rather suggests educators follow a progression that moves from rote learning to reading notation.¹³² Orff-Schulwerk also recommends a combination of graphic notation, hand levels or symbols, scale numbers, and rhythm syllables based on the needs of students or educators.¹³³ This method prioritizes the artistic potential of each student, emphasizes the

¹²⁸ Waller, “Language Literacy and Music Literacy: A Pedagogical Asymmetry,” 39.

¹²⁹ Ibid., 39-40.

¹³⁰ Ibid., 40.

¹³¹ “Music Literacy,” About, American Orff-Schulwerk Association, accessed October 27, 2024, <https://aosa.org/about/what-is-orff-schulwerk/music-literacy/>.

¹³² Ibid.

¹³³ Ibid.

process of learning, and makes music an inclusive activity for all children, as opposed to merely training highly-skilled musicians.¹³⁴ Though Orff-Schulwerk proposes steps for teaching written notation, the method leaves the details of accomplishing this to the discretion of the educator.

Orff-Schulwerk: An Integrated Foundation

Shamrock describes how the Orff-Schulwerk method is based on singing, dancing, play, and other natural behaviors and movements of children, though the method itself is flexible and lacks an official structure.¹³⁵ Orff theorized that “one facet can lead naturally and organically to another and become something much more exciting than ever could be attained through careful planning.”¹³⁶ However, the Schulwerk is not tied to specific content, so it is crucial for educators to select materials that promote the concepts of musical learning in a manner that is natural for students.¹³⁷ Ideally, the learning environment in an Orff-Schulwerk classroom is one that grows the skills of individuals while also providing ample opportunity for group activities and learning.¹³⁸ Educators should also implement materials and content that are “simple, basic, natural, and close to the child’s world of thought and fantasy,” to be applicable to any age group or ability level.¹³⁹ Some music educators find this methodology freeing, as they are not bound to specific method books, programs, or other materials, whereas others might prefer a more structured approach with a set curriculum and designated resources.

¹³⁴ “Music Literacy,” About, American Orff-Schulwerk Association, accessed October 27, 2024, <https://aosa.org/about/what-is-orff-schulwerk/music-literacy/>.

¹³⁵ Mary Shamrock, “Orff-Schulwerk: An Integrated Foundation,” *Music Educators Journal* 83, no. 6 (1997): 41, <https://doi.org/10.2307/3399024>.

¹³⁶ Ibid.

¹³⁷ Ibid.

¹³⁸ Ibid.

¹³⁹ Ibid., 41-42.

The original idea for the Orff-Schulwerk method came to fruition when Carl Orff and Dorothee Gunther collaborated on the “Guntherschule,” or “setting for musicians and dancers to integrate their arts.”¹⁴⁰ Musicians and dancers shared curriculums that allowed a more holistic approach to music education.¹⁴¹ “Orff” instruments were soon developed and the school employed the use of “barred percussion modeled after a type of African xylophone and built to Orff’s specifications.”¹⁴² Rhythm is the foundation of this methodology, which emphasizes the use of syllables and speech patterns to represent rhythmic figures.¹⁴³ Alongside simple rhythms, students learn simple vocal patterns using the three scale tones of *sol*, *la*, and *mi*, followed by the use of the pentatonic and diatonic scales.¹⁴⁴ Though the original Orff book series provided little instruction beyond their musical passages and rhythmic patterns, it is clear that there is room for differentiation and scaffolding with each exercise.¹⁴⁵ Even with this freedom, the Orff-Schulwerk method is still specific in its early sequencing of each skill being built.

In the next section of her article, Shamrock notes that “the term ‘Orff-Schulwerk’ in a restricted sense can refer to the repertoire contained in the original or adapted volumes, plus the many supplements.”¹⁴⁶ However, the term “Orff” is also applied in a larger pedagogical sense to a methodology that is intended to guide students through musical exploration, imitation,

¹⁴⁰ Shamrock, “Orff-Schulwerk: An Integrated Foundation,” 42.

¹⁴¹ Ibid.

¹⁴² Ibid.

¹⁴³ Ibid.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

¹⁴⁶ Ibid., 43.

improvisation, and creation.¹⁴⁷ Music educators can utilize all four phases of the Orff-Schulwerk in whatever manner they deem necessary to achieve the lesson's goals.¹⁴⁸ It is ultimately more effective to ensure that students have a grasp on the concepts of exploration and imitation before embarking on improvisation and creation.¹⁴⁹ Moreover, the author explains that “[t]he Schulwerk itself establishes no set sequence of materials; this must be determined by each teacher according to the needs of the particular program,” further implying that music literacy can be taught in a flexible manner even though Orff “gave no directives on how it should be accomplished.”¹⁵⁰ The Orff-Schulwerk method has clear steps, but they are merely suggestions and can be approached in any order using any pieces from its extensive repertoire.

In an Orff-Schulwerk setting, the same basic concepts and ideas may carry over from lesson to lesson, providing each student with an individualized, organic discovery process that accomplishes one or more of the four Orff phases.¹⁵¹ Another key goal in the Orff process is to become “a facilitator rather than a director,” and develop the creative side of each child, as this is heavily emphasized in the methodology.¹⁵² Music educators can increase opportunities for improvisation and creation by performing more than exclusively “set” music, as this negates the ideas of true musical discovery.¹⁵³ Learning repertoire is valuable in teaching imitation and music literacy, but true Orff-Schulwerk practitioners understand that set music must serve the

¹⁴⁷ Shamrock, “Orff-Schulwerk: An Integrated Foundation,” 43.

¹⁴⁸ Ibid.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid.

¹⁵¹ Ibid.

¹⁵² Ibid.

¹⁵³ Ibid.

purpose of advancing musical skills to enable a higher level of creativity, as opposed to only learning set music with the intention of building upon this to learn more challenging set music.¹⁵⁴ Applying the improvisation and creation phases of Orff is perhaps more challenging at the secondary level, especially for band, choir, or orchestra programs, which focus on imitation and the performance of set music.

Orff-Schulwerk is not intended to produce highly skilled musicians, but rather to provide a strong foundation in musical creativity and exploration that encourages young musicians to participate in music education throughout their schooling and beyond.¹⁵⁵ The consensus from educators like Shamrock is that “the Orff teacher must have a sense of adventure and enjoy the challenge of striking out in new directions with the students.”¹⁵⁶ Much like educators encourage their students to take risks for the sake of learning and betterment, Orff teachers must be willing to do the same.¹⁵⁷ Music educators can start or continue their Orff training in sessions that are usually hosted in the summer by the various American Orff-Schulwerk Association (AOSA) chapters that exist throughout the United States and other countries.¹⁵⁸ Much like the Orff-Schulwerk method enables the constant growth and musical exploration of young students, the AOSA encourages the continued development of educators who look to share these opportunities for discovery with the next generation of children.

¹⁵⁴ Shamrock, “Orff-Schulwerk: An Integrated Foundation,” 43-44.

¹⁵⁵ Ibid., 44.

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

More than Solfège and Hand Signs: Philosophy, Tools, and Lesson Planning in the Authentic Kodály Classroom

The Kodály concept is most closely associated with solfège syllables and hand signs, much like the Orff method conjures images of barred instruments, and the Dalcroze method centers around movement.¹⁵⁹ General music teachers frequently incorporate a combination of these methodologies into instruction, but simply applying the overarching ideas of each practice “[does] not reveal the philosophy, objectives, tools, and suggested instructional sequences unique to each concept.”¹⁶⁰ Bowyer admits that his own application of these concepts in the classroom was cursory and did not expand into something more comprehensive for him or his students.¹⁶¹ Instead of drawing from each method, the author gravitates toward the Kodály based on his experience in the choral world.¹⁶² Ideally, a teacher’s chosen methodology is one they are comfortable with and are willing to explore in greater depth.

Although the methodology is named for Zoltán Kodály, his Hungarian colleagues are responsible for bringing his vision to life in one of the first “signing schools.”¹⁶³ Through a combination of Kodály’s concepts, such as “movable *do* solfège, rhythm syllables, and hand signs,” his successors refined and spread this methodology to a greater population in Hungary during the 1940s and 1950s.¹⁶⁴ One of the tenets of the Kodály concept is the belief that every

¹⁵⁹ James Bowyer, “More than Solfège and Hand Signs: Philosophy, Tools, and Lesson Planning in the Authentic Kodály Classroom,” *Music Educators Journal* 102, no. 2 (2015): 69, <http://www.jstor.org/stable/24755663>.

¹⁶⁰ Ibid.

¹⁶¹ Ibid.

¹⁶² Ibid.

¹⁶³ Ibid., 70.

¹⁶⁴ Ibid.

person is entitled to a music education.¹⁶⁵ In an effort to encourage music literacy among young students, music education is compulsory in most primary schools and some secondary schools in many parts of the world.¹⁶⁶ Bowyer defines music literacy as “the ability to read and write notation and create music,” and argues that music literacy should develop alongside language literacy.¹⁶⁷ This sentiment is shared by many music educators, but the degree of student literacy is dependent on one’s devotion to building this skill.

Bowyer suggests that music literacy instruction should remain structured and consistent with childhood development milestones, and that content and materials must be age and ability-appropriate.¹⁶⁸ Maintaining alignment with a child’s development can develop the innate musicality of all children to the fullest extent possible, which is the first goal of the Kodály concept.¹⁶⁹ The second goal states that music literacy must include not only reading music, but also writing and creating music.¹⁷⁰ Lastly, Bowyer recommends educators “develop in every child the skill of audiation or ‘inner hearing,’” in addition to the third and fourth goals of integrating a student’s musical heritage into instruction and studying musical masterworks.¹⁷¹ Similar to Kluck and Waller’s findings, the Kodály concept emphasizes the act of writing music and the use of aural skills as integral pieces of music literacy.

¹⁶⁵ Bowyer, “More than Solfège and Hand Signs: Philosophy, Tools, and Lesson Planning in the Authentic Kodály Classroom,” 70.

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.

¹⁶⁸ Ibid.

¹⁶⁹ Ibid.

¹⁷⁰ Ibid.

¹⁷¹ Ibid.

Singing is the most important tool of the Kodály concept because it allows young musicians to internalize the musical knowledge they are receiving with the most natural instrument, as opposed to using an external object.¹⁷² Furthermore, singing is present in nearly all exercises in the Kodály classroom, including “playing games, dancing, moving, sight-reading, and improvising.”¹⁷³ The use of movable *do* solfège makes singing more intentional and outlines a tonal system used for identifying notes, internalizing tonality, and reading notation quickly.¹⁷⁴ Fluency in solfège give students the musical independence to “learn new songs quickly, decode previously unknown melodies, listen analytically, memorize, add countermelodies, read new songs, improvise, and compose.”¹⁷⁵ Using the voice to acquire early music literacy skills is more effective at the primary level since it does not require young children to learn the additional proficiencies associated with playing an instrument.

The Kodály concept also relies on the use of rhythm syllable systems, such as traditional Kodály counting, Takadimi, Gordon, etc., in lieu of using a numbered counting system.¹⁷⁶ Each rhythm syllable system is employed at the discretion of the Kodály practitioner with the goal of assigning syllables to rhythms rather than assigning syllables to specific beats within a measure of music.¹⁷⁷ Like movable *do* solfège, hand signs are another signature tool of the Kodály concept and are used to help students associate certain gestures with notes, as well as

¹⁷² Bowyer, “More than Solfège and Hand Signs: Philosophy, Tools, and Lesson Planning in the Authentic Kodály Classroom,” 70.

¹⁷³ Ibid.

¹⁷⁴ Ibid., 71.

¹⁷⁵ Ibid.

¹⁷⁶ Ibid.

¹⁷⁷ Ibid.

differentiate pitch based on the physical location of the hand signs.¹⁷⁸ Both aspects of the Kodály concept are predicated on substituting the use of actual numbers and letters for symbols that represent rhythmic and melodic figures. Though identifying notes and rhythms with letters and numbers may be considered by music educators to be more specific or accurate, using solfège and rhythm syllables develops a child's sense of pitch relationship and internal rhythm.

Only after students have become fluent in movable *do* solfège do they learn the specific note names and locations on the different staves, otherwise known as “absolute pitch.”¹⁷⁹ Students begin to substitute note names for solfège syllables while reinforcing pitch relationships that were previously established.¹⁸⁰ Learning note names is crucial for students pursuing studies on an instrument since the notes on each instrument are absolute, as are the fingerings for those notes.¹⁸¹ The ability to keep consistent pulse and accurately execute rhythms is solidified through the use of movements, such as conducting.¹⁸² Conducting patterns promotes a sense of strong and weak beats and allows students to “internalize these beat groupings to discern a piece's meter,” as well as “execute note lengths to their full value and maintain the musical line's forward motion.”¹⁸³ The Kodály concept is a holistic approach to learning music that utilizes both oral transmission and written notation to continually strengthen a child's music literacy abilities.

¹⁷⁸ Bowyer, “More than Solfège and Hand Signs: Philosophy, Tools, and Lesson Planning in the Authentic Kodály Classroom,” 72.

¹⁷⁹ Ibid.

¹⁸⁰ Ibid.

¹⁸¹ Ibid.

¹⁸² Ibid., 73.

¹⁸³ Ibid.

The most effective attribute of the Kodály concept is the way in which the sequencing is approached, with sound preceding symbol.¹⁸⁴ Materials and lessons are curated to challenge students while maintaining an appropriate level of complexity that progresses as fundamentals are acquired.¹⁸⁵ Each carefully scaffolded plan moves from “what is known to what is unknown,” as the Kodály concept builds upon previously learned information.¹⁸⁶ Kodály believed that music literacy should not be approached intellectually, but instead viewed through the lens of childhood development.¹⁸⁷ Bowyer’s example of a logic-based lesson teaches rhythm by “introducing a whole note and then breaking it up into two half notes, four quarter notes, and so on.” Due to the infrequency of longer rhythmic figures like whole and half notes in common children’s songs, lessons like the one Bowyer describes are less effective in practice when working with actual children.¹⁸⁸ The same principles are applied to teaching melodic figures, and the Kodály concept focuses on common note sequences that are “most musically intuitive to a child.”¹⁸⁹ Although the Kodály concept requires purposeful planning, this teaching approach is highly customizable based on teacher preference and student need. Scaffolding and sequencing must be rigid in order for musical choice, learning, and creativity to be flexible and free.

¹⁸⁴ Bowyer, “More than Solfège and Hand Signs: Philosophy, Tools, and Lesson Planning in the Authentic Kodály Classroom,” 73.

¹⁸⁵ Ibid.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid., 74.

¹⁸⁸ Ibid.

¹⁸⁹ Ibid.

The Dalcroze Method

The basis of the music education methodology created by Émile Jaques-Dalcroze is the concept of “Eurhythmics,” which is “the use of movement to embody musical concepts.”¹⁹⁰ Movements are broken down into the two primary categories of “movements in place,” and “movements in space.”¹⁹¹ Children can participate in any manner of actions, such as clapping, conducting, swaying, singing, walking, running, galloping, skipping, etc., during the music learning process.¹⁹² For music literacy, Dalcroze practitioners utilize solfège as a means of ear and voice training and dictation.¹⁹³ The Dalcroze method is also similar to Orff and Kodály with its significant emphasis on improvisation, which the Dalcroze institute refers to as “spontaneous musical creation using the body, voice, or instrument.”¹⁹⁴ This includes physical actions that engage with “raw materials” that utilize rhythmic patterns, melodic figures, harmonic progressions, kinesthetic movements, etc.¹⁹⁵ Finally, the Dalcroze method uses the concept of “Plastique Animée,” or the embodiment of a piece of music through gesture and movement.¹⁹⁶ The only provision for pedagogy that the Dalcroze Society of America offers is that “teachers improvise on their lesson plans based on the students’ responses.”¹⁹⁷ Compared to Orff, Kodály,

¹⁹⁰ “Branches of Dalcroze Education,” About Dalcroze, Dalcroze Society of America, accessed November 3, 2024, <https://dalcrozeusa.org/about-dalcroze/branches-of-dalcroze-education/>.

¹⁹¹ Ibid.

¹⁹² Ibid.

¹⁹³ Ibid.

¹⁹⁴ Ibid.

¹⁹⁵ Ibid.

¹⁹⁶ Ibid.

¹⁹⁷ Ibid.

and Suzuki, the Dalcroze method is considerably more relaxed when it comes to sequencing and structure.

The Suzuki Method

Developed by music educator, Shinichi Suzuki, the Suzuki method asserts that “all students possess ability and that this ability can be developed and enhanced through a nurturing environment.”¹⁹⁸ Ideally, teachers using this method are able to teach music with the same ease as teaching children their native language.¹⁹⁹ Known as the “Mother Tongue Method,” this mirrors much of what has been proclaimed about learning music and how it should come as naturally as learning language.²⁰⁰ Elements of the Suzuki method include early learning, frequent listening to music, learning rote before note, parental involvement, a nurturing learning environment, high standards, an emphasis on a good sound concept, core repertoire, and performance opportunities with other Suzuki students.²⁰¹ Though the Suzuki method has created a number of highly-acclaimed professional musicians, the goal of this methodology is to simply develop the whole child through music education.²⁰² The Suzuki method is predominantly geared toward instrumental music education, but its tenets are applicable to a general music education setting, especially with regards to teaching music literacy in a more structured and intentional way.

¹⁹⁸ “The Suzuki Method,” Suzuki Method, International Suzuki Association, accessed September 22, 2024, <https://internationalsuzuki.org/method.htm>.

¹⁹⁹ Ibid.

²⁰⁰ Ibid.

²⁰¹ Ibid.

²⁰² Ibid.

Summary

Upon a systematic review of the pertinent literature regarding early English literacy acquisition and application, as well as music literacy acquisition and application, it is evident that while the two share similarities in process, they diverge significantly in structure. This conclusion can be drawn by simply comparing the number of Virginia Standards of Learning for English and music. Students in third through fifth grade encounter between nine and ten overarching English standards, with up to four different subcategories underneath each standard, and approximately five to ten strands within each subcategory.²⁰³ The Virginia Standards of Learning for music only have seventeen standards per grade level, and between three and seven strands underneath each standard.²⁰⁴ Only one of those seventeen standards explicitly applies to music literacy, and two others reference the concept by way of identifying rhythmic patterns and meter.²⁰⁵ Currently, English literacy acquisition and application is highly standardized to ensure that all students are achieving grade-level progress. However, music literacy acquisition and application are largely dependent on the abilities of the music teacher. A student's musical learning hangs in the balance without the clear guidance of a detailed curriculum or dynamic standards. The connection between music and language is eroded by the severe disparity in the number of detailed standards devoted to literacy, which is the biggest commonality between the two subjects.

²⁰³ "2024 English Standards of Learning," English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

²⁰⁴ "Music- Elementary Standards Progression Chart," Music, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/2024/637949943111470000>.

²⁰⁵ Ibid.

Additionally, several articles mention that the development of music literacy is a crucial step in these methodologies, but do not provide specifics as to how this is achieved. Rather than using a highly structured framework that can be differentiated, the suggestions for teaching music literacy are vague and do not provide educators with much guidance. Such ambiguity would not be acceptable in literacy because it is the foundation of communication, and has propagated the continued advancement of education and society as a whole. If music is to claim this relationship with language, music educators must reconsider how music literacy is approached, perhaps by structuring the teaching of music literacy like that of English literacy.

Chapter Three: Methodology

Overview

The purpose of this study was to determine if modeling practices of music literacy acquisition and application after English literacy acquisition and application would affect the music reading abilities of students in third through fifth grade, and which specific music literacy skills would improve the most over the course of the six weeks. Deficits in literacy can be detrimental in the music classroom, especially as students graduate from elementary general music to secondary ensemble courses. Specific lessons, activities, content, and assessments used during the course of this study are broken down by week in the appendices.

Procedures

For this study, the researcher used an applied research methodology to solve a problem of practice within a specific school and offer recommendations for improving music literacy in other institutions.¹ Participants of this study included students in the third through fifth grade attending the researcher's elementary school in school division in Northwestern Virginia. The instructional content of this study was already part of the curriculum and required standards, so students did not otherwise experience learning loss throughout this time. Although emergent literacy in English and music typically take place in the younger grade levels, the researcher opted to assess third through fifth-grade students for their ability to comprehend instructions and complete written exercises.

Permission for the data collection in this study was given by the legal guardians of each student. Each student that participated in the study was required to return a signed consent form indicating that their legal guardian understood the scope of the study and the data being

¹ Bunnie L. Claxton and Kurt Y. Michael, *A Step-by-Step Guide to Conducting Applied Research in Education*, 2nd ed. (Iowa: Kendall Hunt Publishing Company, 2021), 2.

collected. The researcher provided copies of this form in both English and Spanish, included in Appendices D and E. Student participants were all under the age of thirteen, which required the researcher to use an assent form to be signed by each child, included in English and Spanish in Appendices F and G. Of the 306 students enrolled, 120 students were permitted by their legal guardians to participate. All students were given a number to serve as a bland pseudonym to avoid reflecting the “culture of the school or participants.”² Only student grade level and assessment scores were reported in this study. All student assessments were scanned into password-protected PDF files, which will be maintained by the researcher for a minimum of three years. Names and other identifying information were redacted from these digital files. Hard copies of student assessments were destroyed after digitalization to ensure confidentiality of the participants. Additionally, the researcher completed Liberty University’s required Collaborative Institutional Training Initiative (CITI) training modules in “Humanities Responsible Conduct of Research” (Appendix H) and “Social and Behavioral Research” (Appendix I) to ensure compliance with university and school division policies.

The applied research study was conducted over the course of six weeks. Each weekly lesson focused on specific music literacy concepts using learning activities that were categorized as “acquisition” and “application.” The same overarching concepts and skills were taught to both the control and experimental groups to ensure that instruction was equitable for all students. Lesson sequencing and assessment tools were also the same for both groups. Variables included lesson-specific scaffolding and learning activities used to teach each music literacy concept. Quantitative data was collected with a baseline assessment, as well as assessments given every two weeks to monitor student progress in both the control and experimental groups. Data was

² Claxton and Michael, *A Step-by-Step Guide to Conducting Applied Research in Education*, 2nd ed., 21.

generated through assessments given at the end of each two-week unit that covered individual concepts, as well as cumulative information. Test frequency was set at two weeks to prevent testing fatigue in students. The same baseline assessment was given as a final cumulative assessment at the end of the six weeks to compare student progress and determine the effectiveness of both methodologies.

Control Group: Teaching Music as Music

Music programs within the researcher's school division are required to adhere to the Virginia Standards of Learning (SOLs) like every other academic subject. Secondary band and choir programs that serve students within the researcher's school division use these standards as guidelines but predominantly focus on performances such as concerts and district band and choral assessments. Since elementary music programs in the division are not held to the same rigorous performance schedule, teachers are expected to implement the Virginia music SOLs with more fidelity and consistency. In an effort to ensure uniformity among the twelve division elementary schools, grade level curriculum guides were developed by division elementary music teachers and elementary education supervisors in August of 2021. Each curriculum guide is available through a school division website and all curriculum pages, regardless of grade level, contain an overarching suggested pacing of the standards for each grade.³ These curriculum guides served as the basis for lessons created for the control group. Additionally, students in the control group were instructed in music literacy using a combination of resources provided by the Organization of American Kodály Educators and the American Orff-Schulwerk Association, as these are the predominant methods used in the researcher's school division.

³ "Pre K-5 Music Curriculum and Resources," Music, Frederick County Public Schools, accessed January 10, 2025, <https://sites.google.com/fcpsk12.net/elementary-instruction/music>.

Experimental Group: Teaching Music as a Language

Members of the experimental group received instruction on the same music literacy concepts as the control group, but were taught using a methodology created by the researcher that was based on English literacy principles. Although music and language are subject to frequent comparisons, there are certain aspects of both content areas that do not have a direct translation across the aisle. Delivering music literacy instruction in the same manner as English literacy instruction requires parallels to be drawn between specific skills. For the purpose of this study, the emergent literacy skill of “phonemic awareness,” which refers to concepts such as the alphabet and letter sounds, was aligned with “audiation,” which involves identifying pitches on the staff and matching these pitches with the voice, as well as identifying rhythms and counting them aloud using a number system. The early literacy skill of “syntactic structure,” or understanding common grammar rules within the context of a sentence, was aligned with “music symbol identification” and the use of music symbols in a manner that abides by common music literacy constructs. The conventional literacy phase culminated in the skill of “idea generation,” or creating original content using standard English language practices, which aligned with “composition.”

Instructional Breakdown by Unit

Unit One

Week One

During the first week of instruction, students received a baseline assessment that measured prior knowledge of the following concepts: treble clef, bass clef, and grand staff note names and locations; whole notes, half notes, quarter notes, eighth notes, sixteenth notes, and corresponding rests; 4/4 time, 3/4 time, and 2/4 time, and how these relate to beats and rhythm;

and basic composition using standard musical parameters. Approximately half of the assessment was dedicated to note identification, as this is the predominant skill of early music literacy emphasized in the Virginia music SOLs. Students demonstrated rhythmic competencies by identifying the very basic rhythms and rests, and acknowledging their numeric values within the context of composition in multiple time signatures. Each part of this assessment was designed with some overlap to ensure content was covered while still being attainable for young students.

Upon completing this assessment, students received instruction on the staff, treble clef, the treble clef symbol, note names and locations within the treble clef staff, the range of the pitches of the treble clef, and the symbol of a whole note for notation purposes. In the control group, students were introduced to the staff through an image of a “treble clef hand staff” that used fingers as the lines and the spaces between digits as the spaces, as kinesthetic learning is a common staple of both the Kodály and Orff methods.⁴ The researcher led students in tracing the staff on their hands, indicating that the fingers represented the lines, and the spaces between each finger signified a space on the staff. After practicing the lines and spaces on hands, the researcher utilized one of the resources listed by the Organization of American Kodály Educators, [musictheory.net](https://www.musictheory.net/).⁵ This website enabled the students to practice identifying notes based on their location on the staff, while providing opportunities to gamify the learning experience.⁶ Later in the lesson, students applied this knowledge in a game called “note swat,” where students

⁴ “Treble Clef Hand Staff,” Essential Elements Music Class, Hal Leonard, accessed February 1, 2025, <https://www.eemusicclass.com/view/pdf?id=17541>.

⁵ “Notating Resources,” Curriculum Resources, Organization of American Kodály Educators, accessed February 1, 2025, https://docs.google.com/spreadsheets/d/1SRWhj5wiRCvrMXigyVlk_y7rsAK-cFHIVkj8mTt4xUk/edit?gid=1690364186#gid=1690364186.

⁶ “Note Identification,” Exercises, Musictheory.net, accessed February 1, 2025, <https://www.musictheory.net/exercises/note>.

competed in teams to “swat” the correct treble clef note flashcard on the ground using a pool noodle.

Students in the experimental group began with vocabulary to train word recognition and facilitate connections between the concept of the treble clef and the pitches that are present within its staff. This allowed for repeated exposure to certain terms, which is known to enhance word recognition and understanding.⁷ Similar to practicing the alphabet, the researcher led students in exercises that required practice by writing whole notes on the correct lines and spaces and labeling them with the correct letter names. Once students were comfortable with this skill, they were required to name single notes drawn on staff, and draw notes on their own staff when provided with a letter name. Students were then instructed to compose their own melody in four measures of music, using only whole notes. Setting specific parameters for these compositions allowed students to focus on the task of writing while enabling them to actually understand what they were creating. Upon completion, students labeled the notes in their compositions and practiced saying them aloud to reinforce the association between note name and location. To close the lesson, student volunteers shared their compositions with the class. These pieces were sung together on “doo” with piano accompaniment to promote good singing technique and allow students to work on pitch matching in the treble range. The researcher concluded the lesson by having students create their own pneumonic devices for memorizing the lines and spaces of the treble clef. Again, students were encouraged to volunteer their ideas for classmates to vote on their favorite pneumonic devices.

⁷ Margaret J. Snowling, Charles Hulme, and Kate Nation, eds., *The Science of Reading: A Handbook*, 2nd ed. (Hoboken: Wiley-Blackwell Publishing, 2022), 152.

Week Two

In the second week of instruction, students learned the bass clef symbol, note names and locations within the bass clef staff, and the range of pitches within the bass clef. Students were also taught ways to differentiate the treble and bass clef staves. The control group used the same resources of the hand staff and [musictheory.net](https://www.musictheory.net) to help students with acquisition. In addition to reviewing the treble clef, the instructor utilized the filters on the practice exercises through [musictheory.net](https://www.musictheory.net) to switch between treble and bass clef questions, forcing students to differentiate between the two. The “note swat” game added bass clef note flashcards on their own, as well as mixed in with the treble clef note flashcards. Instruction also included the combination of both the treble and bass clefs in the form of a grand staff, where students learned to differentiate between both staves and identify notes accordingly. Students were then given the Unit 1 Assessment found in Appendix O, which measured their ability to identify notes on the treble clef, bass clef, and grand staff, write notes in the correct location on each staff, and compose four measures of music using whole notes. Students in the control group reviewed for this assessment with the familiar resource of [musictheory.net](https://www.musictheory.net) and practiced the melding of the treble and bass clef to form the grand staff. They worked as a class in identifying notes aloud on the grand staff. After sufficient practice, students were instructed to complete the Unit 1 Assessment.

The experimental group also retained similar activities from the previous week, but continued to expand to include the bass clef. Due to the lower pitches in the bass clef and the nature of children’s voices, xylophones were utilized during audiation and application exercises to maintain fidelity and accuracy. Students were encouraged to collaborate with others after completing the composition assignments, which provided more opportunities to practice note recognition and sightreading. Partners practiced diagramming the treble and bass clef staves on

their whiteboards, which allowed for students to check each other's work. After an introduction to the grand staff, students worked with the whiteboards to practice identifying notes based on their location on the grand staff, as well as drawing notes in multiple places on the staff in accordance with the letter name. Composition activities were omitted in this lesson to allow time to complete the Unit 1 Assessment at the conclusion of class.

Unit Two

Week Three

Instruction in week three continued to reinforce note identification while introducing notes below the treble clef staff down to the second ledger line (A3), notes above the bass clef staff up to the second ledger line (E4), as well as rhythmic concepts, beginning with the whole note as a rhythmic figure, half note, quarter note, and paired eighth notes. Students in the control group utilized musictheory.net again to review notes on the treble clef and bass clef, as well as learn ledger line notes and practice identifying them as a class. For rhythms, the researcher used techniques from a popular music education resource site, *Dynamic Music Room*, to provide guidance for teaching whole notes, half notes, quarter notes, and paired eighth notes in the style of Orff and Kodály.⁸ Both methods base rhythmic concepts on sounds, with Orff encouraging students to use their own words to create rhythmic patterns and Kodály working with a set group of syllables that consistently represent specific rhythms.⁹

After exploring the basic concepts of beat, pulse, and tempo, students were provided with examples that fit the four counts of a whole note. Similarly, the researcher repeated this with the

⁸ Zach VanderGraaff, "Orff Rhythm Syllables: Do They Exist?" General Music, Dynamic Music Room, last modified November 7, 2022, <https://dynamicmusicroom.com/orff-rhythm-syllables/>.

⁹ Ibid.

half note, quarter note, and paired eighth notes, and explained the difference between the rhythms and how stems and beams affected the note type. Students had the opportunity to come up with their own list of words that can represent these rhythms, per the Orff-Schulwerk method. They were provided materials to create their own anchor charts that were shared with the class. Students compared ideas and identified which words best represented the whole and half notes. Additionally, students were asked to write a measure of music using a combination of quarter and eighth notes and write the Kodály syllables underneath the noteheads to promote notational skills and rhythmic fidelity. The instructor allowed volunteers to share their compositions for the class to perform with rhythm sticks.

Members of the experimental group also began their lesson reviewing treble clef and bass clef notes in preparation for adding the ledger lines below the treble clef staff and above the bass clef staff. Like previous sessions, this group focused on the vocabulary, writing each word down five times to promote recognition. Unlike the control group's use of words and syllables to demonstrate rhythmic value, the researcher used a numbered counting system (1, 2, 3, 4) that is more common to instrumental ensemble classes. The number system demonstrated rhythmic value and rhythm placement within the measure, which provided more contextual information and bolster students' syntactic structure, or the "parsing process that configures words into phrases," in a musical sense.¹⁰ Students were also instructed on the number system for quarter notes and eighth notes. This particular number system used numbers to indicate downbeats and the word "and," symbolized with a plus sign (+) to indicate the upbeats, allowing students to account for the subdivisions of paired eighth notes. In addition to copying rhythmic phrases and diagramming them using the number system, students were prompted to perform these sequences

¹⁰ Snowling, Hulme, and Nation, eds., *The Science of Reading: A Handbook*, 2nd ed, 16.

using rhythm sticks and counting aloud. Students were then divided into groups of four or so, where they each created their own measure of music that implemented newly learned rhythms and notes. Each group challenged a rival group to diagram their four-measure composition by writing in the counts and note names.

Week Four

Week four concluded the second unit with instruction on the ledger lines between the treble and bass clef on the grand staff, and the corresponding whole, half, and quarter rests. Another unit assessment measured student ability to identify and write notes on the treble clef, bass clef, and grand staff to include the ledger lines between staves; identify, write, and count rhythmic figures that utilized whole, half, quarter, and eighth notes and whole, half, and quarter rests; and compose four measures of music using learned notes and rhythms. After reviewing previously learned content, members of the control group completed exercises using [musictheory.net](https://www.musictheory.net) to practice identifying notes between the treble and bass clef lines of the grand staff. Students also reviewed whole notes, half notes, quarter notes, and paired eighth notes, while adding whole rests, half rests, and quarter rests to their rhythmic repertoire. After spending some time working through these examples using a combination of Orff words and Kodály syllables to practice, students were given the Unit 2 Assessment to complete.

Similarly, students in the experimental group were given time to review previously learned content and expand their knowledge of ledger lines to include the space between the treble and bass clef lines of the grand staff. In addition to copying vocabulary, students also practiced writing notes in the ledger lines and spaces and identifying them. For rhythmic concepts, students were taught the whole, half, and quarter rests, continuing to use the number

system, but differentiating rests by putting them in parentheses. Upon completing labeling exercises and practicing with rhythm sticks, the students were given the Unit 2 Assessment.

Unit Three

Week Five

Week five instruction focused on notes above the treble clef staff up to the second ledger line (C6), notes down to the second ledger line below the bass clef staff (C2), grouped sixteenth notes, the concept of a time signature starting with 4/4 time, dotted half notes, and 3/4 time. After reviewing previously learned treble clef and bass clef notes, students learned these top treble clef ledger lines and bottom bass clef ledger lines using musictheory.net and practicing note recognition as a class. Then the researcher led students in creating new Orff-inspired words that could be divided into four equal parts to teach grouped sixteenth notes. One of the inherent challenges of teaching time signature to the control group using the Orff-Schulwerk method or the Kodály concept was the lack of activities to teach meter in an applicable capacity. Meter is achieved by teaching students the different “feel” of time signatures, but since this does not exactly translate to the notation being assessed, the researcher combined some of these ideas with other activities. One such activity involved students conducting music that was in 4/4 time, using batons and a simple four pattern. Students conducted multiple excerpts at different tempos to solidify their understanding that 4/4 time is related to how the four beats are felt, regardless of tempo. They also learned and practiced the 3/4 time signature by conducting excerpts of music that are in 3/4 time while using a simple three-beat pattern and being introduced to the dotted half note as a three-beat rhythm common to 3/4 time. To conclude the lesson, students participated in a game known as “Rhythm Bingo,” where the researcher clapped different

rhythms and counted using Orff-inspired words or Kodály syllables where the students repeated the pattern back, located it on their bingo card, and marked it. The researcher led students in several rounds of Rhythm Bingo to solidify student understanding of learned rhythms and rhythmic patterns.

After reviewing previously learned materials, members of the experimental group used vocabulary exercises to begin their introduction to treble clef ledger lines above the staff, bass clef ledger lines below the staff, grouped sixteenth notes, the 4/4 time signature, the 3/4 time signature, and dotted half notes. Students practiced drawing notes above the treble clef staff, naming them, and recreating notes using a given letter name on their own whiteboards. They repeated this step with the notes below the bass clef. Then students learned how sixteenth notes factored into the counting system, which added the syllables “e” and “a” in the form of “1 e + a,” and so on. The researcher led students in diagramming rhythmic examples that include grouped sixteenth notes while also introducing the concept of the 4/4 time signature. Students were tasked with filling a measure of music with four beats using quarter notes, paired eighth notes, and grouped sixteenth notes. Additionally, the researcher provided students with a series of rhythms, which required students to place the barline after the fourth beat to ensure understanding of the 4/4 time signature and its parameters. This group was also introduced to the dotted quarter note, as well as the 3/4 time signature, which is frequently associated with this rhythm. They learned to place barlines after three beats of music and alternate between 3/4 time and 4/4 time for this exercise. The lesson culminated in student compositions completed in small groups, which utilized all rhythms and notes learned and featured four measures of 4/4 time and four measures of 3/4 time. These were exchanged among the groups, rhythmically diagrammed, and labeled for note names.

Week Six

Finally, week six instruction addressed notes on the grand staff ranging from two ledger lines below the bass clef staff (C2) to two lines above the treble clef staff (C6), and 2/4 time. The final cumulative assessment was the same as the baseline assessment and measured all skills that were taught over the course of the three units. Students in the control group primarily used musictheory.net to practice notes in this extended range of the grand staff and were introduced to 2/4 time by conducting musical excerpts that were written in this time signature. Upon completion of a thorough review of concepts, students completed the Final Cumulative Assessment. The experimental group followed in their routine of vocabulary and note identification practice. Rhythms were reviewed, and students learned about the 2/4 time signature while adding barlines to music written on the board by the researcher, using 4/4, 3/4, and 2/4 time. Finally, students concluded this unit by completing the Final Cumulative Assessment.

Summary

Assembling lessons for the control group was generally easier due to the numerous music literacy resources available that implement tenets of the Orff-Schulwerk method and the Kodály concept. It was crucial to narrow these activities to those that could be accomplished by third, fourth, and fifth-grade students. The researcher opted for familiar types of activities used in previous lessons to maximize instructional time for acquisition and application that would otherwise be lost to general lesson procedures. Planning lessons for the experimental group involved deeper research into *The Science of Reading* to understand the specific tenets of English literacy that would translate to music literacy. Even with the natural connections between music and English literacy, it was imperative to create learning activities for the experimental group

that closely mirrored those of any English or language arts classroom. This resulted in lessons that are inherently less “gamified” than those of the control group, but instead provided more opportunities for practical application of skills.

Chapter Four: Findings

The purpose of this applied study was to determine if modeling music literacy acquisition and application after English literacy acquisition and application would have an impact on the music literacy abilities of elementary students. This study also aimed to identify which aspects of music literacy acquisition and application demonstrated the most substantial improvement.

Chapter four contains the results of the Baseline Assessment, Unit 1 Assessment, Unit 2 Assessment, and Final Cumulative Assessment. Findings were broken down by grade level, control and experimental groups, and skills being assessed. In order to account for the general developmental differences between students of different ages, as well as anticipated prior knowledge, data was not compared between the different grade levels, as this would greatly skew results.

Assessment Format

Data collection method for this study consisted of music literacy assessments that measured student ability to identify notes by letter name; write notes on a treble clef, bass clef, and grand staff using a provided letter; identify rhythms, including whole notes, whole rests, half notes, half rests, quarter notes, quarter rests, paired eighth notes, grouped sixteenth notes, and dotted half notes; and compose music using 4/4, 3/4, and 2/4 time signatures. Participants were limited to students in grades three through five due to their ability to complete written assessments and comprehend more complex directions. Since the study participants were minors under the age of thirteen, parents were required to complete a consent form, and students were required to complete an assent form, for their assessment data to be included in the study. These forms were distributed by the researcher to the third, fourth, and fifth-grade classroom teachers to be sent home to parents. Completed forms were returned to the researcher, who then provided

the assent forms to students who had already received permission from their legal guardian to have their assessment data included in the study.

Baseline Assessment

The Baseline Assessment consisted of six primary sections used to measure each student's basic music literacy abilities prior to any instruction. Four of the six assessment sections tested note identification, as this is the primary focus of music literacy in the elementary general music setting. Two sections focused on rhythmic identification and understanding of how different rhythms of varying values are able to be combined in order to fill a measure of music based on its time signature. Part 1 consisted of seven questions that required students to identify notes by letter name (A through G) with the five lines and four spaces of the treble clef. Similarly, Part 2 was seven questions that required students to identify notes by letter name within the five lines and four spaces of the bass clef. Part 3 had nineteen note identifications on the grand staff, which also included notes that ranged from two ledger lines below the bass clef to two ledger lines above the treble clef staff. Between Parts 1 through three, there was no overlap of notes to be identified.

Part 4 asked students to do the inverse of labeling notes by letter name, and instead provided students with a letter, prompting them to use a whole note to draw that note on the staff where it could appear, between two ledger lines below the staff to two ledger lines above the staff. Due to the overlapping nature of the grand staff, students were provided a separate treble clef line that required them to write in seven notes (A through G) and a separate bass clef line to write in seven notes (A through G), for a total of fourteen questions with a total of thirty-four possible answers.

Part 5 focused on rhythmic vocabulary and required students to use a word bank with nine terms to correctly identify nine rhythmic symbols. Part 6 combined all of the skills from the previous sections into one that required students to compose their own music. Students were allowed to use any notes on the treble clef staff from two ledger lines below to two ledger lines above, as well as any combination of rhythms from Part 5 that would accurately fit into a 2/4, 3/4, and 4/4 time signature. However, students were encouraged to avoid using “rest-only” measures, as this did not demonstrate their abilities to clearly write notes of varying rhythms in a legible manner on the staff.

Baseline Assessment Findings

Third Grade

Table 1. Third Grade Baseline Assessment Scores (Control Group)

Table 1 contains the results from the Baseline Assessment for the twenty-one members of the third-grade control group.

Student Number (n=21 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
1	49	55.68%	6	6.82%	12.24%
2	15	17.04%	1	1.14%	6.67%
3	31	35.23%	6	6.82%	19.35%
4	18	20.45%	3	3.41%	16.67%
5	30	34.09%	6	6.82%	20.00%
6	26	29.55%	5	5.68%	19.23%
7	55	62.50%	7	7.95%	12.73%
8	61	69.32%	9	10.23%	14.75%
9	29	32.95%	1	1.14%	3.45%
10	38	43.18%	6	6.82%	15.79%
11	0	0.00%	0	0.00%	0.00%
12	40	45.45%	5	5.68%	12.50%
13	28	31.82%	0	0.00%	0.00%
14	40	45.45%	5	5.68%	12.50%
15	23	26.14%	3	3.41%	13.04%
16	18	20.45%	1	1.14%	5.56%
17	15	17.05%	5	5.68%	33.33%
18	0	0.00%	0	0.00%	0.00%
19	61	69.32%	6	6.82%	9.84%
20	42	47.73%	3	3.41%	7.14%
21	3	3.41%	0	0.00%	0.00%

Data show that students generally scored low on the Baseline Assessment, likely due to their inexperience with the subject matter of music literacy and their limited knowledge of its application. Control group students also demonstrated hesitation to attempt all of the questions, with two students, Student 11 and Student 18, making no attempt to answer any questions and receiving the lowest score of 0.00% on the assessment. Students 8 and 19 both attempted 69.32% of the questions, with Student 8 scoring the highest at 10.23%. When considering the percentage of questions correct out of the percentage of questions attempted, Student 11 and Student 18 still maintained the lowest score of 0.00%, while Student 17 scored highest in this metric, correctly

answering 33.33% of the 17.05% questions attempted. On average, control group students answered 33.66% of the Baseline Assessment questions. The control group also averaged a score of 4.22% questions correct, and 11.18% questions correct out of the total questions attempted.

Table 2. Third Grade Baseline Assessment Scores (Experimental Group)

Table 2 shows the results of the Baseline Assessment for the thirty members of the third-grade experimental group.

Student Number (n=30 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
22	35	39.77%	17	19.32%	48.57%
23	26	29.55%	3	3.41%	11.54%
24	29	32.95%	6	6.82%	20.69%
25	20	22.72%	1	1.14%	5.00%
26	36	40.90%	7	7.95%	19.44%
27	49	55.68%	13	14.77%	26.53%
28	35	39.77%	4	4.55%	11.43%
29	41	46.59%	3	3.40%	7.32%
30	35	39.77%	7	7.95%	20.00%
31	35	39.77%	5	5.68%	14.29%
32	27	30.68%	2	2.27%	7.41%
33	68	77.27%	9	10.23%	13.24%
34	37	42.05%	2	2.27%	5.41%
35	49	55.68%	5	5.68%	10.20%
36	26	29.55%	8	9.09%	30.77%
37	54	61.36%	5	5.68%	9.26%
38	27	30.68%	6	6.82%	22.22%
39	57	64.77%	4	4.55%	7.02%
40	53	60.23%	6	6.82%	11.32%
41	18	20.45%	8	9.09%	44.44%
42	49	55.68%	48	54.55%	97.96%
43	25	28.41%	2	2.27%	8.00%
44	30	34.09%	6	6.82%	20.00%
45	61	69.32%	25	28.41%	40.98%
46	49	55.68%	10	11.36%	20.41%
47	46	52.27%	10	11.36%	21.74%
48	41	46.59%	9	10.23%	21.95%
49	43	48.86%	8	9.09%	18.60%
50	68	77.27%	16	18.18%	23.53%
51	18	20.45%	0	0.00%	0.00%

Student 41 and Student 51 attempted the fewest questions, at 20.45%, while Student 33 and Student 50 answered 77.27% of questions. Similar to the control group, Baseline Assessment scores were generally lower, with Student 51 scoring 0.00%. On the top end, Student 42 scored

the highest at 54.55%. Student 51 received the lowest score, 0.00%, in terms of questions correct out of questions answered, whereas Student 42 scored the highest in this area at 97.96%.

Students in the experimental group answered 44.79% of questions on average, scoring an average of 9.66% on the assessment and correctly answering 20.64% of the total questions.

Figure 1. Third Grade Baseline Assessment (Total Questions Answered)

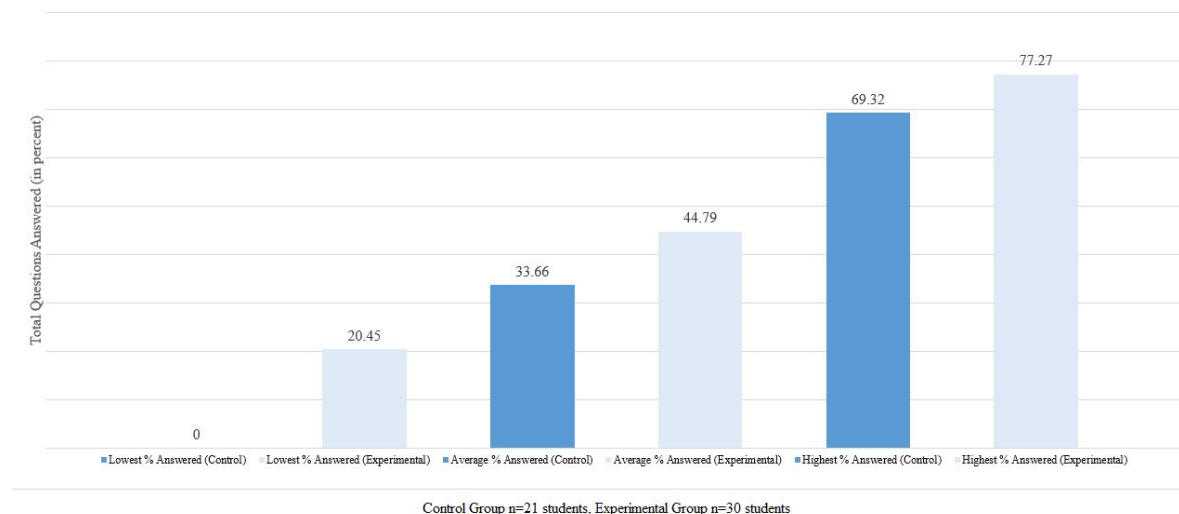


Figure 1 compares the percentage of total questions answered on the Baseline Assessment by the third-grade control and experimental groups. Based on the data collected by the researcher, Figure 1 shows that the third-grade control group had the least number of questions answered at 0.00%, while the experimental group's lowest was 20.45% of questions answered, resulting in a 20.45% difference between the groups. The control group also had an average of 33.66% questions answered, 11.13% lower than the experimental group, which answered an average of 44.79% of questions on the Baseline Assessment. The highest percentage of questions answered by the control group was 69.32%, with the experimental group leading this by 7.95% with a high of 77.27%.

Figure 2. Third Grade Baseline Assessment (Total Questions Correct)

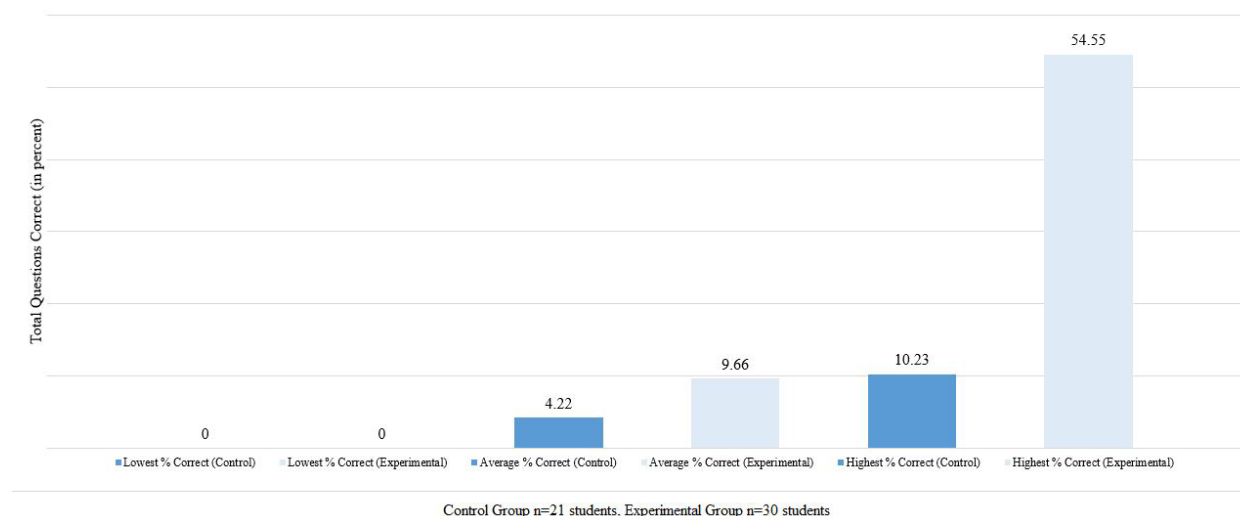


Figure 2 compares the percentage of total questions answered correctly on the Baseline Assessment by the third-grade control and experimental groups. Upon comparing the scores from the third-grade control and experimental groups, Figure 2 highlights some apparent similarities in the Baseline Assessment, such as the lowest score being 0.00%. The average score of the control group was 4.22% with a 5.4% difference from the experimental group, which scored an average of 9.66% on the assessment. The highest score metric showed the most significant difference, with a 44.32% gap between the control group (10.23%) and the experimental group (54.55%). This large gap is possibly due in part to prior experience with music literacy.

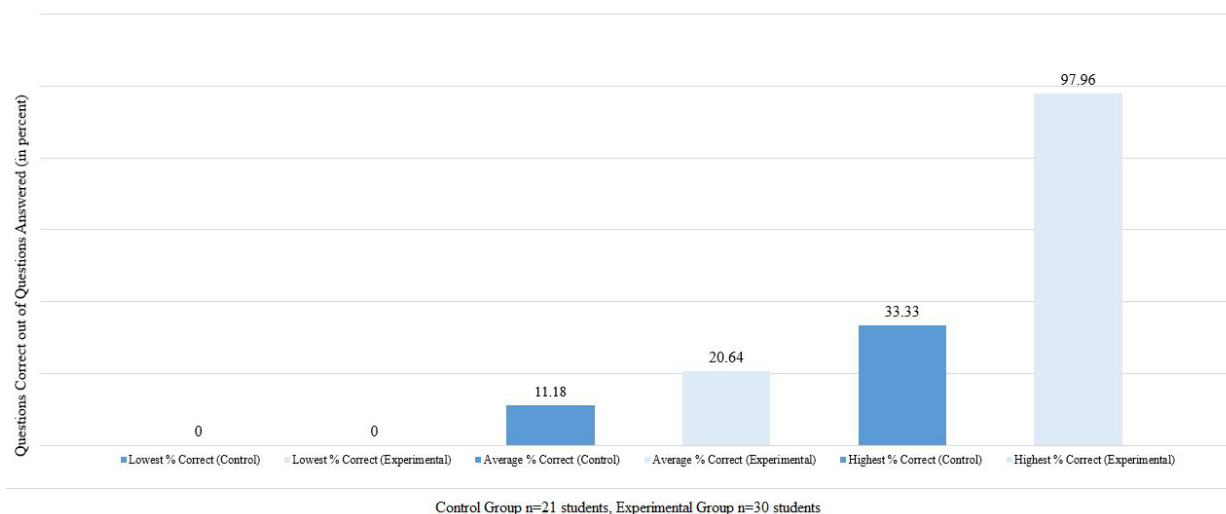
Figure 3. Third Grade Baseline Assessment (Questions Correct out of Questions Answered)

Figure 3 compares the percentage of questions answered correctly out of the questions answered on the Baseline Assessment by the third-grade control and experimental groups. In order to provide a more accurate representation of student ability, the researcher presented student scores based on the percentage of correct answers compared to the total number of questions answered. Figure 3 shows that the third-grade control and experimental groups both shared a low score of 0.00%. Members of the control group averaged 11.18% of correct answers for questions answered, with the experimental group leading at 20.64% for a 9.46% difference. Another instance of significant score differences occurred between the two groups, where the control group had a high score of 33.33%, trailing the experimental group which scored a high of 97.96% by 64.63%.

Fourth Grade

Table 3. Fourth Grade Baseline Assessment Scores (Control Group)

Table 3 shows the Baseline Assessment scores of the fourteen members of the fourth-grade control group.

Student Number (n=14 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
52	57	64.77%	15	17.05%	26.32%
53	37	42.05%	2	2.27%	5.41%
54	49	55.68%	16	18.18%	32.65%
55	38	43.18%	2	2.27%	5.26%
56	49	55.68%	11	12.50%	22.45%
57	22	25.00%	1	1.14%	4.55%
58	22	25.00%	14	15.91%	63.64%
59	4	4.55%	3	3.41%	75.00%
60	29	32.95%	13	14.77%	44.83%
61	49	55.68%	9	10.23%	18.37%
62	14	15.91%	7	7.95%	50.00%
63	49	55.68%	14	15.91%	28.57%
64	44	50.00%	15	17.05%	34.09%
65	42	47.73%	7	7.95%	16.67%

Much like both third-grade groups, these students did not demonstrate a strong aptitude for music literacy based on the results of the Baseline Assessment. Student 59 answered only 4.55% of questions, while Student 52 answered the most questions at 64.77%. Additionally, Student 57 scored the lowest on the assessment with 1.14%, whereas Student 54 scored the highest with 18.18%. Of the fourteen members in the control group, Student 57 answered the fewest questions correctly, at 4.55%, and Student 59 answered the most, at 75%. Students in this group averaged 40.99% of total questions answered, 10.47% of total questions correct, and 30.56% of questions correct out of the questions answered.

Table 4. Fourth Grade Baseline Assessment Scores (Experimental Group)

Table 4 displays the results of the Baseline Assessment for the seventeen members of the fourth-grade experimental group.

Student Number (n=17 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
66	23	26.14%	6	6.82%	26.09%
67	14	15.91%	2	2.27%	14.29%
68	16	18.18%	3	3.41%	18.75%
69	41	46.59%	8	9.09%	19.51%
70	53	60.23%	18	20.45%	33.96%
71	50	56.82%	50	56.82%	100.00%
72	28	31.82%	7	7.95%	25.00%
73	43	48.86%	8	9.09%	18.60%
74	37	42.05%	5	5.68%	13.51%
75	31	35.23%	6	6.82%	19.35%
76	40	45.45%	7	7.95%	17.50%
77	17	19.32%	4	4.55%	23.53%
78	30	34.09%	11	12.50%	36.67%
79	49	55.68%	5	5.68%	10.20%
80	17	19.32%	1	1.14%	5.88%
81	61	69.32%	13	14.77%	21.31%
82	47	53.41%	19	21.59%	40.43%

For the lowest percentage of total questions answered, Student 67 scored 15.91%, while Student 81 scored the highest with 69.32%. Student 80 received the lowest percentage of correct answers, at 1.14%, and the lowest percentage of questions answered correctly out of the total questions answered, at 5.88%. Student 71 scored the highest on the Baseline Assessment, achieving a score of 56.82%, and answered 100% of the questions correctly out of the total questions asked. On average, students in the experimental group answered 59.91% of the total questions, answered 11.56% of all eighty-eight questions correctly, and answered 26.15% of the questions correctly out of the total questions answered.

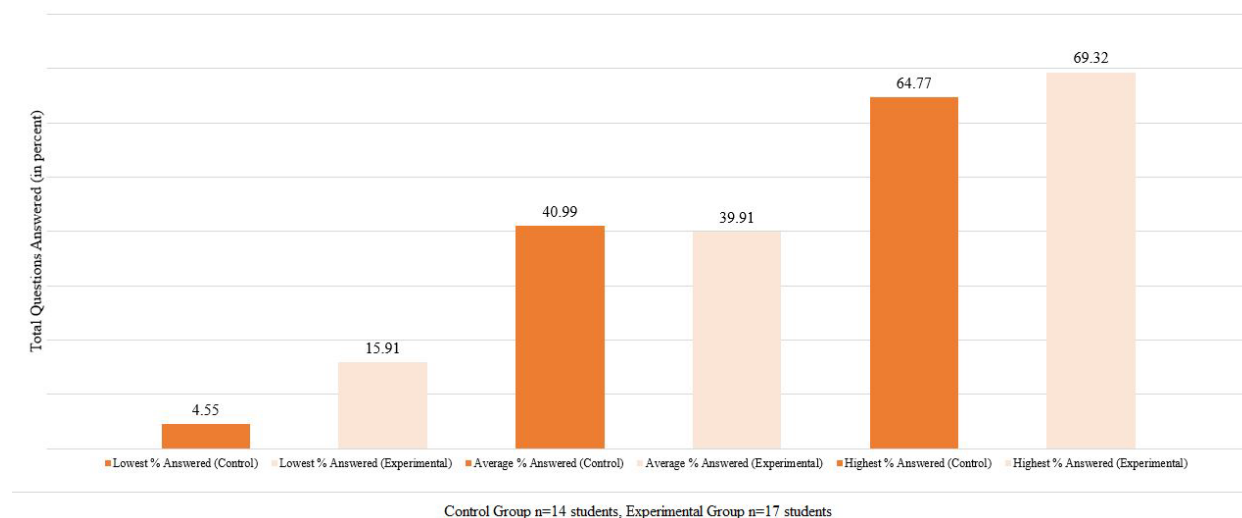
Figure 4. Fourth Grade Baseline Assessment (Total Questions Answered)

Figure 4 compares the percentage of total questions answered on the Baseline Assessment by the fourth-grade control and experimental groups. The graph reveals that members of the control group scored the lowest in total questions answered, with 4.55%, compared to the experimental group, which had a low score of 15.91%, creating a 11.36% gap. However, the control group answered more questions on average, scoring 40.99%, while the experimental group trailed by a mere 1.08% with their score of 39.91%. The highest percentages of questions answered were also relatively close, with a 4.55% difference, where the control group answered 64.77% of the questions and the experimental group answered 69.32%.

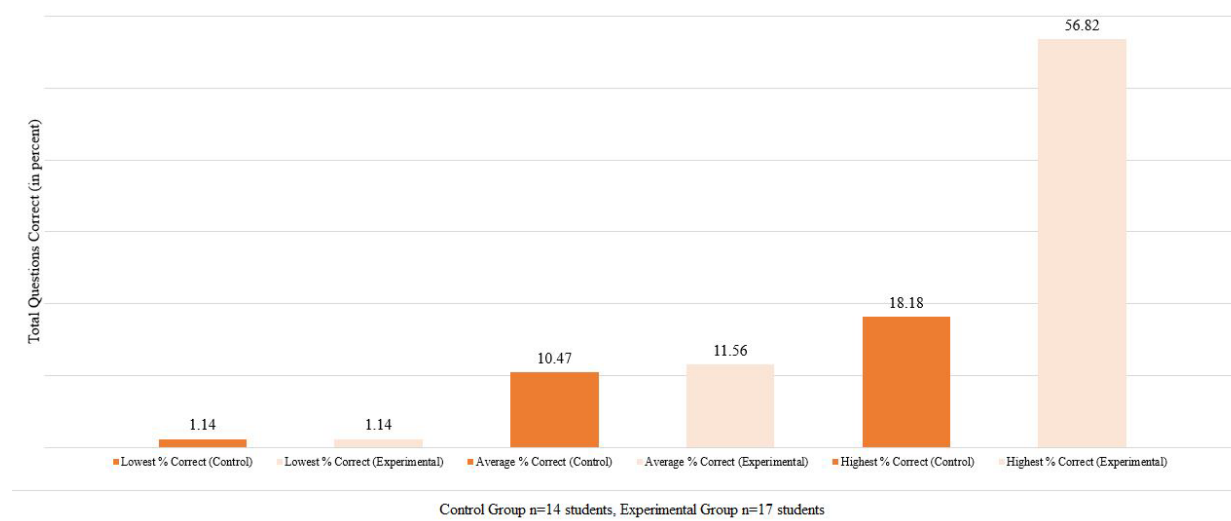
Figure 5. Fourth Grade Baseline Assessment (Total Questions Correct)

Figure 5 compares the percentage of total questions answered correctly by the fourth-grade control and experimental groups on the Baseline Assessment. In Figure 5, the lowest Baseline Assessment scores for both the fourth-grade control and experimental groups are shown to be 1.14%, leaving a 0.00% difference between the two groups. Members of the control group averaged 10.47% of total questions correct, falling 1.09% behind the experimental group, which averaged 11.56% of total questions correct. The highest percentage of questions answered correctly starkly contrasted in score, with the control group peaking at only 18.18% and the experimental group reaching 56.82%, creating a 38.64% difference.

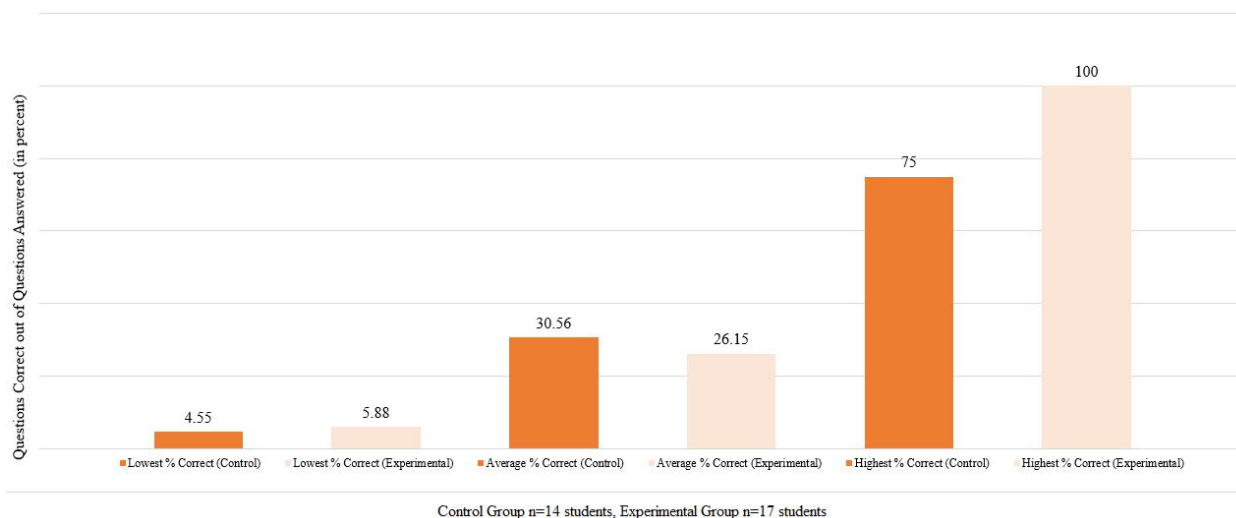
Figure 6. Fourth Grade Baseline Assessment (Questions Correct out of Questions Answered)

Figure 6 compares the percentage of questions answered correctly by the fourth-grade control and experimental groups on the Baseline Assessment. Similar to the data shown for the third-grade groups, the researcher again opted to compare student scores by measuring the number of questions answered correctly for the fourth-grade students, as shown in Figure 6. The lowest percentage of correct questions out of the total questions answered was in the control group, at 4.55%. However, the experimental group only exceeded this by 1.33% with a low score of 5.88%. Members of the control group also averaged 30.56% for this metric, while members of the experimental group averaged 4.41% less at 26.15%. The highest percentage of questions answered correctly showed a 25% gap between the two groups, with the control group scoring 75% and the experimental group scoring 100%.

Fifth Grade

Table 5. Fifth Grade Baseline Assessment Scores (Control Group)

Table 5 presents the Baseline Assessment data for the twenty students in the fifth-grade control group.

Student Number (n=20 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
83	56	63.64%	29	32.95%	51.79%
84	58	65.91%	23	26.14%	39.66%
85	68	77.27%	6	6.82%	8.82%
86	53	60.23%	15	17.05%	28.30%
87	23	26.14%	11	12.50%	47.83%
88	27	30.68%	2	2.27%	7.41%
89	42	47.73%	39	44.32%	92.86%
90	38	43.18%	6	6.82%	15.79%
91	58	65.91%	25	28.41%	43.10%
92	18	20.45%	14	15.91%	77.78%
93	14	15.91%	3	3.41%	21.43%
94	30	34.09%	6	6.82%	20.00%
95	52	59.09%	21	23.86%	40.38%
96	68	77.27%	20	22.73%	29.41%
97	46	52.27%	14	15.91%	30.43%
98	63	71.59%	3	3.41%	4.76%
99	55	62.50%	8	9.09%	14.55%
100	56	63.64%	23	26.14%	41.07%
101	19	21.59%	8	9.09%	42.11%
102	62	70.45%	19	21.59%	30.65%

Student 88 answered the fewest number of questions correctly, scoring a mere 2.27%, while Student 89 led the control group at 44.32%. For questions answered correctly out of questions answered, Student 98 scored the lowest with 4.76%, whereas Student 89 led again with 92.86%. Members of the fifth-grade control group averaged 51.48% for total questions answered, 16.76% for questions answered correctly, and 34.41% of questions answered correctly compared to questions answered. In general, fifth-grade students performed better than third- and fourth-grade students, likely due to their exposure to music literacy in previous years.

Table 6. Fifth Grade Baseline Assessment Scores (Experimental Group)

Table 6 is comprised of the Baseline Assessment data from the eighteen members of the fifth-grade experimental group.

Student Number (n=18 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
103	68	77.27%	16	18.18%	23.53%
104	50	56.82%	11	12.50%	22.00%
105	42	47.73%	7	7.95%	16.67%
106	21	23.86%	18	20.45%	85.71%
107	37	42.05%	18	20.45%	48.65%
108	41	46.59%	35	39.77%	85.37%
109	22	25.00%	10	11.36%	45.45%
110	30	34.09%	3	3.41%	10.00%
111	46	52.27%	17	19.32%	36.96%
112	33	37.50%	8	9.09%	24.24%
113	58	65.91%	58	65.91%	100.00%
114	27	30.68%	12	13.64%	44.44%
115	41	46.59%	25	28.41%	60.98%
116	71	80.68%	47	53.41%	66.20%
117	28	31.82%	19	21.59%	67.86%
118	10	11.36%	9	10.23%	90.00%
119	12	13.64%	6	6.82%	50.00%
120	18	20.45%	6	6.82%	33.33%

Student 118 only answered 11.36% of the total questions, while Student 116 answered the most questions at 80.68%. The lowest percentage of questions answered correctly was 3.41% by Student 110, who also answered the least number of questions correctly out of the questions answered at 10%. The highest percentage of questions answered correctly was achieved by Student 113, at 65.91%, while also answering 100% of the questions attempted correctly. On average, eighteen members of the fifth-grade experimental group answered 41.35% of questions, correctly answered 20.52% of questions, and answered 50.63% of questions correctly out of the total questions answered.

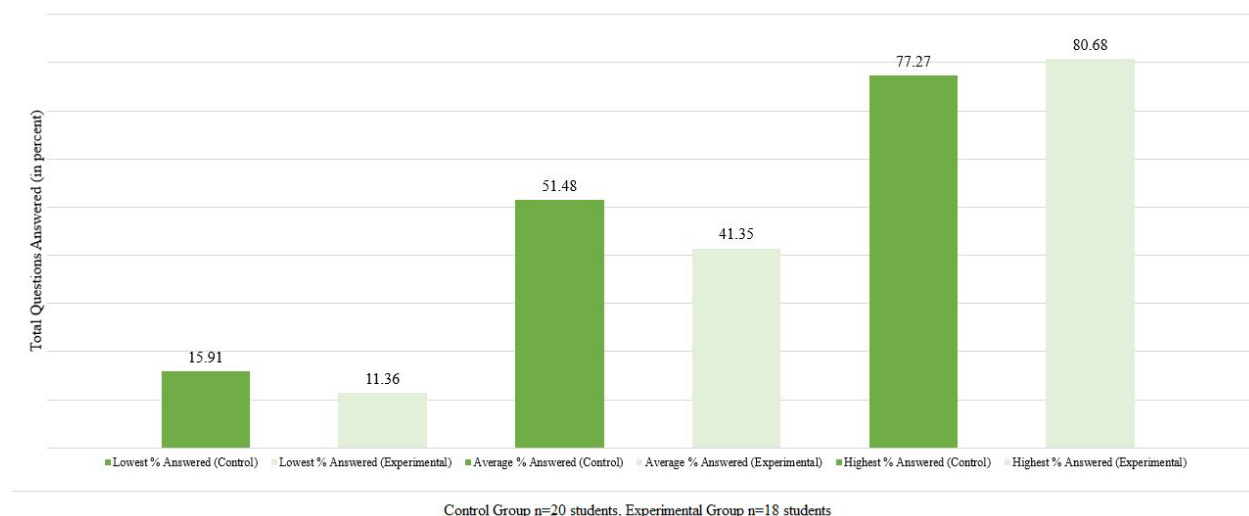
Figure 7. Fifth Grade Baseline Assessment (Total Questions Answered)

Figure 7 compares the percentage of total questions answered by members of the control and experimental groups on the Baseline Assessment. The chart shows that the fifth-grade experimental group held the record for the lowest percentage of total questions answered on the Baseline Assessment at 11.36%, with the control group scoring 4.55% higher at 15.91%. Additionally, the control group scored 10.13% higher on the average percentage of questions answered, with 51.48% compared to the experimental group's 41.35%. In the case of the highest percentage of questions answered, the control group actually fell behind with 77.27%, while the experimental group answered 3.41% more questions at 80.68%.

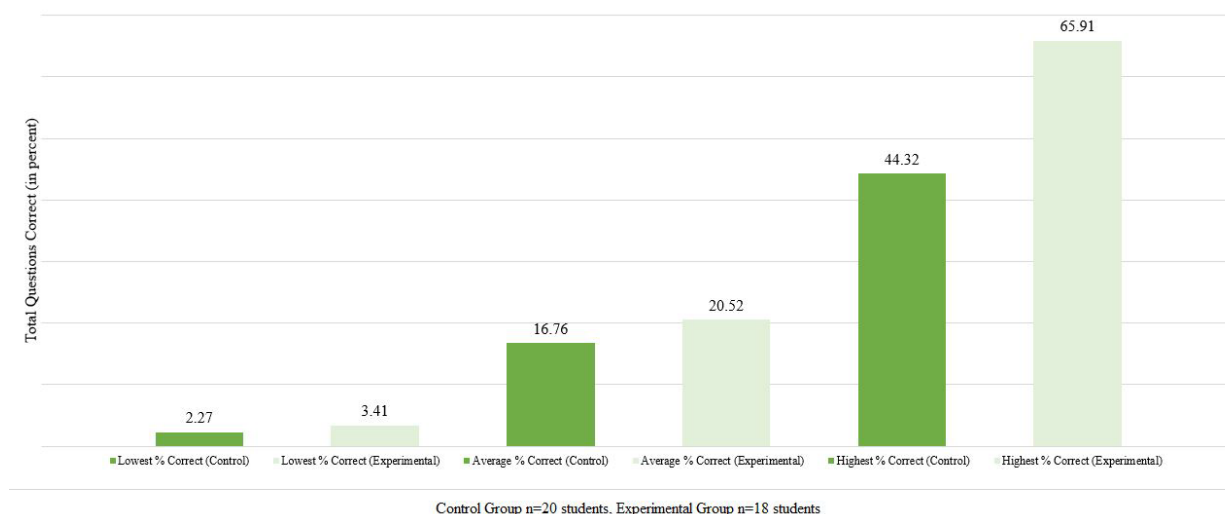
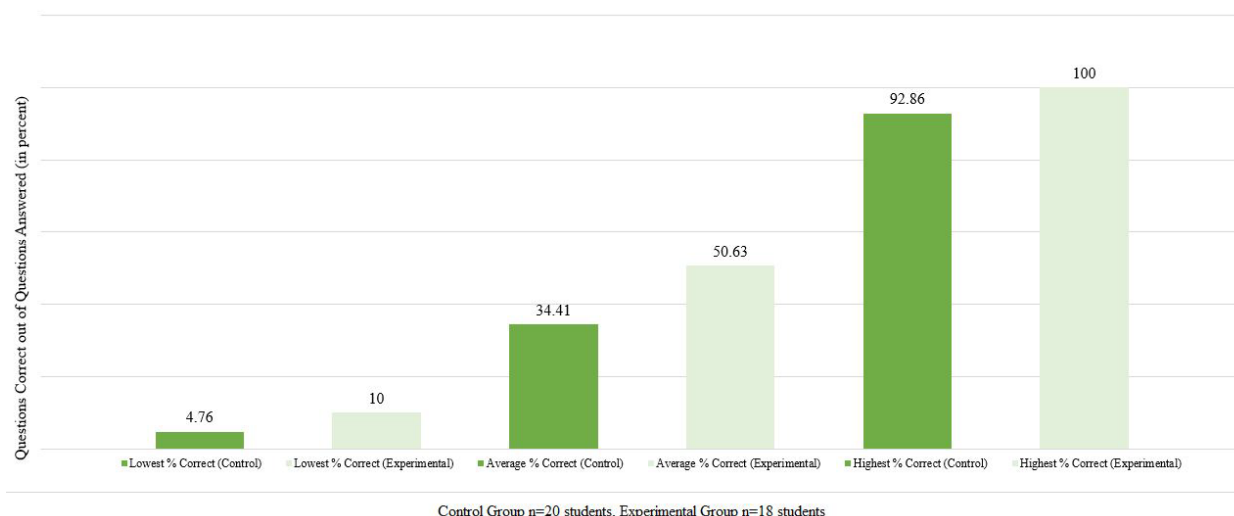
Figure 8. Fifth Grade Baseline Assessment (Total Questions Correct)

Figure 8 illustrates the total number of questions answered correctly by both fifth-grade groups on the Baseline Assessment. Members of the control group scored lowest at 2.27%, with a minimal gap of 1.14% from the experimental group, whose lowest score was 3.41%. The average scores for both groups resulted in a 3.76% gap, with the control group answering 16.76% of questions correctly and the experimental group answering 20.52% of questions correctly. However, there was a significant gap between each group in terms of the highest percentage of questions answered correctly. The experimental group topped this category with 65.91% of questions answered correctly, and the control group was 21.59% lower with a high score of 44.32%.

Figure 9. Fifth Grade Baseline Assessment (Questions Correct out of Questions Answered)

In Figure 9, fifth-grade groups were compared based on the number of questions answered correctly out of the total number of questions on the Baseline Assessment. The lowest percentage achieved by the control group was 4.76%, with a 5.24% difference from the experimental group, which had a lowest score of 10%. Members of the control group also trailed the experimental group in terms of the average percentage of questions correct out of the total questions answered, by 16.22%. The control group averaged 34.41% while the experimental group averaged 50.63%. Finally, the experimental group had a student answer 100% of questions correctly of questions answered, while a member of the control group only answered 92.86%, leaving a 7.14% gap.

Unit 1 Assessment

Similar to the Baseline Assessment, the Unit 1 Assessment opened with three sections of note identification by letter name. Part 1 contained seven questions requiring students to name notes within the five lines and four spaces of the treble clef staff, Part 2 did the same, but with the bass clef staff, and Part 3 featured a grand staff that addressed seven additional notes within its ten lines and eight spaces. Part 4 of the Unit 1 Assessment was the same as the Baseline Assessment, though it only required students to draw whole notes within the treble and bass clef staves for the given letter. This resulted in nine possible answers for each staff, for a total of eighteen possible answers for this section. Part 5 was a simplified composition exercise that asked students to compose four measures of music in 4/4 time, using only whole notes and pitches within the five lines and four spaces of the treble clef staff.

Unit 1 Assessment Findings

Third Grade

Table 7. Third Grade Unit 1 Assessment Scores (Control Group)

In Table 7, the researcher has presented data collected from the third-grade control group on the Unit 1 Assessment.

Student Number (n=20 students)	Total Questions Answered (Out of 43)	Percentage of Questions Answered	Total Questions Correct (Out of 43)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
1	39	90.70%	13	30.23%	33.33%
2	39	90.70%	37	86.05%	94.87%
3	16	37.21%	7	16.28%	43.75%
4	26	60.47%	20	46.51%	76.92%
5	42	97.67%	41	95.35%	97.62%
6	43	100.00%	43	100.00%	100.00%
7	40	93.02%	29	67.44%	72.50%
8	35	81.40%	13	30.23%	37.14%
9	39	90.70%	11	25.58%	28.21%
10	39	90.70%	36	83.72%	92.31%
11	39	90.70%	10	23.26%	25.64%
12					
13	39	90.70%	38	88.37%	97.44%
14	39	90.70%	36	83.72%	92.31%
15	39	90.70%	13	30.23%	33.33%
16	43	100.00%	39	90.70%	90.70%
17	39	90.70%	0	88.37%	97.44%
18	20	46.51%	10	23.26%	50.00%
19	39	90.70%	18	41.86%	46.15%
20	39	90.70%	14	32.56%	35.90%
21	23	53.49%	3	6.98%	13.04%

Student 12 is highlighted in red, as they were not present in class the day this assessment was administered and were unable to make up the assignment at a later time, leaving the control group with results for only twenty students. Since this assessment only had forty-three questions compared to the Baseline Assessment's eighty-eight questions, students generally answered more questions, scored higher overall, and answered more questions correctly out of the questions answered. Student 3 answered the fewest number of questions, at only 37.21%, while Students 6 and 16 both answered 100% of the questions. Student 21 scored the lowest on the Unit 1 Assessment, with a 6.98%, and also answered the fewest number of questions correctly

out of the questions answered, at 13.04%. Additionally, Student 6 answered 100% of the questions correctly, and subsequently answered 100% of the questions attempted correctly. On average, the third-grade control group answered 83.37% of the questions, correctly answering 54.54% of them, and correctly answering 62.93% of the total questions.

Table 8. Third Grade Unit 1 Assessment Scores (Experimental Group)

Table 8 shows the Unit 1 Assessment results for the third-grade experimental group.

Student Number (n=29 students)	Total Questions Answered (Out of 43)	Percentage of Questions Answered	Total Questions Correct (Out of 43)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
22	42	97.67%	36	83.72%	85.71%
23	23	53.49%	2	4.65%	8.70%
24	39	90.70%	20	46.51%	51.28%
25	28	65.12%	8	18.60%	28.57%
26	39	90.70%	13	30.23%	33.33%
27	39	90.70%	38	88.37%	97.44%
28	32	74.42%	29	67.44%	90.63%
29	27	62.79%	8	18.60%	29.63%
30	36	83.72%	15	34.88%	41.67%
31	36	83.72%	11	25.58%	30.56%
32	32	74.42%	1	2.33%	3.13%
33	41	95.35%	27	62.79%	65.85%
34	35	81.40%	11	25.58%	31.43%
35					
36	39	90.70%	33	76.74%	84.62%
37	42	97.67%	36	83.72%	85.71%
38	22	51.16%	13	30.23%	59.09%
39	39	90.70%	5	11.63%	12.82%
40	43	100.00%	38	88.37%	88.37%
41	39	90.70%	37	86.05%	94.87%
42	41	95.35%	41	95.35%	100.00%
43	39	90.70%	17	39.53%	43.59%
44	35	81.40%	21	48.84%	60.00%
45	43	100.00%	43	100.00%	100.00%
46	35	81.40%	10	23.26%	28.57%
47	24	55.81%	5	11.63%	20.83%
48	24	55.81%	6	13.95%	25.00%
49	39	90.70%	16	37.21%	41.03%
50	40	93.02%	16	37.21%	40.00%
51	32	74.42%	6	13.95%	18.75%

As with the control group, any students who were not present for the assessment were highlighted in red. In Table 8, data for Student 35 is unavailable due to absence, resulting in only twenty-nine student participants for this assessment. Student 38 answered the lowest percentage

of questions, at 51.16%, whereas Students 40 and 45 both answered 100% of the questions.

Student 32 answered the fewest questions correctly with a score of 2.33%, while Student 45 held the highest score of 100%. For the lowest percentage of questions answered correctly out of the questions answered, Student 32 also held this position, with only 3.13%. Both Student 42 and Student 45 answered 100% of the questions correctly out of the total number of questions.

Members of the third-grade experimental group averaged 82.2% of total questions answered, 45.07% of total questions correct, and 51.76% of questions correct out of questions answered.

Figure 10. Third Grade Unit 1 Assessment (Total Questions Answered)

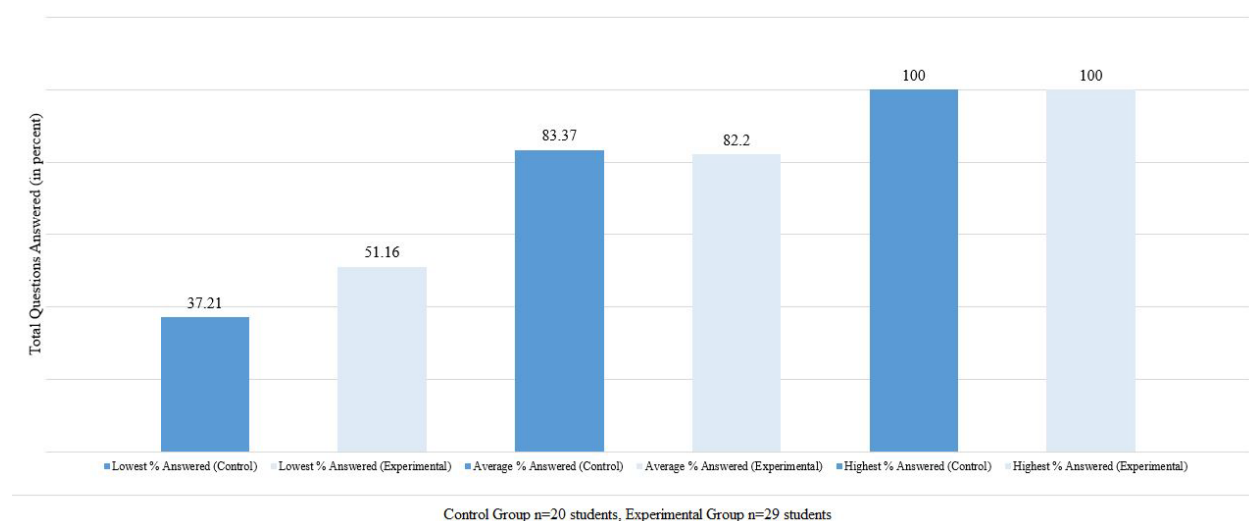


Figure 10 compares the percentage of total questions answered on the Unit 1 Assessment by the third-grade control and experimental groups. This figure reveals that the third-grade control group had the lowest student score on total questions answered at 37.21%, while the experimental group's lowest scoring member left a 13.95% gap by answering 51.16% of questions. However, the control group averaged 1.17% higher in questions answered with 83.37% compared to the experimental group's 82.2%. Both groups reached 100% for the highest percentage of questions answered.

Figure 11. Third Grade Unit 1 Assessment (Total Questions Correct)

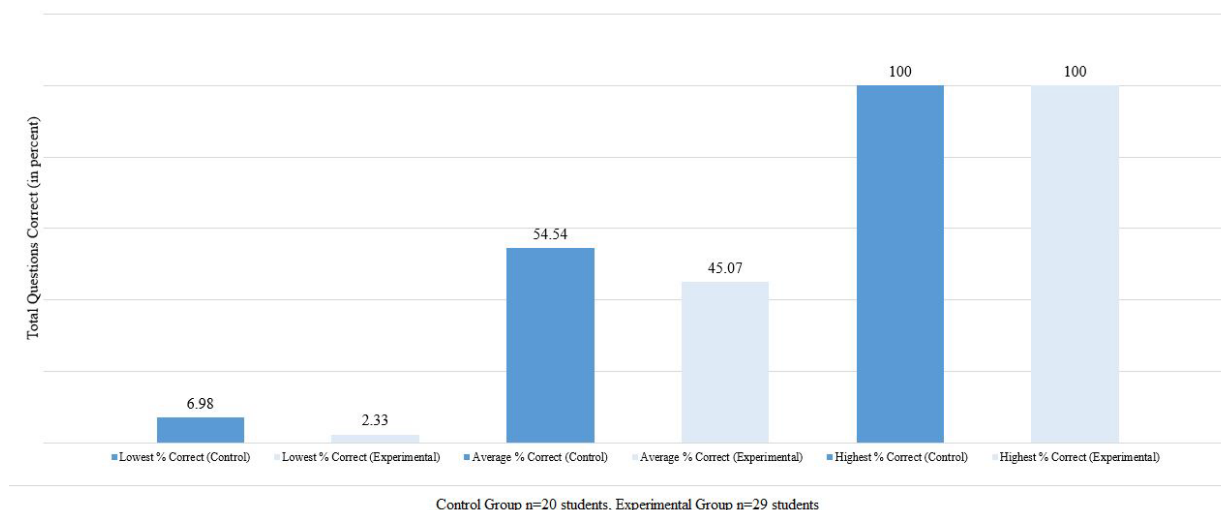


Figure 11 compares the percentage of questions answered correctly on the Unit 1 Assessment by the third-grade control and experimental groups. The control group's lowest score was 6.98%, which was 4.65% higher than the lowest of the experimental group, which was 2.33%. Students in the control group also averaged 54.54% of questions answered correctly, whereas the experimental group averaged 45.07%, a difference of 9.47%. Similar to the category of total questions answered, both third-grade groups achieved a 100% correct answer rate.

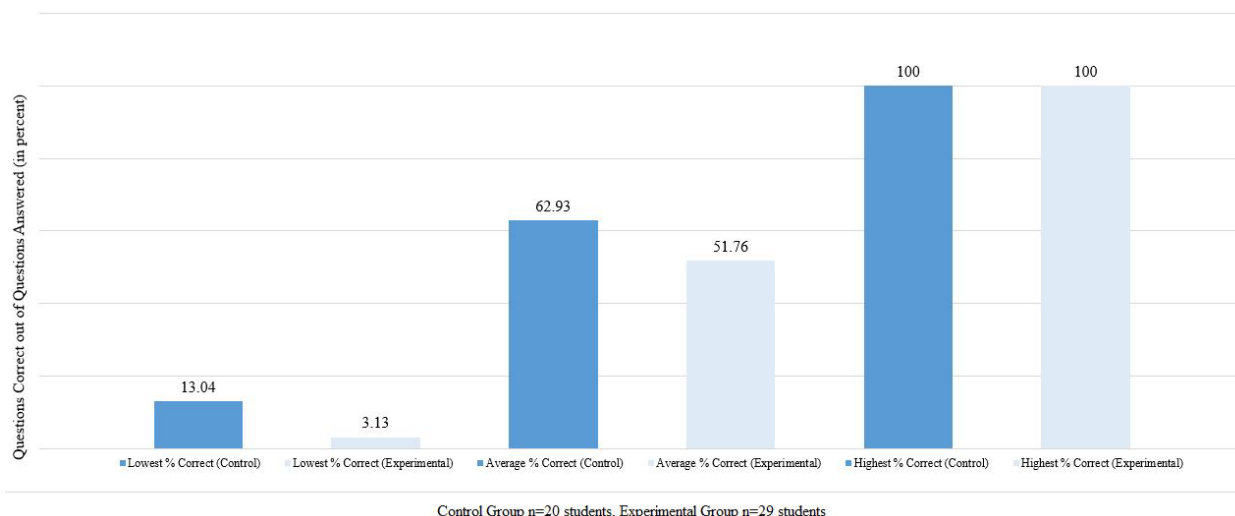
Figure 12. Third Grade Unit 1 Assessment (Questions Correct out of Questions Answered)

Figure 12 compares the percentage of questions answered correctly by the third-grade control and experimental groups on the Unit 1 Assessment. The data in Figure 12 shows that the third-grade control group scored 13.04% as the lowest percentage of questions answered correctly. In comparison, the experimental group scored only 3.13%, creating a 9.91% gap between the two groups. On average, the control group scored 62.93% in this metric, leading the experimental group's score of 51.76% by 11.17%. Once again, both groups scored 100% in the highest percentage category, with each group having one or more students answering 100% of the questions correctly out of the questions answered.

Fourth Grade

Table 9. Fourth Grade Unit 1 Assessment Scores (Control Group)

Table 9 contains the results of the Unit 1 Assessment for the fourteen members of the fourth-grade control group.

Student Number (n=14 students)	Total Questions Answered (Out of 43)	Percentage of Questions Answered	Total Questions Correct (Out of 43)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
52	39	90.70%	31	72.09%	79.49%
53	39	90.70%	30	69.77%	76.92%
54	39	90.70%	22	51.16%	56.41%
55	39	90.70%	11	25.58%	28.21%
56	39	90.70%	10	23.26%	25.64%
57	39	90.70%	7	16.28%	17.95%
58	15	34.88%	8	18.60%	53.33%
59	19	44.19%	9	20.93%	47.37%
60	29	67.44%	21	48.84%	72.41%
61	39	90.70%	9	20.93%	23.08%
62	39	90.70%	35	81.40%	89.74%
63	43	100.00%	43	100.00%	100.00%
64	39	90.70%	29	67.44%	74.36%
65	42	97.67%	42	97.67%	100.00%

Much like those scores of both third-grade groups, the numbers generally trended upward. The individual with the lowest percentage of questions answered was Student 58 at 34.88%, and the highest percentage was Student 63 with 100%. For the correct questions, Student 57 had the fewest with 16.28%, while Student 63 again had the highest at 100%. Student 57 also answered the fewest number of questions correctly out of questions answered, while Student 63 and Student 65 each answered 100% of questions correctly out of questions answered. The fourth-grade control group averaged 82.89% of total questions answered, 51% of questions answered correctly, and 60.35% of questions answered correctly compared to total questions answered

Table 10. Fourth Grade Unit 1 Assessment Scores (Experimental Group)

Results of the Unit 1 Assessment for the fourth-grade experimental group are presented in Table 10.

Student Number (n=14 students)	Total Questions Answered (Out of 43)	Percentage of Questions Answered	Total Questions Correct (Out of 43)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
66	32	74.42%	22	51.16%	68.75%
67	43	100.00%	38	88.37%	88.37%
68	43	100.00%	43	100.00%	100.00%
69					
70	39	90.70%	34	79.07%	87.18%
71	42	97.67%	42	97.67%	100.00%
72	39	90.70%	27	62.79%	69.23%
73	43	100.00%	43	100.00%	100.00%
74	39	90.70%	37	86.05%	94.87%
75	37	86.05%	19	44.19%	51.35%
76	40	93.02%	39	90.70%	97.50%
77	39	90.70%	25	58.14%	64.10%
78					
79					
80	32	74.42%	11	25.58%	34.38%
81	39	90.70%	20	46.51%	51.28%
82	27	62.79%	25	58.14%	92.59%

Students 69, 78, and 79 were absent when the test was administered and have been highlighted in red to indicate unavailable data. With three students missing, the experimental group consisted of only fourteen students for the Unit 1 Assessment. Student 82 answered the fewest questions, at 62.79%, whereas Students 67, 68, and 73 answered 100% of the questions. The lowest score for questions answered correctly was received by Student 80, at 25.58%. Multiple students achieved 100% accuracy on the Unit 1 Assessment, including Student 68 and Student 73. Regarding the percentage of questions answered correctly out of the total questions answered, Student 80 scored the lowest with 34.38%, while Students 68, 71, and 73 all scored 100% in this metric. The average percentage of questions answered was 88.71%, the average percentage of questions answered correctly was 70.6%, and the average percentage of questions answered correctly out of questions answered was 78.54%.

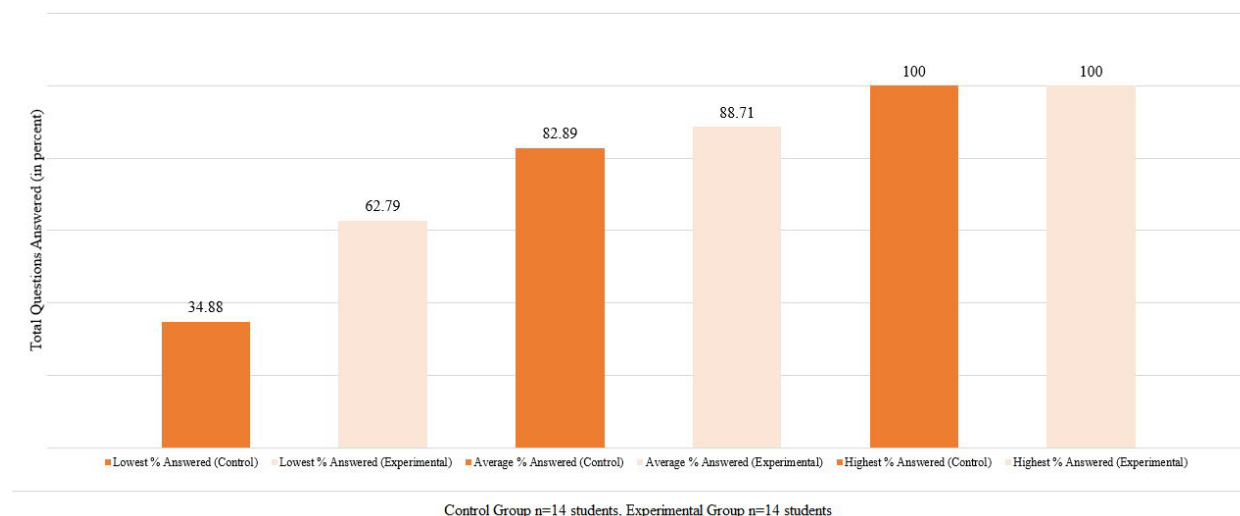
Figure 13. Fourth Grade Unit 1 Assessment (Total Questions Answered)

Figure 13 compares the percentage of total questions answered by members of the fourth-grade control and experimental groups on the Unit 1 Assessment. In this figure, it is evident that the control group answered significantly fewer questions than the experimental group. With a 27.91% gap, the control group had a low score of 34.88% and the experimental group had a low score of 62.79%. The average percentage of questions answered was much closer, with the control group sitting at 82.89% and the experimental group leading by 5.82% at 88.71%. Both groups achieved a high percentage of questions answered with 100%.

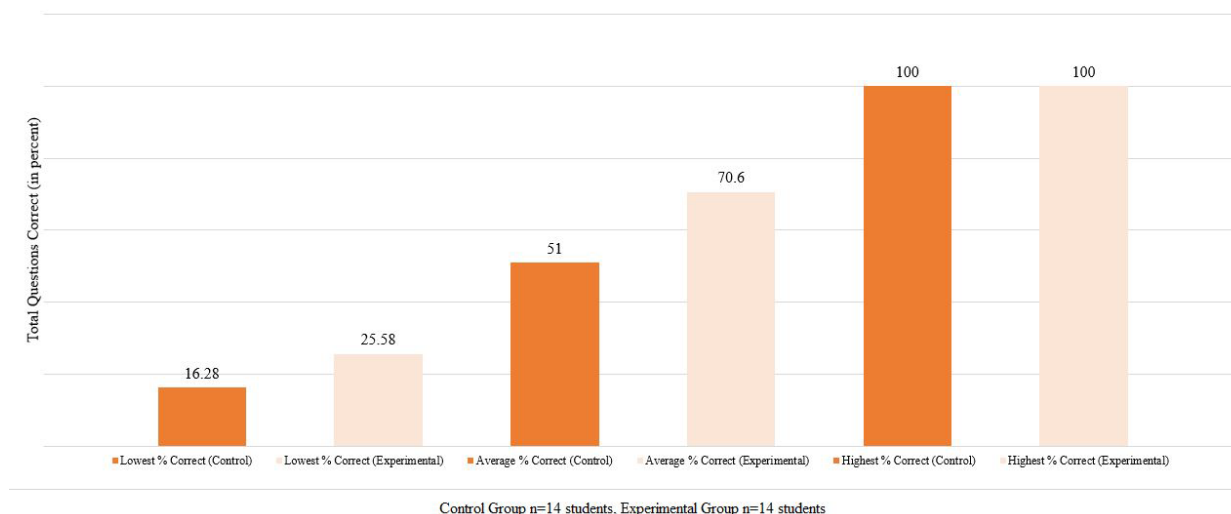
Figure 14. Fourth Grade Unit 1 Assessment (Total Questions Correct)

Figure 14 compares the percentage of total questions answered correctly by fourth-grade students in both the control and experimental groups on the Unit 1 Assessment. For the total number of questions answered correctly, Figure 14 reveals that the lowest score in the control group was 16.28%, which was 9.3% lower than the experimental group's 25.58%. A significant gap of 19.6% existed between the groups, as the control group answered 51% of questions correctly, while the experimental group answered 70.6% of questions correctly. Both the control and experimental groups had members who were able to answer 100% of the Unit 1 Assessment questions correctly.

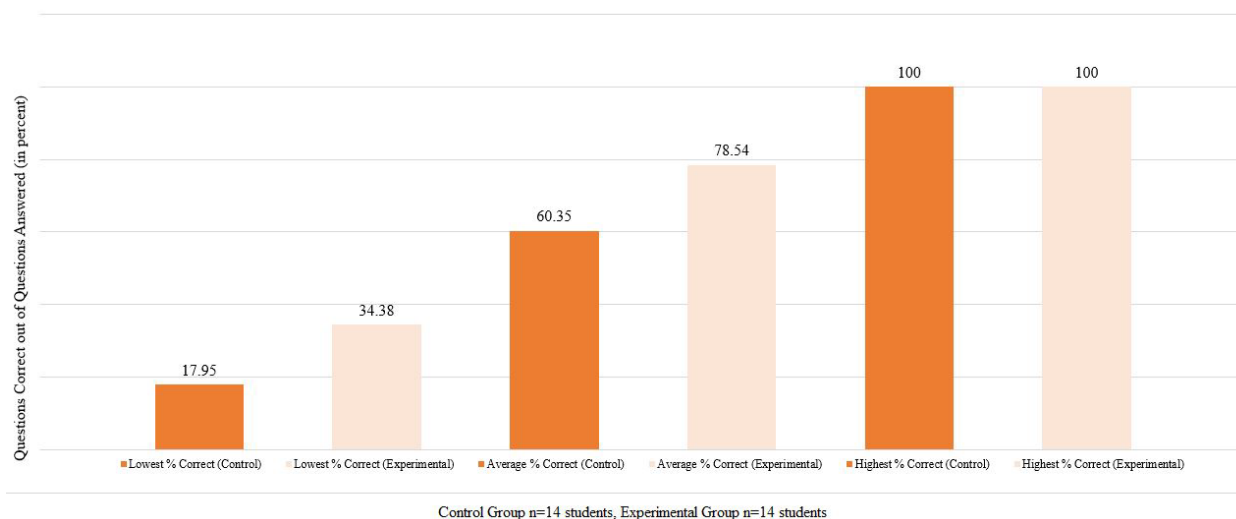
Figure 15. Fourth Grade Unit 1 Assessment (Questions Correct out of Questions Answered)

Figure 15 focuses on the percentage of questions answered correctly out of the total questions answered for each fourth-grade group on the Unit 1 Assessment. In this third metric, the control group again trailed, with the lowest score of 16.28%, while the experimental group had a score of 25.58%, resulting in a 9.3% difference. The averages of the two fourth-grade groups also showed a significant difference of 18.19%, where the control group answered 60.35% of the questions correctly, and the experimental group answered 78.54% of the questions correctly. Members of each group also reached a high of 100% of questions answered correctly in comparison to total questions answered.

Fifth Grade

Table 11. Fifth Grade Unit 1 Assessment Scores (Control Group)

The figures in Table 11 pertain to the Unit 1 Assessment scores of the twenty members of the fifth-grade control group.

Student Number (n=20 students)	Total Questions Answered (Out of 43)	Percentage of Questions Answered	Total Questions Correct (Out of 43)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
83	43	100.00%	42	97.67%	97.67%
84	39	90.70%	29	67.44%	74.36%
85	39	90.70%	10	23.26%	25.64%
86	39	90.70%	38	88.37%	97.44%
87	42	97.67%	34	79.07%	80.95%
88	36	83.72%	36	83.72%	100.00%
89	41	95.35%	36	88.72%	87.80%
90	39	90.70%	16	37.21%	41.03%
91	41	95.35%	41	95.35%	100.00%
92	39	90.70%	32	74.42%	82.05%
93	39	90.70%	9	20.93%	23.08%
94	37	86.05%	23	53.49%	62.16%
95	43	100.00%	43	100.00%	100.00%
96	39	90.70%	34	79.07%	87.18%
97	39	90.70%	10	23.26%	25.64%
98	43	100.00%	15	34.88%	34.88%
99	39	90.70%	17	39.53%	43.59%
100	43	100.00%	39	90.70%	90.70%
101	43	100.00%	37	86.05%	86.05%
102	43	100.00%	43	100.00%	100.00%

Fifth-grade students generally answered more questions than both the third- and fourth-grade groups, as they are more familiar with music literacy concepts due to their advanced age, the demands of state standards, and curriculum. Student 88 answered the least number of questions, at 83.72%, while Students 83, 95, 98, 100, 101, and 102 all answered 100% of the questions. For total questions correct, Student 93 scored the lowest with 20.93%, and Student 95 and Student 102 both scored 100%. Student 93 also received the lowest score of 23.08% for questions answered correctly out of the total number of questions, whereas Students 95 and 102 again topped this metric at 100%. Students in the control group averaged 93.72% for questions

answered, 68.16% for questions answered correctly, and 72.01% for questions answered correctly out of the total number of questions.

Table 12. Fifth Grade Unit 1 Assessment Scores (Experimental Group)

Table 12 shows the Unit 1 Assessment data of the fifth-grade experimental group.

Student Number (n=16 students)	Total Questions Answered (Out of 43)	Percentage of Questions Answered	Total Questions Correct (Out of 43)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
103					
104	43	100.00%	43	100.00%	100.00%
105	42	97.67%	29	67.44%	69.05%
106	43	100.00%	43	100.00%	100.00%
107	42	97.67%	38	88.37%	90.48%
108	42	97.67%	42	97.67%	100.00%
109	25	58.14%	25	58.14%	100.00%
110	39	90.70%	35	81.40%	89.74%
111	43	100.00%	43	100.00%	100.00%
112					
113	43	100.00%	43	100.00%	100.00%
114	39	90.70%	39	90.70%	100.00%
115	43	100.00%	39	90.70%	90.70%
116	43	100.00%	43	100.00%	100.00%
117	43	100.00%	43	100.00%	100.00%
118	43	100.00%	39	90.70%	90.70%
119	43	100.00%	43	100.00%	100.00%
120	43	100.00%	43	100.00%	100.00%

This group had only sixteen students present to complete the assessment, as Students 103 and 112 were absent when it was administered. While Student 109 only completed 58.14% of questions, a multitude of individuals answered 100% of questions, including Students 104, 106, 111, 113, 115, 116, 117, 118, 119, and 120. Student 109 also answered 58.14% of questions correctly, and Student 104, 106, 111, 113, 116, 117, 119, and 120 all answered 100% of questions correctly. At 69.05%, Student 105 answered the least number of questions correctly per question answered, while Students 104, 106, 108, 109, 111, 113, 114, 116, 117 answered the most questions correctly. 119 and 120 correctly answered 100% of the questions attempted. On average, members of the fifth-grade experimental group answered 95.78% of the questions

correctly, answered 91.57% of the questions correctly, and answered 95.67% of the total questions correctly.

Figure 16. Fifth Grade Unit 1 Assessment (Total Questions Answered)

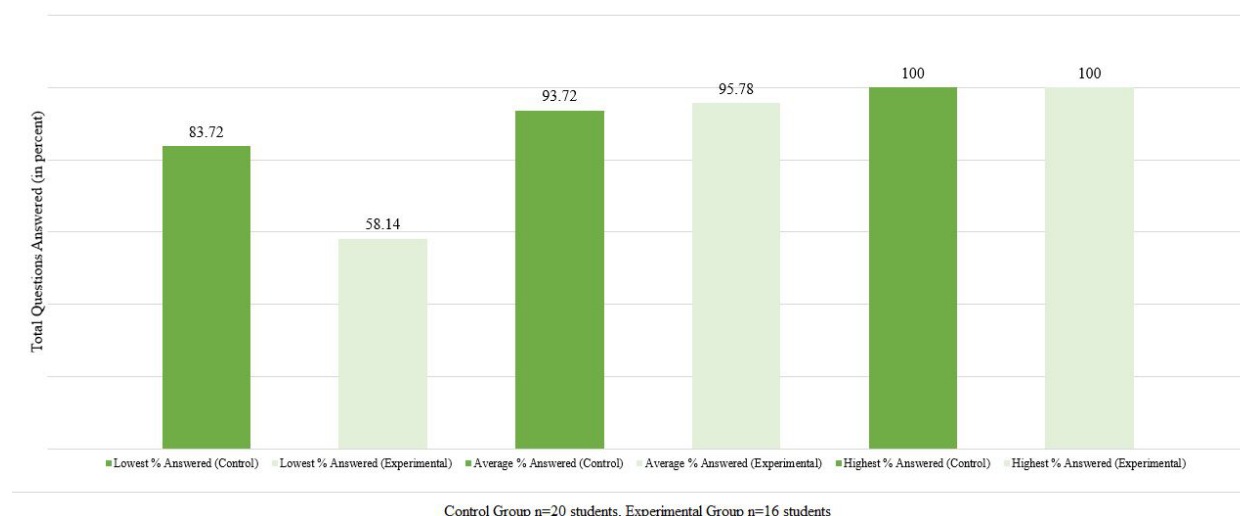


Figure 16 compares the fifth-grade control and experimental groups by percentage of total questions answered on the Unit 1 Assessment. The least number of questions answered by the control group was 83.72%, which was 25.58% lower than the experimental group's 58.14%. However, the control group fell slightly behind the experimental group in terms of the average percentage of questions answered by 2.06%, with the control group scoring 93.72% and the experimental group scoring 95.78%. Both groups had students who answered 100% of the questions on the Unit 1 Assessment.

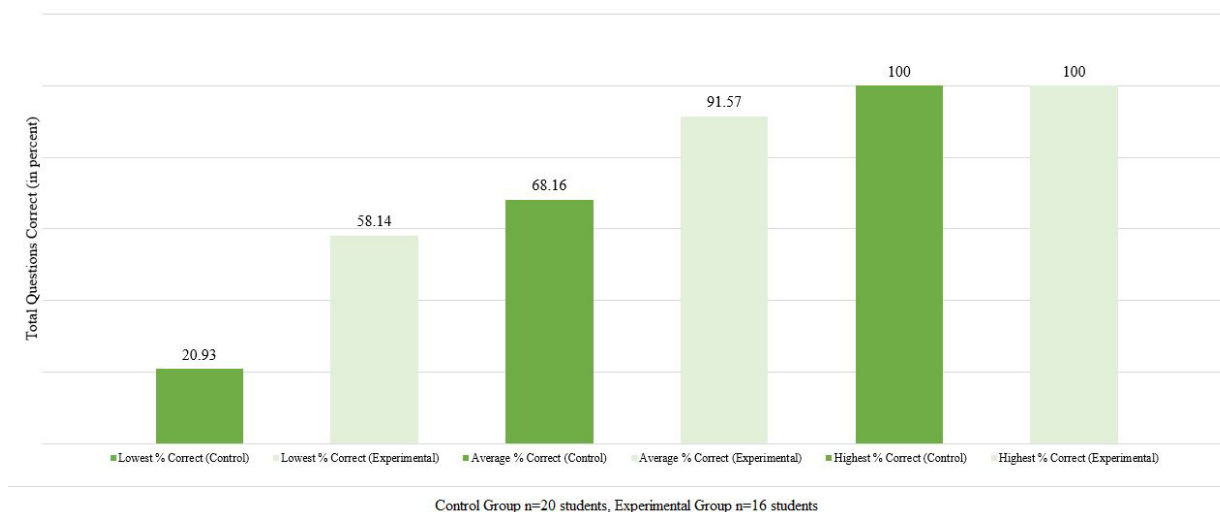
Figure 17. Fifth Grade Unit 1 Assessment (Total Questions Correct)

Figure 17 compares the percentage of total questions answered correctly by fifth-grade students on the Unit 1 Assessment. The graph reveals that larger gaps emerged between the control and experimental groups' scores on the Unit 1 Assessment, specifically in the metric of total questions answered correctly. A student within the control group answered the least number of questions correctly at 20.93%, while the experimental group more than doubled this score at 58.14%, creating a 37.21% difference. Group averages followed a similar trend, with the control group averaging 68.16% of questions answered correctly and the experimental group averaging 91.57%, resulting in a 23.41% difference. The only category without a significant gap was the highest percentage correctly answered, which was 100% for both the control and experimental groups.

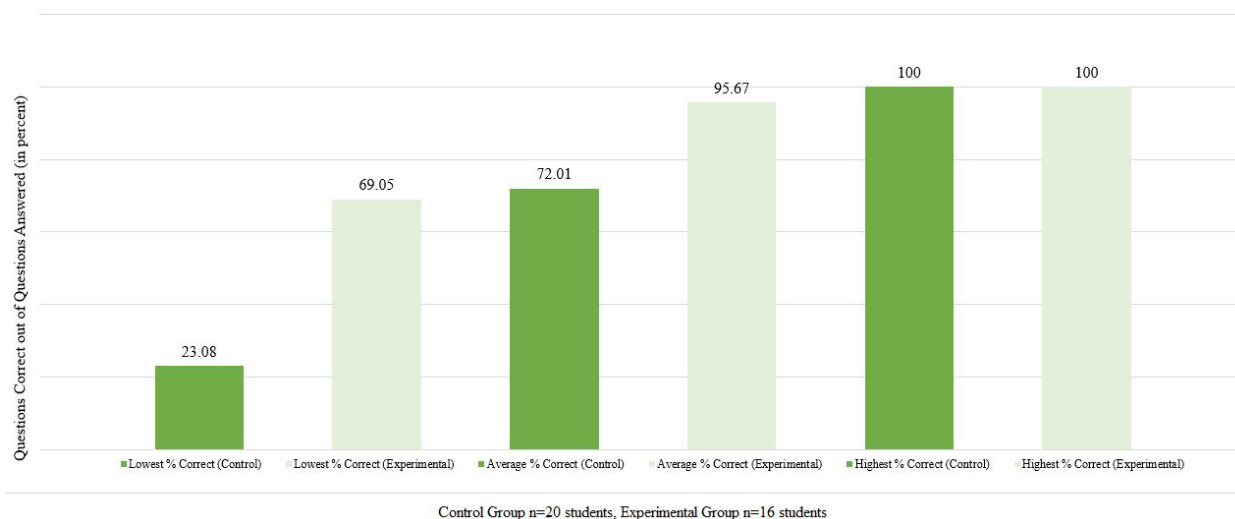
Figure 18. Fifth Grade Unit 1 Assessment (Questions Correct out of Questions Answered)

Figure 18 provides details on each group's scores in terms of questions answered correctly compared to questions answered on the Unit 1 Assessment. A greater divide was found in the lowest percentage category for this metric. The control group's lowest score was 23.08%, with the experimental group scoring 45.97% higher at 69.05%. The experimental group outperformed the control group in the average number of questions answered correctly out of the total number of questions, achieving a score of 95.67%. Members of the control group only averaged 72.01% in this category, leaving them 23.66% behind the experimental group. As seen in Figures 16 and 17, students from both groups also achieved 100% in the highest percentage category for this metric.

Unit 2 Assessment

The Unit 2 Assessment followed the same pattern as the Baseline and Unit 1 Assessment, though Part 3 introduced notes up to two ledger lines below the treble clef staff and ledger lines up to two lines above the bass clef staff. Parts 1 and 2 were both seven-note identification questions, one for the treble clef and the other for the bass clef, respectively, and Part 3 was an eleven-note identification question on the grand staff. Part 4 again required students to write whole notes on the proper lines and spaces in each staff, this time with the added notes below the treble clef staff and above the bass clef staff. Each of the staves in Part 4 had 13 possible answers, for a total of 26 answers for the section.

Part 5 introduced rhythmic vocabulary, prompting students to use the terms in the word bank to identify the six rhythmic figures present correctly. After this, students could use these same rhythms from Part 5 to compose four measures of music in 4/4 time required by Part 6. Students were allowed to use notes within the treble clef staff, as well as notes down to two ledger lines below the staff if they chose. Much like the Baseline Assessment, students were encouraged to avoid writing measures of music that were “rest-only.”

Unit 2 Assessment Findings

Third Grade

Table 13. Third Grade Unit 2 Assessment Scores (Control Group)

Table 13 presents the data recorded by the researcher for the third-grade control group on the Unit 2 Assessment.

Student Number (n=19 students)	Total Questions Answered (Out of 61)	Percentage of Questions Answered	Total Questions Correct (Out of 61)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
1	49	80.33%	19	31.15%	38.78%
2					
3	48	78.69%	16	26.23%	33.33%
4	31	50.82%	25	40.98%	80.65%
5	49	80.33%	43	70.49%	87.76%
6	53	86.89%	39	63.93%	73.58%
7	52	85.25%	34	55.74%	65.38%
8	49	80.33%	15	24.59%	30.61%
9	49	80.33%	17	27.87%	34.69%
10	49	80.33%	34	55.74%	69.39%
11	42	68.85%	10	16.39%	23.81%
12	41	67.21%	11	18.03%	26.83%
13	24	39.34%	18	29.51%	75.00%
14	29	47.54%	14	22.95%	48.28%
15	43	70.49%	30	49.18%	69.77%
16	37	60.66%	30	49.18%	81.08%
17	39	63.93%	31	50.82%	79.49%
18	14	22.95%	3	4.92%	21.43%
19					
20	45	73.77%	14	22.95%	31.11%
21	45	73.77%	1	1.64%	2.22%

This assessment consisted of sixty-one questions, which resulted in lower completion rates for some students. Student 2 and Student 19 were absent for the assessment and did not receive scores, leaving the control group with only nineteen members. For total questions answered, Student 18 scored the lowest with 22.95%, and Student 6 scored the highest with 86.89%. Student 21 received the lowest percentage of questions answered correctly, at 1.64%, as well as the lowest percentage of questions answered correctly out of the total questions answered, at 2.22%. Student 5 received the control group's highest score, with 70.49% of questions answered correctly, and also scored the highest percentage of questions answered

correctly out of all questions answered, at 87.76%. Members of the third-grade control group averaged 67.99% for total questions answered, 34.86% for total questions correct, and 51.22% for questions correct out of questions answered.

Table 14. Third Grade Unit 2 Assessment Scores (Experimental Group)

Table 14 presents the results of the Unit 2 Assessment for the third-grade experimental group.

Student Number (n=27 students)	Total Questions Answered (Out of 61)	Percentage of Questions Answered	Total Questions Correct (Out of 61)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
22					
23	49	80.33%	13	21.31%	26.53%
24	49	80.33%	27	44.26%	55.10%
25	42	68.85%	20	32.79%	47.62%
26	49	80.33%	17	27.87%	34.69%
27					
28	29	47.54%	19	31.15%	65.52%
29	49	80.33%	11	18.03%	22.45%
30	46	75.41%	25	40.98%	54.35%
31	42	68.85%	17	27.87%	40.48%
32	30	49.18%	6	9.84%	20.00%
33	55	90.16%	32	52.46%	58.18%
34	49	80.33%	9	14.75%	18.37%
35	31	50.82%	4	6.56%	12.90%
36	29	47.54%	18	29.51%	62.07%
37	49	80.33%	36	59.02%	73.47%
38	29	47.54%	2	3.28%	6.90%
39	45	73.77%	10	16.39%	22.22%
40	42	68.85%	33	54.10%	78.57%
41	30	49.18%	25	40.98%	83.33%
42	45	73.77%	43	70.49%	95.56%
43	40	65.57%	22	36.07%	55.00%
44	25	40.98%	5	8.20%	20.00%
45	35	57.38%	13	21.31%	37.14%
46	45	73.77%	6	9.84%	13.33%
47	23	37.70%	12	19.67%	52.17%
48	32	52.46%	11	18.03%	34.38%
49	51	83.61%	22	36.07%	43.14%
50					
51	29	47.54%	3	4.92%	10.34%

The table indicates that the group was missing data for Students 22, 27, and 50 in the Unit 2 Assessment, resulting in data being collected for only twenty-seven students. Of these individuals, Student 47 answered the fewest number of questions, at 37.7%, and Student 33

answered the most, at 90.16%. In terms of accuracy, Student 38 answered the lowest percentage of questions correctly, at 3.28%, while simultaneously answering the fewest number of questions correctly out of the questions answered, at 6.9%. Student 42 scored the highest, answering 70.49% of the questions correctly and 95.56% of the questions answered correctly. The experimental group averaged 64.91% of total questions answered, 27.99% of total questions correct, and 42.36% of questions correct out of questions answered.

Figure 19. Third Grade Unit 2 Assessment (Total Questions Answered)

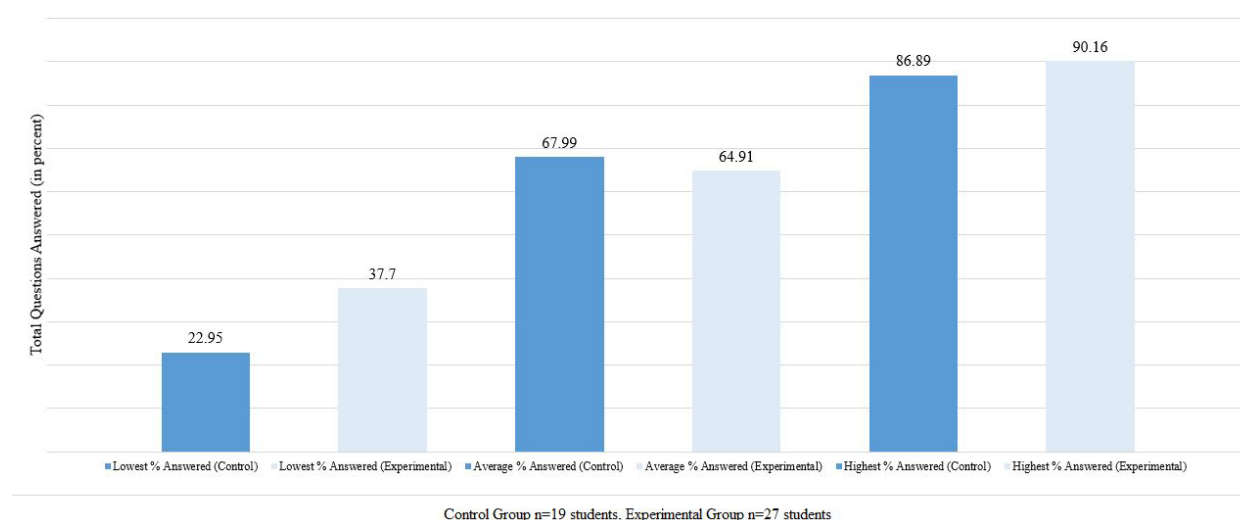


Figure 19 compares the percentage of total questions answered by the third-grade control and experimental groups on the Unit 2 Assessment. In the graph, it can be seen that the control group's lowest percentage of questions answered, 22.95%, is 14.75% lower than the experimental group's lowest percentage of 37.7%. However, the control group had a higher average of questions answered at 67.99%, whereas the experimental group trailed by 3.08% with an average of 64.91%. For the highest percentage of questions answered, the control group achieved a score of 86.89%, while the experimental group scored 90.16%, resulting in a 3.27% difference.

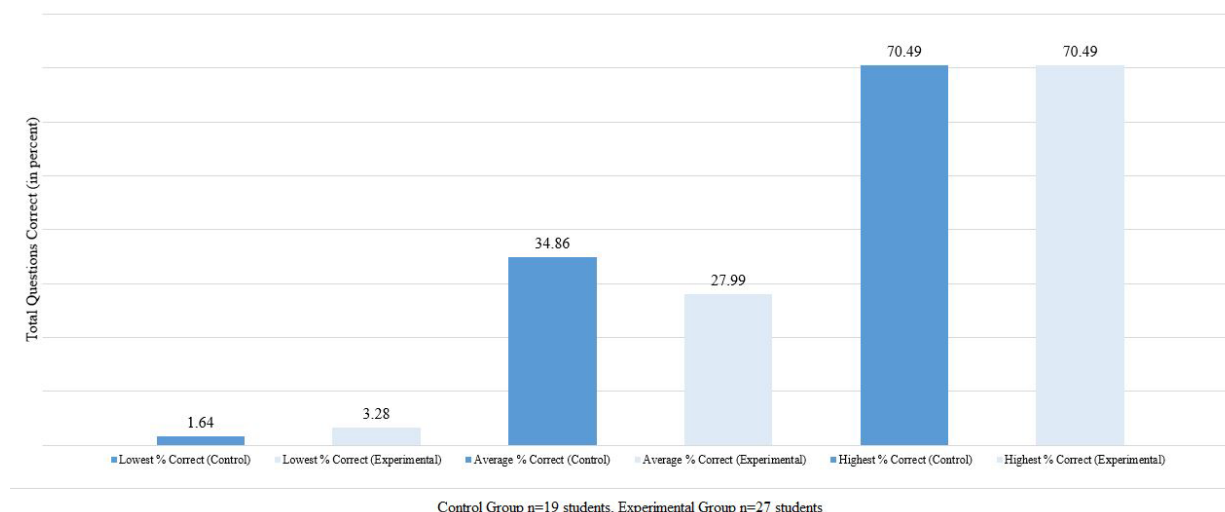
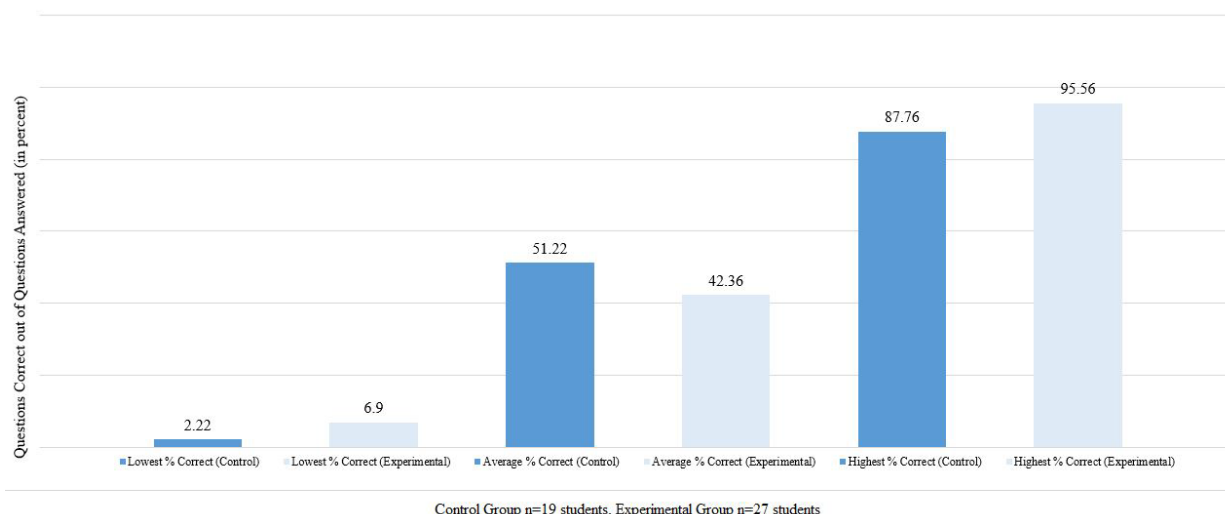
Figure 20. Third Grade Unit 2 Assessment (Total Questions Correct)

Figure 20 addresses the metric of total questions correctly answered by third-grade students on the Unit 2 Assessment. A member of the control group received the lowest score of 1.64%, which was a mere 1.64% behind the lowest score of the experimental group at 3.28%. Group averages showed a slightly larger gap between the two sections of students, with the control group answering an average of 34.86% of questions correctly. Members of the experimental group averaged only 27.99% in this category, which put them 6.87 percentage points behind the control group. For the highest percentage of questions answered correctly, both groups achieved a peak of 70.49%.

Figure 21. Third Grade Unit 2 Assessment (Questions Correct out of Questions Answered)

In Figure 21, the researcher compared the percentages of questions answered correctly out of the total questions answered by third-grade students on the Unit 2 Assessment. The control group had a lowest score of 2.22%, and the experimental group had a lowest score of 6.9%, leaving a 4.68% difference. Members of the control group averaged 51.22% of questions correct out of questions answered, while members of the control group trailed by 8.86% with an average of 42.36%. The experimental group achieved the highest percentage of questions answered correctly, at 95.56%, which was 7.8% higher than the control group's 87.76%.

Fourth Grade

Table 15. Fourth Grade Unit 2 Assessment Scores (Control Group)

Table 15 contains the Unit 2 Assessment data for the fourth-grade control group, which consisted of fourteen students.

Student Number n=14 students)	Total Questions Answered (Out of 61)	Percentage of Questions Answered	Total Questions Correct (Out of 61)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
52	61	100.00%	38	62.26%	62.26%
53	46	75.41%	10	16.39%	21.74%
54	49	80.33%	21	34.43%	42.86%
55	49	80.33%	17	27.87%	34.69%
56	49	80.33%	8	13.11%	16.33%
57	45	73.77%	13	21.31%	28.89%
58	10	16.39%	8	13.11%	80.00%
59	34	55.74%	26	42.62%	76.47%
60	36	59.02%	27	44.26%	75.00%
61	49	80.33%	19	31.15%	38.78%
62	49	80.33%	39	63.93%	79.59%
63	53	86.89%	43	70.49%	81.13%
64	49	80.33%	26	42.62%	53.06%
65	52	85.25%	38	62.30%	73.08%

According to the table above, Student 58 answered the fewest questions, at 16.39%, while Student 52 completed the entire assessment, answering 100% of the questions. For total questions correct, Student 56 and Student 58 both scored 13.11%, and Student 63 led the control group with 70.49% accuracy. Student 56 answered the fewest number of questions correctly, whereas Student 63 led this category, answering 81.13% of the questions correctly. Members of the control group averaged 73.89% of total questions answered, 38.99% of total questions correct, and 54.56% of questions correct out of the questions answered.

Table 16. Fourth Grade Unit 2 Assessment Scores (Experimental Group)

Table 16 contains Unit 2 Assessment data from the seventeen-member fourth-grade experimental group.

Student Number n=17 students)	Total Questions Answered (Out of 61)	Percentage of Questions Answered	Total Questions Correct (Out of 61)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
66	31	50.82%	19	31.15%	61.29%
67	61	100.00%	36	59.02%	59.02%
68	61	100.00%	47	77.05%	77.05%
69	49	80.33%	18	29.51%	36.73%
70	49	80.33%	43	70.49%	87.76%
71	61	100.00%	61	100.00%	100.00%
72	53	86.89%	28	45.90%	52.83%
73	53	86.89%	50	81.97%	94.34%
74	39	63.93%	27	44.26%	69.23%
75	48	78.69%	35	57.38%	72.92%
76	49	80.33%	34	55.74%	69.39%
77	51	83.61%	40	65.57%	78.43%
78	49	80.33%	19	31.15%	38.78%
79	49	80.33%	11	18.03%	22.45%
80	45	73.77%	9	14.75%	20.00%
81	49	80.33%	28	45.90%	57.14%
82	46	75.41%	38	62.30%	82.61%

According to the recorded results, Student 66 answered the lowest percentage of questions, at 50.82%. Meanwhile, Students 67, 68, and 71 all answered 100% of the Unit 2 Assessment questions. Of these individuals, Student 71 scored the highest for total questions correct, with 100%, also resulting in 100% of questions answered correctly. Student 80 answered the least number of questions correctly, scoring only 14.75% and subsequently answering 20% of the questions correctly out of the questions answered. The experimental group averaged 81.29% of total questions answered, 52.36% of total questions correct, and 63.53% of questions correct out of questions answered.

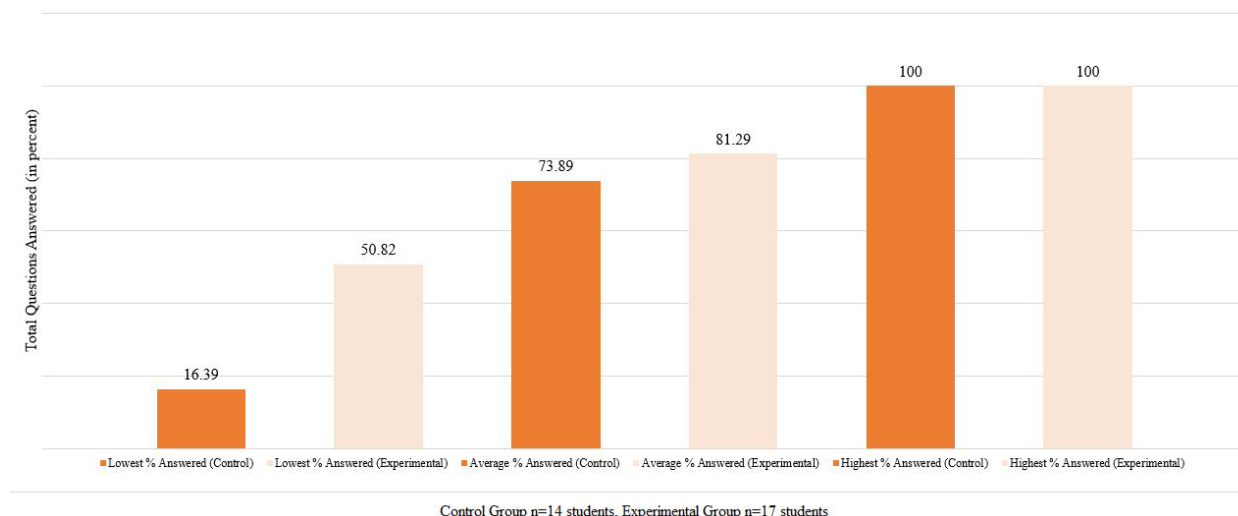
Figure 22. Fourth Grade Unit 2 Assessment (Total Questions Answered)

Figure 22 compares the Unit 2 Assessment results of the fourth-grade control and experimental groups in terms of the total number of questions answered. For the category of lowest percentage of questions answered, the control group scored 16.39%, falling 34.43% behind the experimental group's lowest score of 50.82%. The experimental group also led in the average percentage of questions answered, at 81.29%, compared to the control group, which scored 73.89%, resulting in a 7.4% difference. Both fourth-grade groups had at least one student answer 100% of the questions.

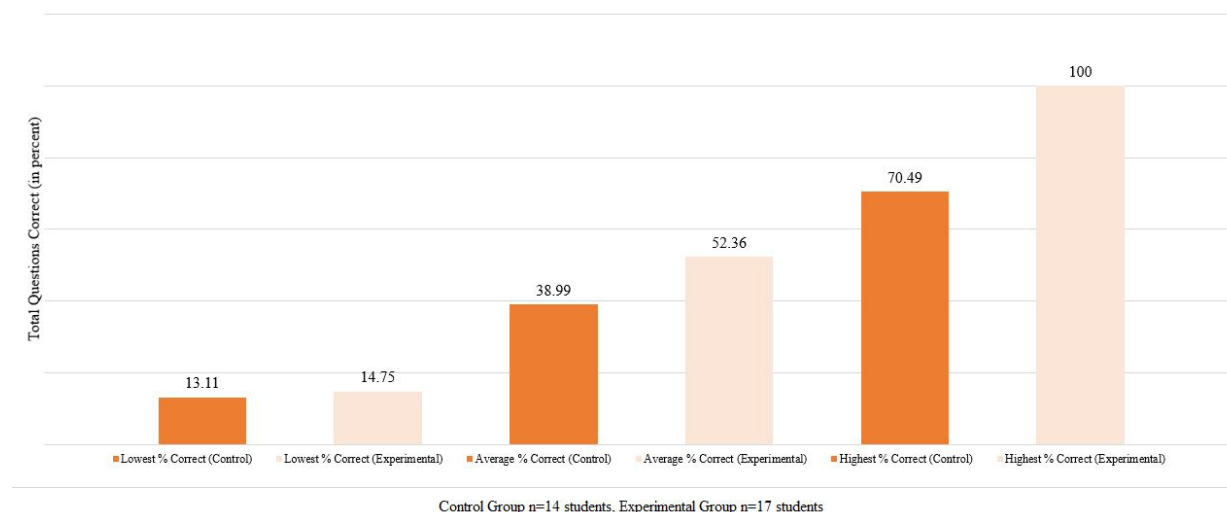
Figure 23. Fourth Grade Unit 2 Assessment (Total Questions Correct)

Figure 23 compares the total questions correctly answered on the Unit 2 Assessment by the fourth-grade control and experimental groups. A small gap of 1.64% occurred between the control group's lowest percentage correct of 13.11% and the experimental group's lowest percentage of 14.75%. On average, the control group scored 38.99% on this metric while the experimental group exceeded this by 13.37% with a score of 52.36%. In the category of highest percentage of correct questions, the control group achieved a top score of 70.49%, while the experimental group reached 100% accuracy, resulting in a 29.51% difference.

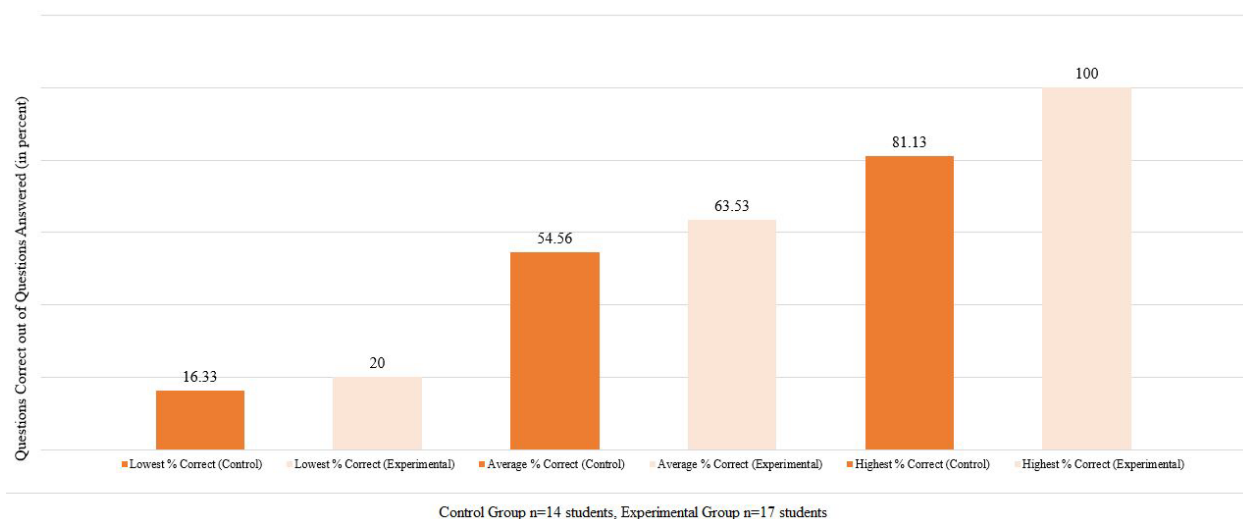
Figure 24. Fourth Grade Unit 2 Assessment (Questions Correct out of Questions Answered)

Figure 24 presents data from the Unit 2 Assessment, comparing the number of questions answered correctly by the fourth-grade control and experimental groups. Though the control group's lowest percentage in this category was 16.33%, there was only a mere 3.67% difference from the experimental group's low of 20%. A greater gap of 8.97% was found between the average percentage of questions answered correctly and the total number of questions answered. Members of the control group averaged 54.56% in this metric, whereas members of the experimental group averaged 63.53%. The experimental group had a student who achieved the highest percentage of correct answers out of the total questions, scoring 100%, which was 18.87% above the control group's highest percentage of 81.13%.

Fifth Grade

Table 17. Fifth Grade Unit 2 Assessment Scores (Control Group)

Table 17 presents the Unit 2 Assessment data collected for the twenty members of the fifth-grade control group.

Student Number (n=20 students)	Total Questions Answered (Out of 61)	Percentage of Questions Answered	Total Questions Correct (Out of 61)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
83	42	68.85%	42	68.85%	100.00%
84	49	80.33%	42	68.85%	85.71%
85	38	62.30%	4	6.56%	10.53%
86	53	86.89%	43	70.49%	81.13%
87	52	85.25%	36	59.02%	69.23%
88	37	60.66%	33	54.10%	89.19%
89	53	86.89%	46	75.41%	86.79%
90	43	70.49%	2	3.28%	4.65%
91	49	80.33%	46	75.41%	93.88%
92	49	80.33%	37	60.66%	75.51%
93	49	80.33%	16	26.23%	32.65%
94	33	54.10%	28	45.90%	84.85%
95	53	86.89%	39	63.93%	73.58%
96	49	80.33%	36	59.02%	73.47%
97	49	80.33%	26	42.62%	53.06%
98	60	98.36%	19	31.15%	31.67%
99	49	80.33%	35	57.38%	71.43%
100	52	85.25%	44	72.13%	84.62%
101	49	80.33%	45	73.77%	91.84%
102	53	86.89%	43	70.49%	81.13%

Student 94 answered the lowest percentage of questions, at 54.1%, and Student 98 answered the highest, at 98.36%. For total questions correct, Student 90 scored the lowest at 3.28%, while Student 89 and Student 91 scored the highest at 75.41%. Student 90 also answered the fewest questions correctly out of the total questions, resulting in a score of 4.65%, whereas Student 83 answered 100% of the questions correctly. Members of the control group achieved an average score of 78.77% on the total questions answered, 54.26% on the total questions correct, and 68.75% of questions correct per question answered.

Table 18. Fifth Grade Unit 2 Assessment Scores (Experimental Group)

Table 18 contains the Unit 2 Assessment results of the eighteen members of the fifth-grade experimental group.

Student Number n=18 students)	Total Questions Answered (Out of 61)	Percentage of Questions Answered	Total Questions Correct (Out of 61)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
103	49	80.33%	16	26.23%	32.65%
104	47	77.05%	29	47.54%	61.70%
105	31	50.82%	17	27.87%	54.84%
106	50	81.97%	49	80.33%	98.00%
107	42	68.85%	37	60.66%	88.06%
108	60	98.36%	60	98.36%	100.00%
109	34	55.74%	17	27.87%	50.00%
110	53	86.89%	34	55.74%	64.15%
111	60	98.36%	60	98.36%	100.00%
112	35	57.38%	32	52.46%	91.43%
113	61	100.00%	61	100.00%	100.00%
114	55	90.16%	47	77.05%	85.45%
115	61	100.00%	59	96.72%	96.72%
116	58	95.08%	54	88.52%	93.10%
117	54	88.52%	52	85.25%	96.30%
118	44	72.13%	36	59.02%	81.82%
119	36	59.02%	28	45.90%	77.78%
120	42	68.85%	31	50.82%	73.81%

Student 105 answered the least number of questions, at 50.82%, while Students 113 and 115 both answered 100% of the questions. In terms of accuracy, Student 103 answered the fewest questions correctly, scoring only 26.23%, while Student 113 scored 100%. Student 113 also scored the highest percentage of questions answered correctly, at 100%, as did Student 108. Student 103 answered the fewest number of questions correctly, at just 32.65%. Members of the experimental group averaged 79.42% of total questions answered, 65.48% of total questions correct, and 80.32% of questions correct out of questions answered.

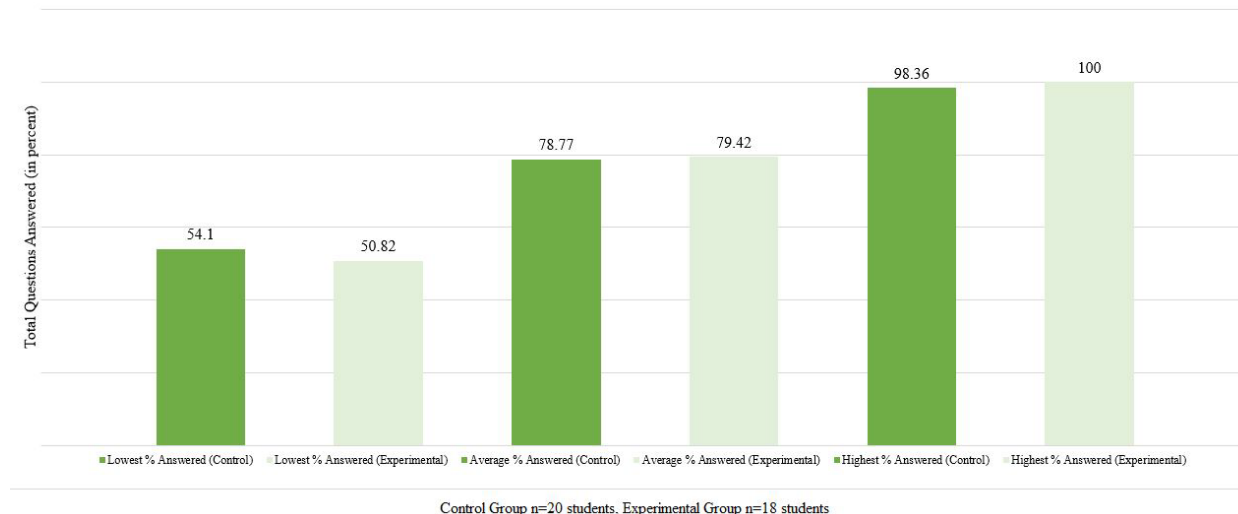
Figure 25. Fifth Grade Unit 2 Assessment (Total Questions Answered)

Figure 25 compares the total number of questions answered by the fifth-grade control and experimental groups on the Unit 2 Assessment. For the lowest percentage of questions answered, the control group scored 54.1%, with the experimental group scoring 3.28% lower at 50.82%. Both groups averaged within 1% of each other, with the control group at 78.77% and the experimental group 0.65% ahead at 79.42%. The highest percentage of questions answered was also a thin margin of only 1.64%, where the control group reached 98.36% and the experimental group achieved 100%.

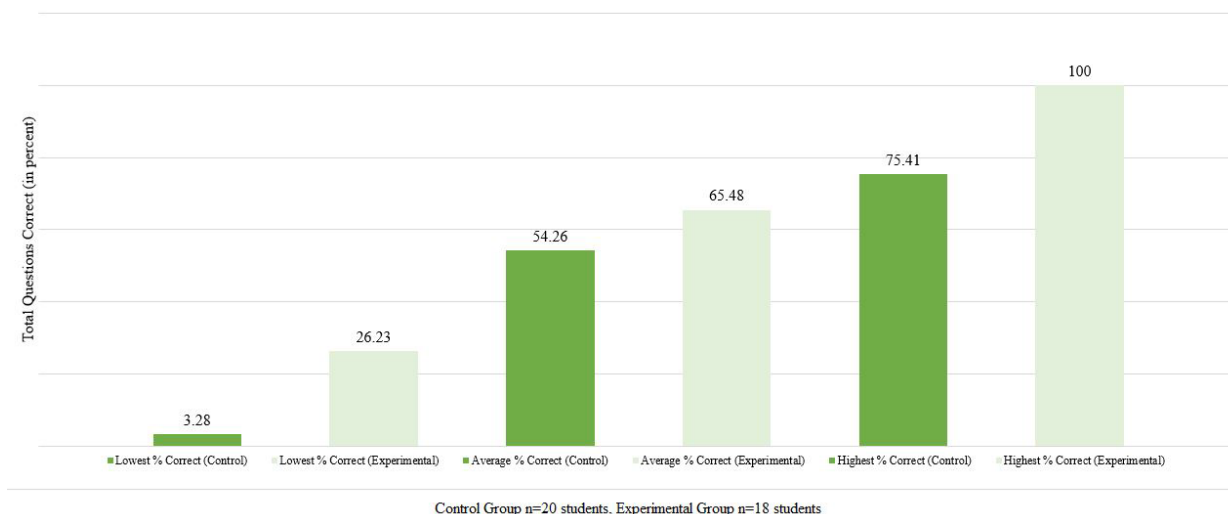
Figure 26. Fifth Grade Unit 2 Assessment (Total Questions Correct)

Figure 26 compares the percentage of questions answered correctly by the fifth-grade control and experimental groups on the Unit 2 Assessment. A significant gap between both groups occurred in the lowest rate of questions answered correctly, with the control group scoring 3.28%, 22.95% behind the experimental group's low score of 26.23%. Members of the control group also answered fewer questions correctly on average, with 54.26%, which was 11.22% lower than the experimental group's average of 65.48%. For the highest score, the experimental group achieved 100%, while the control group scored 24.59% lower at 75.41%.

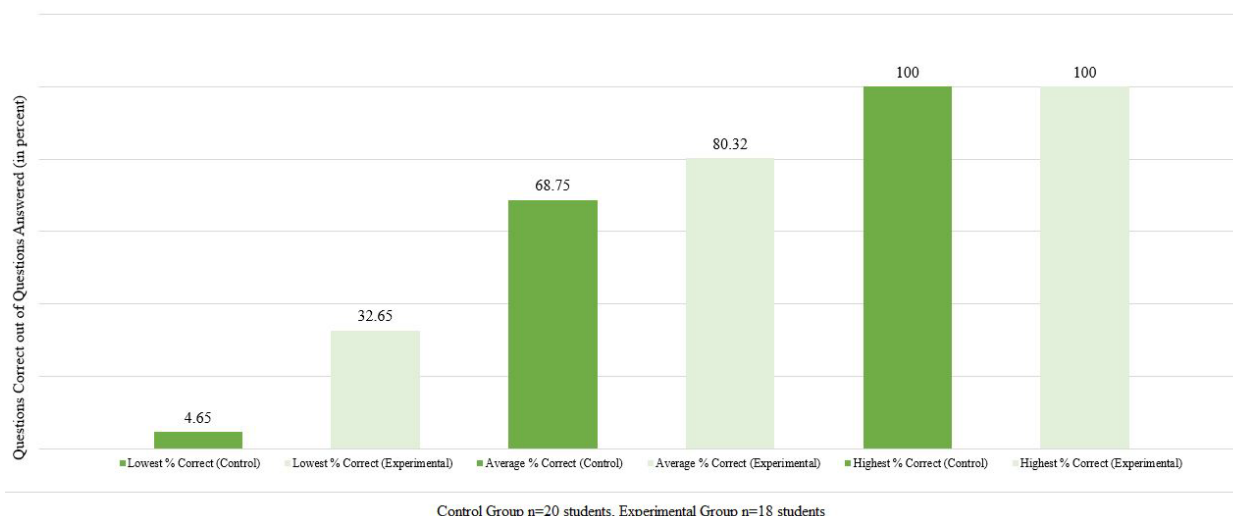
Figure 27. Fifth Grade Unit 2 Assessment (Questions Correct out of Questions Answered)

Figure 27 compares the number of questions answered correctly by the fifth-grade control and experimental groups on the Unit 2 Assessment, out of the total questions answered. Members of the control group again trailed the experimental group in two aspects of this metric. For the lowest percentage, the control group scored 4.65%, which is 28% lower than the experimental group's score of 32.65%. An 11.67% gap was recorded between the control group's average of 68.75% and the experimental group's average of 80.32%. However, both groups managed to have at least one individual answer 100% of the questions correctly out of the total questions answered.

Final Cumulative Assessment

The Final Cumulative Assessment was identical to the Baseline Assessment, as it was intended to measure overall growth in music literacy over the six-week instruction period. Parts 1, 2, and 3 had students identify notes on the staff by letter name, whereas Part 4 had them write whole notes on the lines, spaces, and ledger lines of each staff based on a given letter. Part 5 addressed all rhythmic vocabulary covered over the six weeks, and Part 6 gave students the opportunity to combine this knowledge as they composed music in 2/3, 3/4, and 4/4 time.

Final Cumulative Assessment Findings

Third Grade

Table 19. Third Grade Final Cumulative Assessment Scores (Control Group)

Table 19 contains the Final Cumulative Assessment Scores of the twenty-one students in the third-grade control group.

Student Number (n=21 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
1	58	65.91%	22	25.00%	37.93%
2	58	65.91%	30	34.09%	51.72%
3	49	55.68%	22	25.00%	44.90%
4	37	42.05%	21	23.86%	56.76%
5	69	78.41%	54	61.36%	78.26%
6	63	71.59%	52	59.09%	82.54%
7	41	46.59%	22	25.00%	53.66%
8	68	77.27%	29	32.95%	42.65%
9	42	47.73%	8	9.09%	19.05%
10	61	69.32%	39	44.32%	63.93%
11	48	54.55%	2	2.27%	4.17%
12	56	63.64%	8	9.09%	14.29%
13	33	37.50%	17	19.32%	51.52%
14	27	30.68%	17	19.32%	62.96%
15	55	62.50%	28	31.82%	50.91%
16	56	63.64%	40	45.45%	71.43%
17	55	62.50%	38	43.18%	69.09%
18	33	37.50%	5	5.68%	15.15%
19	47	53.41%	9	10.23%	19.15%
20	68	77.27%	16	18.18%	23.53%
21	65	73.86%	3	3.41%	4.62%

Student 14 answered the fewest number of questions at 30.68%, and Student 5 answered the most at 78.41%. For the lowest percentage of questions answered correctly, Student 11 scored only 2.27%, while Student 5 also led this metric with 61.63%. Members of the control group averaged 59.93% for total questions answered, 26.08% for total questions correct, and 43.72% for questions correct out of questions answered on the Final Cumulative Assessment.

Table 20. Third Grade Final Cumulative Assessment Scores (Experimental Group)

Table 20 presents the results of the Final Cumulative Assessment for thirty members of the third-grade experimental group.

Student Number (n=30 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
22	36	40.90%	29	32.95%	80.56%
23	68	77.27%	39	44.32%	57.35%
24	58	65.91%	35	39.77%	60.34%
25	56	63.64%	23	26.14%	41.07%
26	68	77.27%	30	34.09%	44.12%
27	65	73.86%	48	54.55%	73.85%
28	48	54.55%	34	38.64%	70.83%
29	45	51.14%	12	13.64%	26.67%
30	87	98.86%	43	48.86%	49.43%
31	56	63.64%	13	14.77%	23.21%
32	52	59.09%	9	10.23%	17.31%
33	88	100.00%	40	45.45%	45.45%
34	68	77.27%	15	17.05%	22.06%
35	49	55.68%	14	15.91%	28.57%
36	83	94.32%	55	62.50%	66.27%
37	83	94.32%	50	53.82%	60.24%
38	43	48.86%	11	12.50%	25.58%
39	68	77.27%	5	5.68%	7.35%
40	73	82.95%	61	69.32%	83.56%
41	39	44.32%	23	26.14%	58.97%
42	55	62.50%	55	62.50%	100.00%
43	61	69.32%	13	14.77%	21.31%
44	44	50.00%	19	21.59%	43.18%
45	43	48.86%	23	26.14%	53.49%
46	63	71.59%	14	15.91%	22.22%
47	65	73.86%	27	30.68%	41.54%
48	39	44.32%	11	12.50%	28.21%
49	27	30.68%	14	15.91%	51.85%
50	88	100.00%	33	37.50%	37.50%
51	38	43.18%	6	6.82%	15.79%

Student 49 answered only 30.68% of the questions, while both Student 33 and Student 50 answered 100% of the questions. Regarding answer accuracy, Student 39 had the lowest score, at 5.68%, and Student 40 had the highest, answering 69.32% of questions correctly. Student 39 also answered the fewest number of questions correctly, with only 7.35%. Conversely, Student 42 managed to answer 100% of the questions correctly out of the total number of questions. On average, members of the control group answered 66.51% of the questions, answered 30.36% of

the questions correctly, and answered 45.26% of the questions correctly out of the questions they answered.

Figure 28. Third Grade Final Cumulative Assessment (Total Questions Answered)

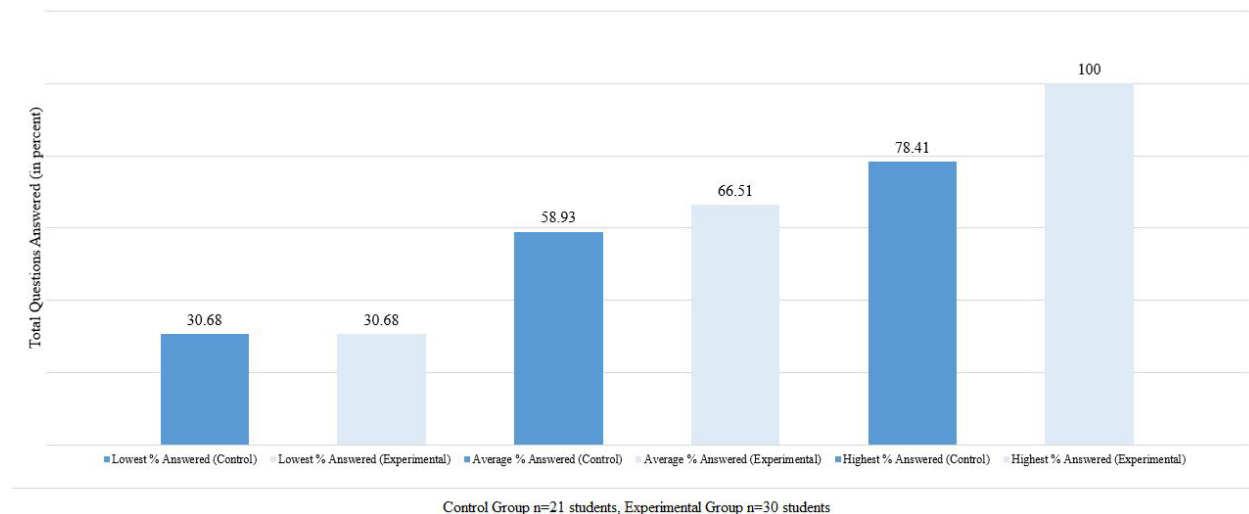


Figure 28 compares the percentage of total questions answered of the third-grade control and experimental groups on the Final Cumulative Assessment. Both groups had a lowest score of 30.68% of total questions answered. Control group members averaged 58.93%, scoring 7.58% less than experimental group members, who averaged 66.51%. For the most questions answered, the control group scored 78.41%, which was 21.59% lower than the experimental group's top score of 100%.

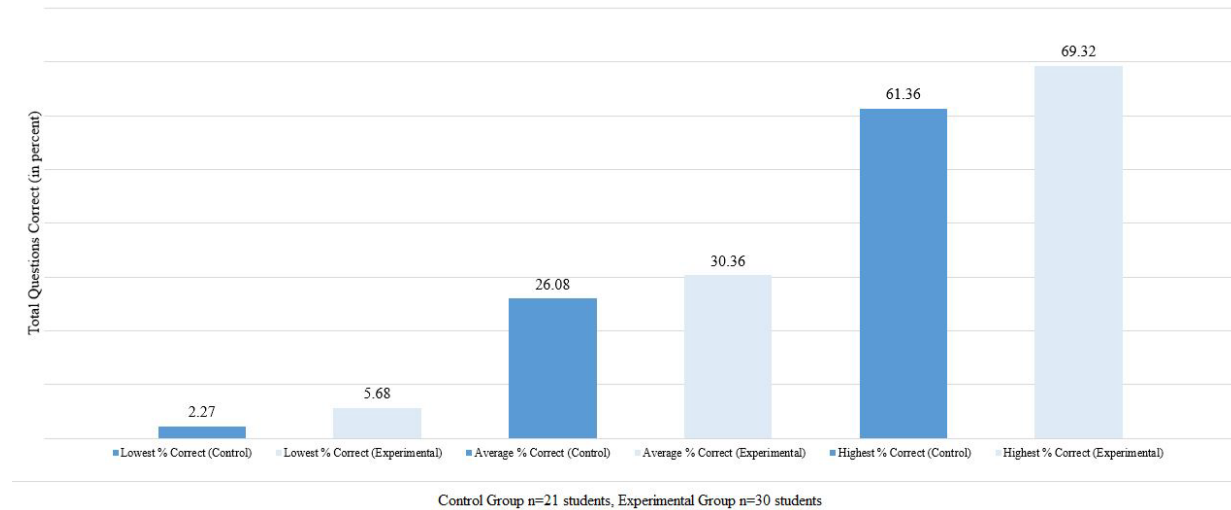
Figure 29. Third Grade Final Cumulative Assessment (Total Questions Correct)

Figure 29 compares the total questions answered correctly by members of the third-grade control and experimental groups on the Final Cumulative Assessment. A 3.41% difference occurred between the control group's lowest score of 2.27% and the experimental group's lowest score of 5.68%. Similarly, there was a 4.28% difference between the control group's average of 26.08% and the experimental group's average of 30.36%. The highest percentage of questions answered correctly by the control group was 61.36%, which was 7.96% lower than the experimental group's highest percentage of 69.32%.

Figure 30. Third Grade Final Cumulative Assessment (Questions Correct out of Questions Answered)

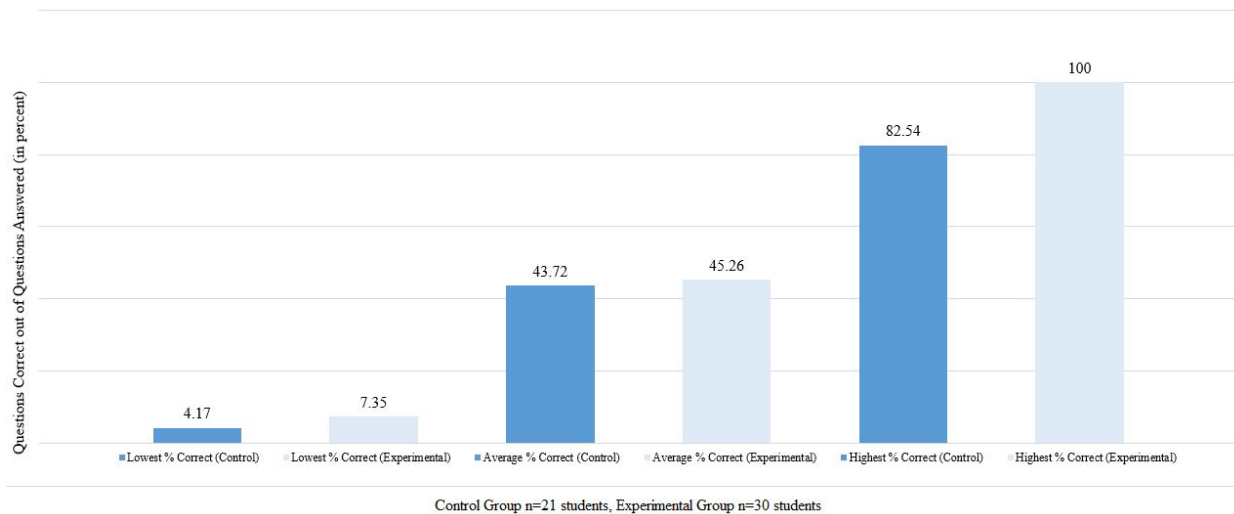


Figure 30 compares the total number of correct questions out of the questions answered by members of the third-grade control and experimental groups on the Final Cumulative Assessment. The control group had the lowest percentage of questions answered correctly, at 4.17%, which was 3.18% behind the experimental group's lowest score of 7.35%. Both groups averaged similar scores, with a 1.54% difference between the control group's 43.72% and the experimental group's 45.26%. However, the experimental group outperformed the control group by a significant margin of 17.46%, achieving a high score of 100% correct answers, compared to the control group's high score of 82.54%.

Fourth Grade

Table 21. Fourth Grade Final Cumulative Assessment Scores (Control Group)

Table 21 shows the Final Cumulative Assessment results of the fourteen students in the fourth-grade control group.

Student Number (n=14 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
52	79	89.77%	50	56.82%	63.29%
53	55	62.50%	37	42.05%	67.27%
54	68	77.27%	30	34.09%	44.12%
55	60	68.18%	15	17.05%	25.00%
56	68	77.27%	14	15.91%	20.59%
57	64	72.73%	28	31.82%	43.75%
58	27	30.68%	20	22.73%	74.07%
59	52	59.09%	38	43.18%	73.08%
60	58	65.91%	40	45.45%	68.97%
61	68	77.27%	24	27.27%	35.29%
62	69	78.41%	32	36.36%	46.38%
63	71	80.68%	59	67.05%	83.10%
64	40	45.45%	22	25.00%	55.00%
65	72	81.82%	47	53.41%	65.28%

Student 58 answered the fewest number of questions at 30.68%, while Student 52 answered the most at 89.77%. For total questions answered correctly, Student 56 scored the lowest with 15.91%, and Student 63 scored the highest with 67.05%. Similarly, Student 56 answered the lowest percentage of questions correctly, at 20.59%, whereas Student 63 scored the highest, at 83.1%. The control group averaged 69.07% of total questions answered, 37.01% of total questions correct, and 54.66% of questions correct out of questions answered.

Table 22. Fourth Grade Final Cumulative Assessment Scores (Experimental Group)

Table 22 contains the scores of the seventeen members of the fourth-grade experimental group for the Final Cumulative Assessment.

Student Number (n=17 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
66	28	31.82%	21	23.86%	75.00%
67	64	72.73%	35	39.77%	54.69%
68	82	93.18%	56	63.64%	68.29%
69	82	93.18%	31	35.23%	37.80%
70	58	65.91%	27	30.68%	46.55%
71	82	93.18%	79	89.77%	96.34%
72	56	63.64%	12	13.64%	21.43%
73	67	76.14%	45	51.14%	67.16%
74	34	38.64%	30	34.09%	88.24%
75	72	81.82%	48	54.55%	66.67%
76	54	61.36%	43	48.86%	79.63%
77	73	82.95%	51	57.95%	69.86%
78	77	87.50%	22	25.00%	28.57%
79	66	75.00%	18	20.45%	27.27%
80	58	65.91%	25	28.41%	43.10%
81	80	90.91%	61	69.32%	76.25%
82	64	72.73%	37	42.05%	57.81%

The lowest recorded percentage of questions answered was 31.82% by Student 66, with the highest percentages achieved by Students 68 and 69 at 93.18%. Student 72 answered the lowest rate of questions correctly, scoring 13.64%, and had the lowest percentage of questions answered out of the total questions answered, at 21.43%. Student 71 answered the most questions correctly, with 89.77% accuracy, and also answered the most questions correctly out of all questions answered, at 96.34%. Students in the experimental group averaged 73.33% on total questions answered, 42.85% on total questions correct, and 59.1% on questions correct out of questions answered.

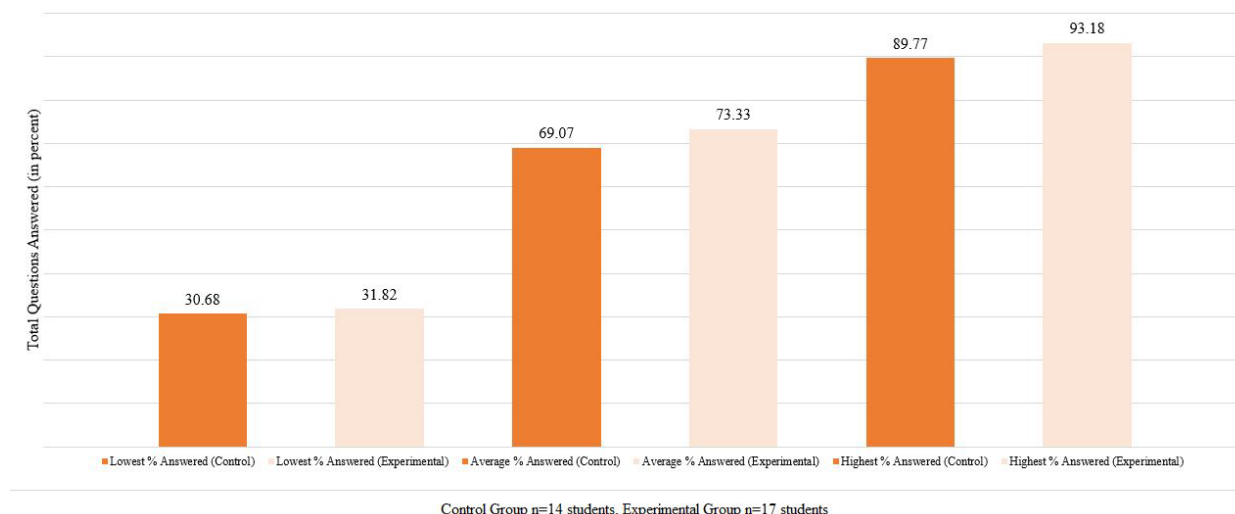
Figure 31. Fourth Grade Final Cumulative Assessment (Total Questions Answered)

Figure 31 compares the percentage of total questions answered by members of the fourth-grade control and experimental groups on the Final Cumulative Assessment. The lowest percentage of questions answered revealed a gap of only 1.14% between the control group's score of 30.68% and the experimental group's score of 31.82%. Members of the control group also scored 4.26% lower than those in the experimental group, with averages of 69.07% and 73.33%, respectively. For the highest percentage of questions answered, the control group trailed again by 3.41% with a score of 89.77%, compared to the experimental group's score of 93.18%.

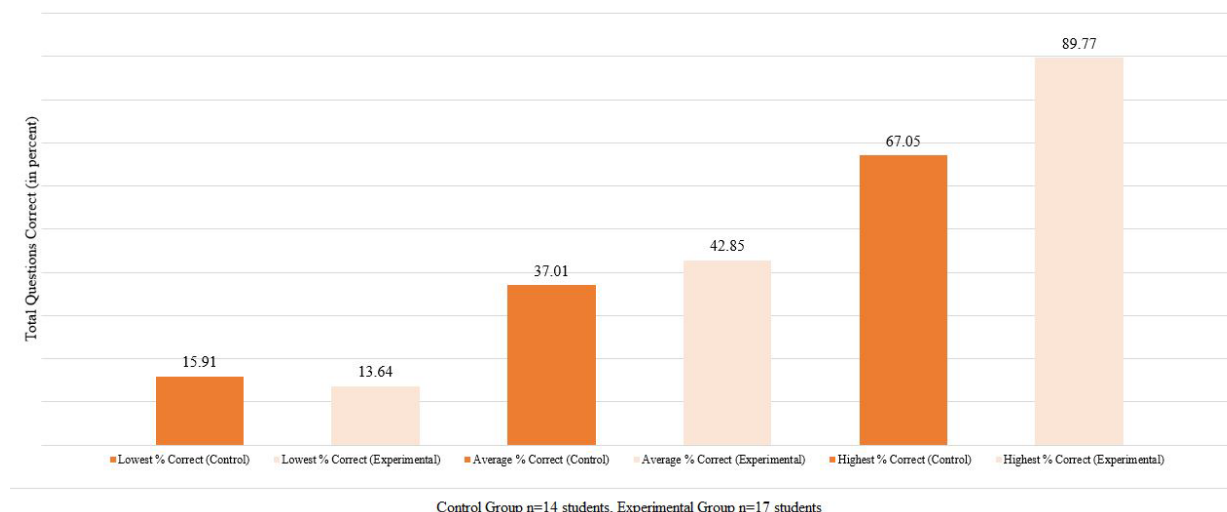
Figure 32. Fourth Grade Final Cumulative Assessment (Total Questions Correct)

Figure 32 compares the fourth-grade control and experimental groups in terms of the total number of questions answered correctly on the Final Cumulative Assessment. Students in the control group had the lowest percentage of 15.91%, which created a difference of 2.27% from the experimental group's lowest percentage of 13.64%. However, the experimental group had a higher average of 42.85%, which was 5.84% higher than the control group's average of 37.01%. A significant gap of 22.72% existed between the highest score of the control group, at 67.05%, and the highest score of the experimental group, at 89.77%.

Figure 33. Fourth Grade Final Cumulative Assessment (Questions Correct out of Questions Answered)

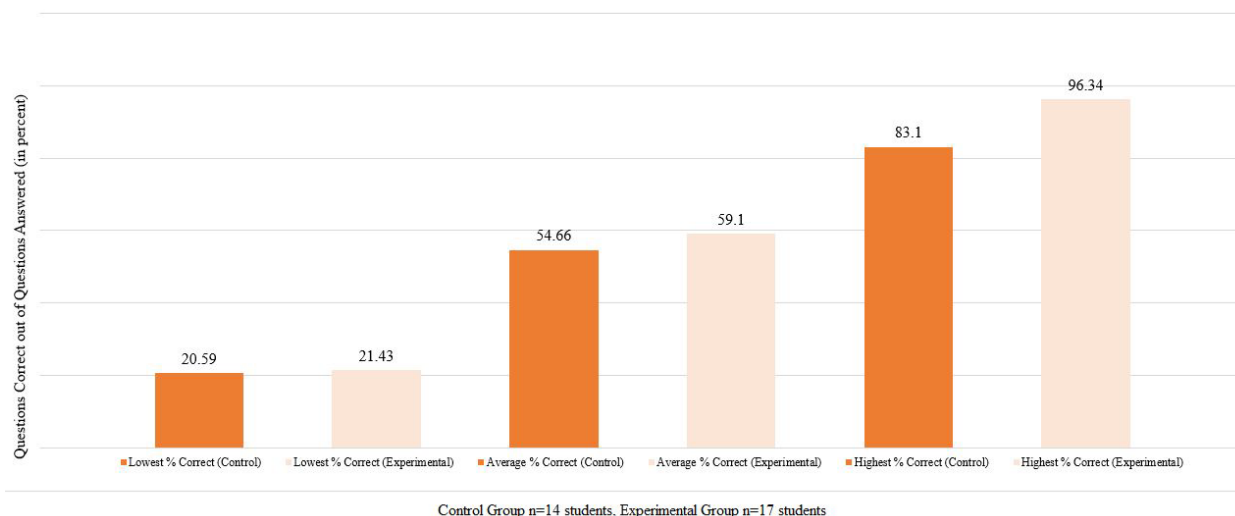


Figure 33 compares the percentage of questions answered correctly by the fourth-grade control and experimental groups on the Final Cumulative Assessment. Members of the control group trailed members of the experimental group in every category of this metric. For the lowest percentage, the control group scored 20.59%, and the experimental group scored 21.43%, resulting in a small gap of 0.84%. The control group also averaged 4.44% lower at 54.66% compared to the experimental group at 59.1%. Students in the control group achieved a high score of 83.1%, but they were still 13.24% behind the experimental group's high score of 96.34%.

Fifth Grade

Table 23. Fifth Grade Final Cumulative Assessment Scores (Control Group)

Table 23 presents the results for the twenty students in the fifth-grade control group on the Final Cumulative Assessment.

Student Number (n=20 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
83	55	62.50%	52	59.09%	94.55%
84	74	84.09%	46	52.27%	62.16%
85	52	59.09%	9	10.23%	17.31%
86	75	85.23%	63	71.59%	84.00%
87	72	81.82%	49	55.68%	68.06%
88	39	44.32%	37	42.05%	94.87%
89	60	68.18%	46	52.27%	76.67%
90	28	31.82%	18	20.45%	64.29%
91	60	68.18%	49	55.68%	81.67%
92	68	77.27%	39	44.32%	57.35%
93	47	53.41%	8	9.09%	17.02%
94	26	29.55%	17	19.32%	65.38%
95	50	56.82%	32	36.36%	64.00%
96	62	70.45%	34	38.64%	54.84%
97	62	70.45%	27	30.68%	43.55%
98	86	97.73%	40	45.45%	46.51%
99	67	76.14%	28	31.82%	41.79%
100	71	80.68%	65	73.86%	91.55%
101	69	78.41%	49	55.68%	71.01%
102	60	68.18%	43	48.86%	71.67%

Student 94 answered the lowest percentage of questions, at 29.55%, while Student 98 answered the highest rate, at 97.73%. In terms of questions answered correctly, Student 93 only achieved a 9.09%, whereas Student 100 reached 73.86%. Student 93 also scored the lowest, with 17.02% correct out of the questions answered, while Student 88 received a score of 94.87%. Members of the control group averaged 67.22% for total questions answered, 42.67% for total questions answered correctly, and 63.41% for questions answered correctly out of the total questions answered.

Table 24. Fifth Grade Final Cumulative Assessment Scores (Experimental Group)

Table 24 covers the Final Cumulative Assessment scores of the eighteen members of the fifth-grade experimental group.

Student Number n=18 students)	Total Questions Answered (Out of 88)	Percentage of Questions Answered	Total Questions Correct (Out of 88)	Percentage of Questions Correct	Percentage of Questions Correct out of Questions Answered
103	68	77.27%	28	31.82%	41.18%
104	72	81.82%	45	51.14%	62.50%
105	47	53.41%	28	31.82%	59.57%
106	88	100.00%	86	97.73%	97.73%
107	45	51.14%	43	48.86%	95.56%
108	74	84.09%	74	84.09%	100.00%
109	62	70.45%	30	34.09%	48.39%
110	72	81.82%	46	52.27%	63.89%
111	74	84.09%	74	84.09%	100.00%
112	50	56.82%	48	54.55%	96.00%
113	68	77.27%	68	77.27%	100.00%
114	72	85.23%	72	85.23%	100.00%
115	88	100.00%	88	100.00%	100.00%
116	81	92.05%	81	92.05%	100.00%
117	82	93.18%	70	79.55%	85.37%
118	60	68.18%	52	59.09%	86.67%
119	43	48.86%	37	42.05%	86.05%
120	54	61.36%	43	48.86%	79.63%

Student 119 answered the fewest questions at 48.86%, while both Student 106 and Student 115 answered 100% of the questions. Student 115 also led the experimental group in accuracy, answering 100% of the questions correctly, whereas Student 103 answered only 31.82% of the questions correctly. With a score of 41.18%, Student 103 answered the fewest number of questions correctly out of the questions answered. However, multiple students, including Student 108, Student 111, Student 113, Student 114, Student 115, and Student 116, answered 100% of the questions correctly out of the total questions answered. The fifth-grade experimental group averaged 75.95% for total questions answered, 64.14% for total questions answered correctly, and 83.47% for questions answered correctly out of the total questions.

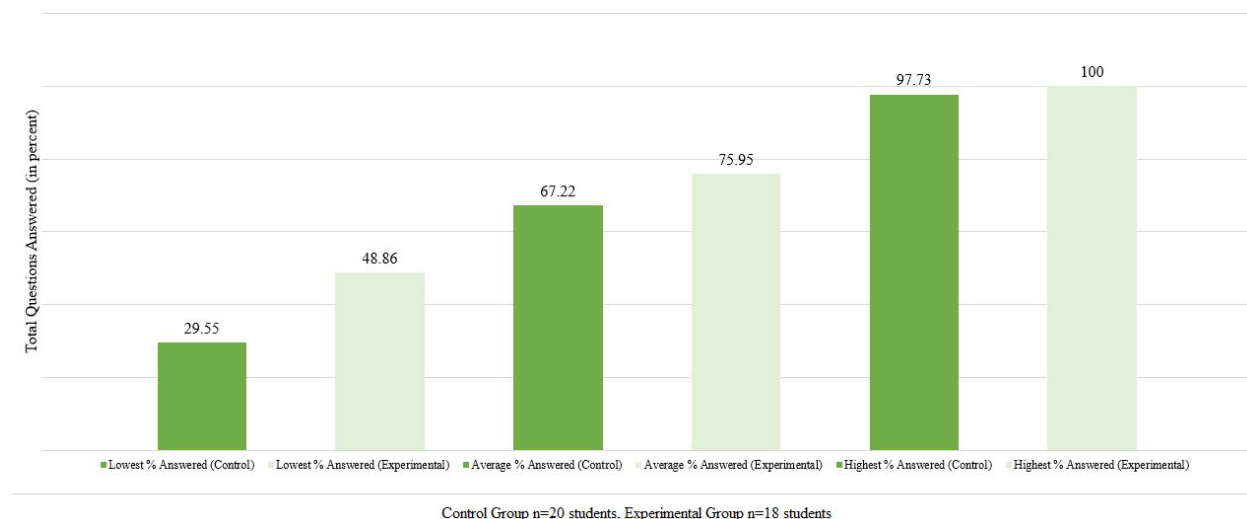
Figure 34. Fifth Grade Final Cumulative Assessment (Total Questions Answered)

Figure 34 compares the percentage of total questions answered by the fifth-grade control and experimental groups on the Final Cumulative Assessment. The lowest recorded percentage of questions answered was from the control group, at 29.55%. Members of the experimental group scored 19.31% higher than those in the control group, at 48.86%. Likewise, the control group averaged 8.73% lower than the experimental group, scoring 67.22% compared to the experimental group's 75.95%. The gap between each group's highest percentage of questions answered was much smaller, only reaching a 2.27% difference between the control group's 97.73% and the experimental group's 100%.

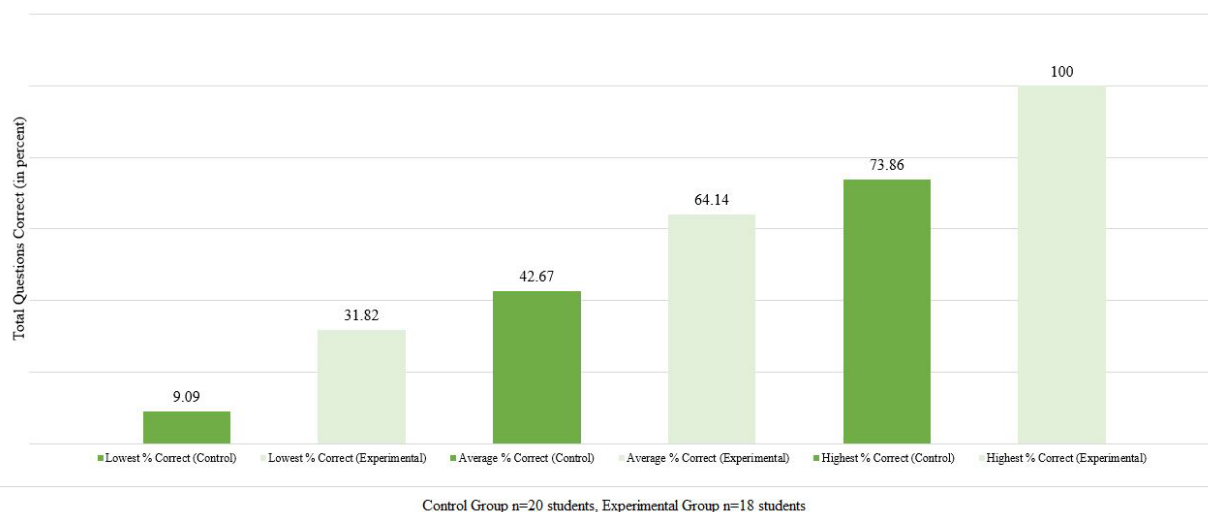
Figure 35. Fifth Grade Final Cumulative Assessment (Total Questions Correct)

Figure 35 compares the percentage of total questions answered correctly by members of the control and experimental groups on the Final Cumulative Assessment. A member of the control group received the lowest score of this metric, 9.09%, while a member of the experimental group bested this score by 22.73% with a score of 31.82%. The control group also averaged 42.67% of questions answered correctly, while the experimental group averaged 64.14%, resulting in a 21.47% difference. A member of the experimental group achieved a score of 100%, resulting in a 26.14% gap between that and the control group's highest score of 73.86%.

Figure 36. Fifth Grade Final Cumulative Assessment (Questions Correct out of Questions Answered)

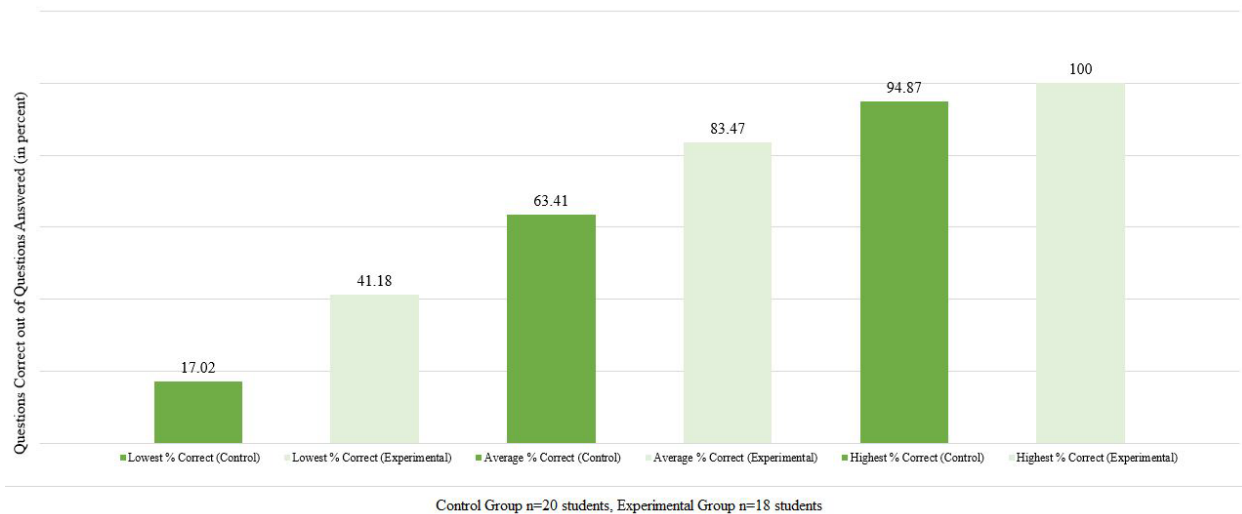


Figure 36 compares the percentage of questions answered correctly among members of the fifth-grade control and experimental groups on the Final Cumulative Assessment. In the category of lowest rate, the control group scored 17.02%, trailing the experimental group's score of 41.18% by 24.16 percentage points. Moreover, members of the control group averaged 63.41%, which was 20.06% lower than the experimental group's score of 83.47%. The experimental group led the highest percentage category, with individuals answering 100% of the questions correctly out of the total number of questions. The highest recorded score for the control group was 94.87%, resulting in a 5.13% gap between the two groups.

Baseline Assessment and Final Cumulative Assessment Comparisons

Data presented in the following section compares the results of the Baseline Assessment and Final Cumulative Assessment of the third, fourth, and fifth-grade control and experimental groups. The Unit 1 Assessment and Unit 2 Assessment were omitted from this comparison, as neither test contained the same questions or number of questions as the Baseline Assessment or Final Cumulative Assessment. Each figure demonstrates trends found for each metric, including total questions answered, total questions correct, and questions correct out of questions answered. Lines range from lowest percentage, to average percentage, to highest percentage achieved in these metrics. The control group data is indicated by darker lines, compared to the experimental group's lighter lines. Baseline Assessment data is presented as a dashed line, whereas Final Cumulative Assessment data is presented as a solid line.

Third Grade Comparisons

Table 25. Third Grade Baseline Assessment and Final Cumulative Assessment Comparison

Although the manner of instruction differed between both third-grade groups, many similarities can be seen in the metrics featured in Table 25. This table contains data from the Baseline Assessment and Final Cumulative Assessment of the third-grade control and experimental groups. This table also provides the lowest, average, and highest percentage scored by both groups in each metric, which are further explored in Figures 37, 38, and 39.

Group	Percentage Type	Percentage of Total Questions Answered		Percentage of Total Questions Correct		Percentage of Questions Correct out of Questions Answered	
		Baseline	Final	Baseline	Final	Baseline	Final
Control (n=21 Students)	Lowest	0.00%	30.68%	0.00%	2.27%	0.00%	4.17%
	Average	33.66%	58.93%	4.22%	26.08%	11.18%	43.72%
	Highest	69.32%	78.41%	10.23%	61.36%	33.33%	82.54%
Experimental (n=30 Students)	Lowest	20.45%	30.68%	0.00%	5.68%	0.00%	7.35%
	Average	44.79%	66.51%	9.66%	30.36%	20.64%	45.26%
	Highest	77.27%	100.00%	54.55%	69.32%	97.96%	100.00%

Figure 37. Third Grade Baseline Assessment and Final Cumulative Assessment Comparison
(Total Questions Answered)

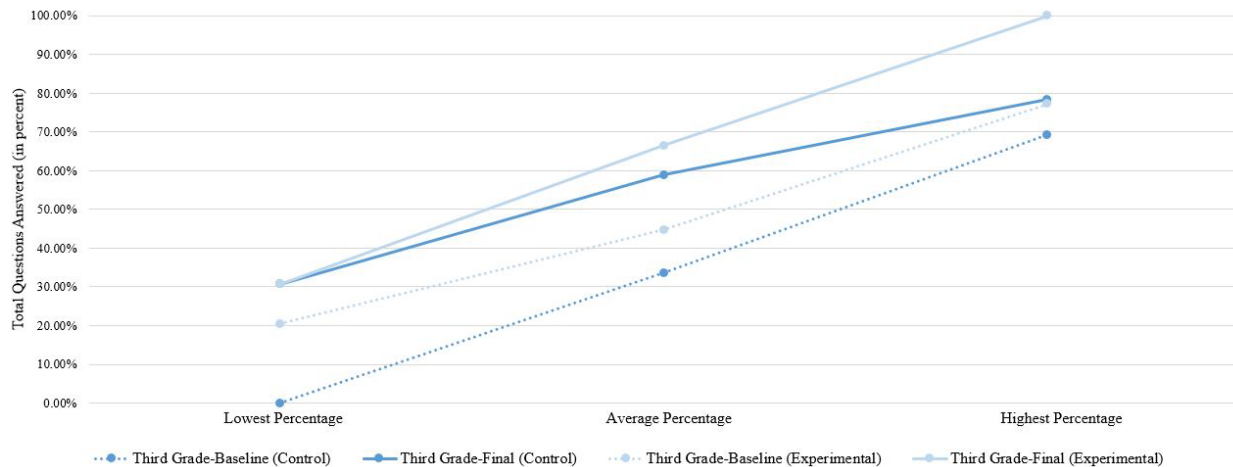


Figure 37 compares the Baseline Assessment (BA) and Final Cumulative Assessment (FCA) scores in terms of total questions answered by the control and experimental groups. For the BA, the lowest percentage of questions answered by the control group was 0.00%, which increased by 30.68% on the FCA. Similarly, the control group's average score improved by 25.27%, going from 33.66% on the BA to 58.93% on the FCA. The highest percentage of questions answered was 69.32% on the BA, with only a 9.09% increase to reach 78.41% on the FCA.

Members of the experimental group had a low score of 20.45% on the BA that increased by 10.23% for a score of 30.68% on the FCA. A 21.72% increase was also seen between the experimental group's BA average of 44.79% and FCA average of 66.51%. The highest score achieved by the experimental group on the BA was 77.27%, which rose by 22.73% to 100% on the FCA.

Between the third-grade control and experimental groups, the control group increased their lowest percentage of questions answered from the BA to the FCA by 20.45% more than the

experimental group. A smaller gap was recorded between averages, with the control group increasing their average score by only 3.55% more than the experimental group. However, the experimental group increased their highest percentage of questions answered by 13.64% more than the control group. Overall, the control group saw higher increases in terms of the lowest percentage of questions answered and the average percentage of questions answered, but the experimental group saw a higher increase in the highest percentage of questions answered.

Figure 38. Third Grade Baseline Assessment and Final Cumulative Assessment Comparison (Total Questions Correct)

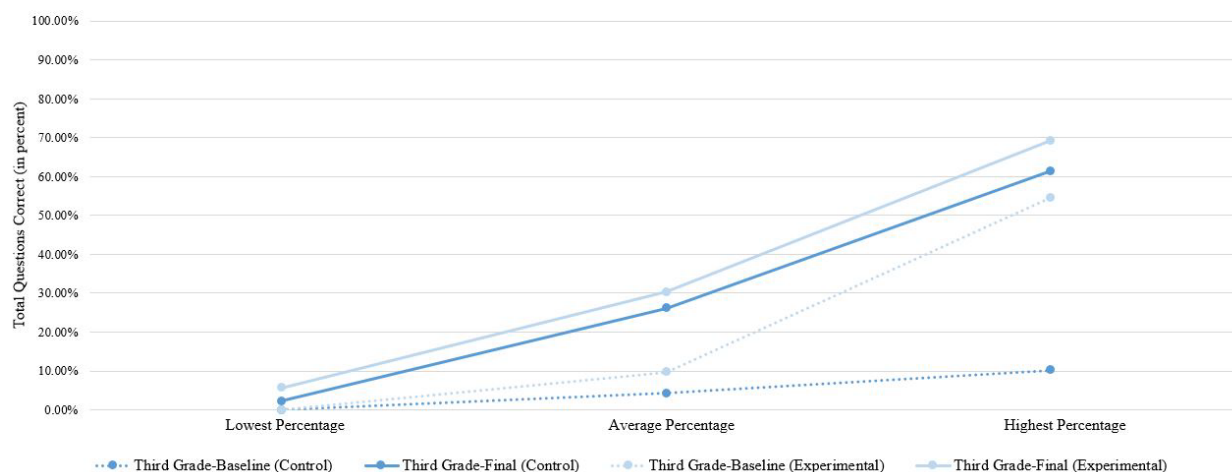


Figure 38 compares the percentage of total questions correct from the BA to the FCA of the third-grade control and experimental groups. Students in the control group had a lowest score of 0.00% on the BA, with a small increase to 2.27% on the FCA. This group also increased their average score by 21.86% from an average of 4.22% on the BA to an average of 26.08% on the FCA. Another sizable difference of 51.13% was recorded between the BA highest score of 10.23% and the FCA highest score of 61.36%.

For the experimental group, the lowest percentage of questions answered correctly started at 0.00% on the BA and increased to 5.68% on the FCA. The average score rose from 9.66% to

30.36%, creating a 20.7% difference. Members of the experimental group reached a high score of 54.55% on the BA, which increased by 14.77% for a high score of 69.32% on the FCA.

In terms of the lowest percentage of total questions correct, the experimental group achieved a 3.41% higher increase in score than the control group. The control group managed to increase their average score by a mere 1.16% more than the experimental group. Lastly, the control group raised their highest percentage by 36.36% more than the experimental group was able to raise theirs. Members of the experimental group only saw a higher increase in total questions correct for the category of lowest percentage, whereas the control group made more progress for average percentage and highest percentage.

Figure 39. Third Grade Baseline Assessment and Final Cumulative Assessment Comparison (Questions Correct out of Questions Answered)

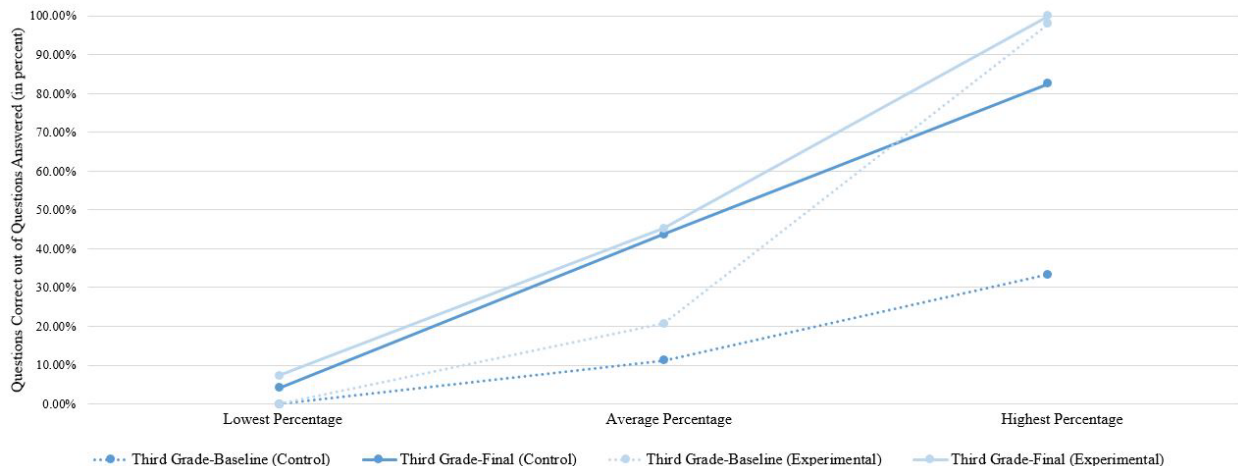


Figure 39 compares the percentage of questions correct out of questions answered on the BA and FCA by the control and experimental groups. The control group started with a low score of 0.00% on the BA and raised it by 4.17% for the FCA. This group also increased their average score of 11.18% by 32.54% for an average of 43.72% on the FCA. Members of the control group

were able to increase their highest score of 33.33% on the BA to 82.54% on the FCA, for a difference of 49.21%.

Similar to the control group, the experimental group also had a lowest score of 0.00% on the BA, which they increased by 7.35% on the FCA. An increase of 24.62% was also seen between the BA average of 20.64% and the FCA average of 45.26%. In the category of highest score, the experimental group only rose by 2.04% from their high score of 97.96% on the BA to their high score of 100% on the FCA.

Although both groups continued to see increases in this metric, the experimental group improved their lowest score by 3.18% more than the control group. However, the control group increased their average by 7.92% more than the experimental group. Members of the control group also raised their highest score by a margin of 47.17% over the experimental group. Much like the metric of total questions correct, the experimental group saw more progress in the category of lowest percentage of questions correct out of questions answered, while the control group climbed more in average percentage and highest percentage.

Fourth Grade Comparisons

Table 26. Fourth Grade Baseline Assessment and Final Cumulative Assessment Comparison

Similar to third-grade participants, fourth-grade students in both groups experienced gains in nearly every metric presented in Table 26. The table contains data from the Baseline Assessment and Final Cumulative Assessment of the fourth-grade control and experimental groups. Additionally, Table 26 contains the lowest, average, and highest percentage scored by both groups in each metric, which are elaborated on in Figures 40, 41, and 42.

Group	Percentage Type	Percentage of Total Questions Answered		Percentage of Total Questions Correct		Percentage of Questions Correct out of Questions Answered	
		Baseline	Final	Baseline	Final	Baseline	Final
Control (n=14 Students)	Lowest	4.55%	30.68%	1.14%	15.91%	4.55%	20.59%
	Average	40.99%	69.07%	10.47%	37.01%	30.56%	54.66%
	Highest	64.77%	89.77%	18.18%	67.05%	75.00%	83.10%
Experimental (n=17 Students)	Lowest	15.91%	31.82%	1.14%	13.64%	5.88%	21.43%
	Average	39.91%	73.33%	11.56%	42.85%	26.15%	59.10%
	Highest	69.32%	93.18%	56.82%	89.77%	100.00%	96.34%

Figure 40. Fourth Grade Baseline Assessment and Final Cumulative Assessment Comparison
(Total Questions Answered)

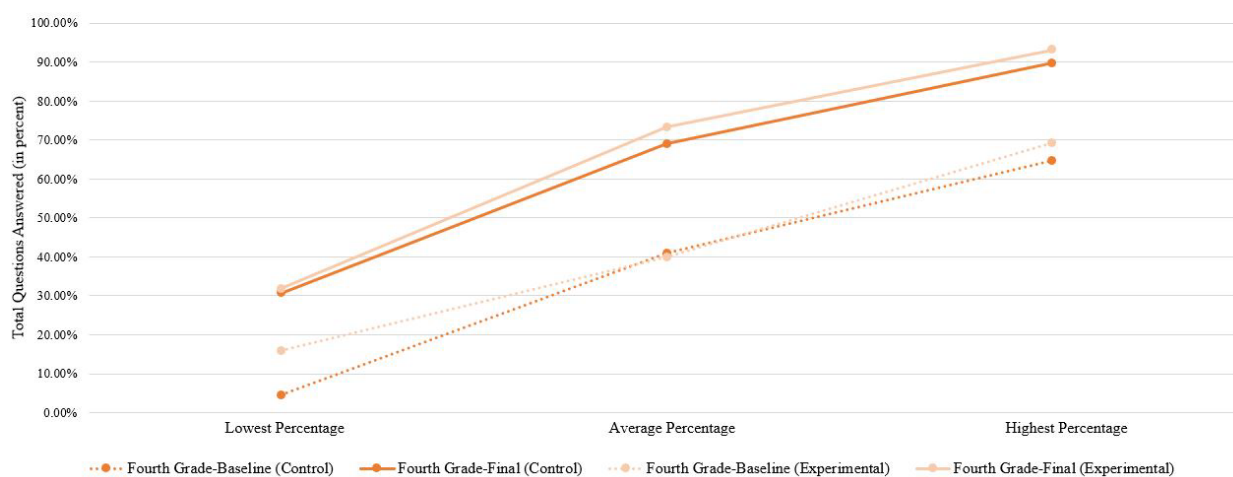


Figure 40 compares the percentage of total questions answered by the fourth-grade control and experimental groups on both the Baseline Assessment (BA) and Final Cumulative Assessment (FCA). Members of the control group started with a lowest score of 4.55% on the

BA and raised this category by 26.13% for a lowest score of 30.68% on the FCA. This group averaged 40.99% on the BA and saw a 28.08% increase to 69.07% on the FCA. For the highest percentage, the control group reached 64.77% on the BA and 89.77% on the FCA, for a difference of 25%.

On the BA, members of the experimental group had a lowest percentage of 15.91%, rising by 15.91% to reach 31.82% on the FCA. Average scores for this group saw a significant increase of 33.42%, going from 39.91% on the BA to 73.33% on the FCA. Similarly, the experimental group had a high score of 69.32% on the BA, which increased by 23.86% for a high score of 93.18% on the FCA.

Members of the control group saw higher increases in score than the experimental group on the extreme ends of the spectrum for lowest percentage of questions answered, as well as highest percentage. For lowest percentage, the control group raised their lowest score by 10.22% more than the experimental group. The control group also raised their highest score by 1.14% more than the experimental group. However, students in the experimental group were able to increase their average score by 5.34% more than those of the control group.

Figure 41. Fourth Grade Baseline Assessment and Final Cumulative Assessment Comparison
(Total Questions Correct)

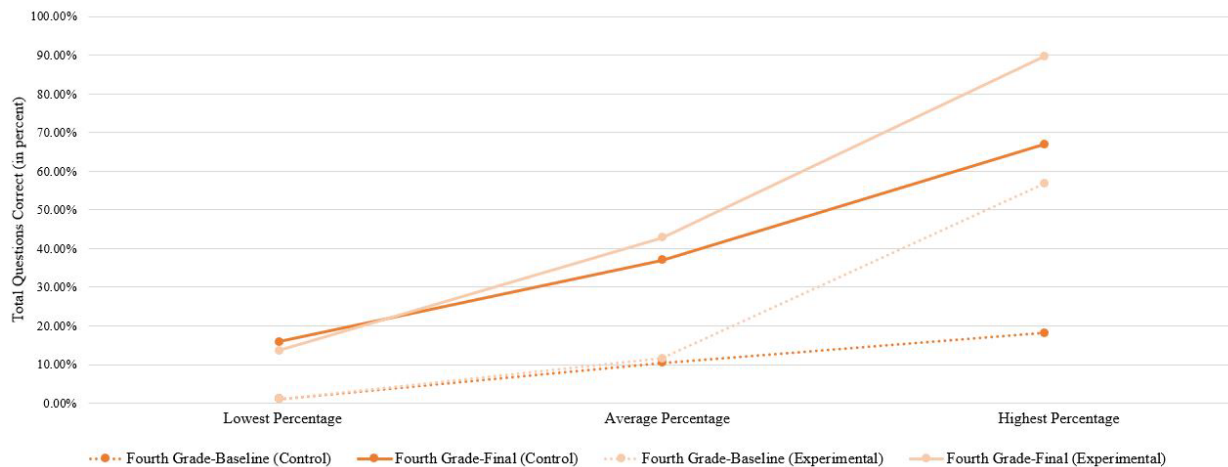


Figure 41 compares the lowest, average, and highest percentage of questions answered correctly by the fourth-grade control and experimental groups on the Baseline Assessment and Final Cumulative Assessment. The lowest score for the control group on the BA was 1.14%, which increased by 14.77% for a low score of 15.91% on the FCA. Members of the control group averaged 10.47% on the BA and 37.01% on the FCA, showing a 26.54% increase between the two assessments. Control group students also increased their high score by 48.87%, with a high score of 18.18% on the BA and 67.05% on the FCA.

In the experimental group, the lowest score on the BA was also 1.14%, which rose by 12.5% for a low score of 13.64% on the FCA. A 31.29% increase was recorded between the averages of the BA (11.56%) and the FCA (42.85%). Additionally, students in the experimental group increased their highest score by 32.95%, from 56.82% on the BA to 89.77% on the FCA.

Similar to the previous metric, the control group improved the most in the categories of lowest and highest percentage of questions correct. Members of the control group increased the

lowest score by 2.27% more than the experimental group, and the highest score by 15.92% more. The experimental group led the increase in average scores by 4.75% more than the control group.

Figure 42. Fourth Grade Baseline Assessment and Final Cumulative Assessment Comparison
(Questions Correct out of Questions Answered)

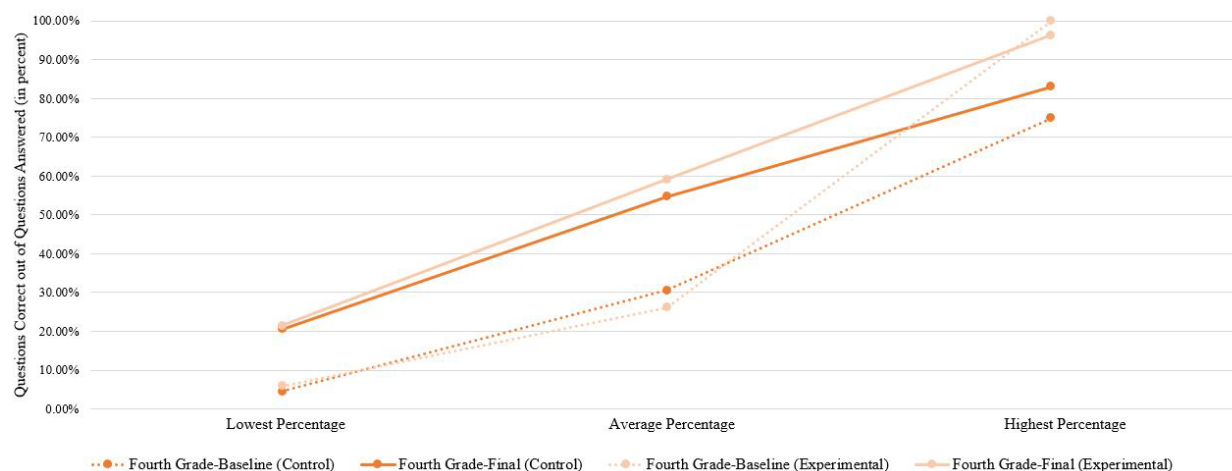


Figure 42 compares the percentage of questions correct out of questions answered of the control and experimental groups on the Baseline Assessment and Final Cumulative Assessment. The lowest percentage of the control group for the BA was 4.55%, which increased by 16.04% to reach 20.59% on the FCA. Moreover, the control group's average increased by 24.1% from 30.56% on the BA to 54.66% on the FCA. For the highest score, the control group attained 75% on the BA and 83.1% on the FCA, creating an 8.1% difference.

For the experimental group, the lowest score in this metric was 5.88% on the BA, with a 15.55% increase to 21.43% on the FCA. Students in the experimental group averaged 26.15% on the BA and 59.1% on the FCA, resulting in a 32.95% increase in score. Contrary to previous trends, this group actually decreased for the highest score by 3.66% from the BA high score of 100% to the FCA high score of 96.34%.

Members of the control group improved the lowest percentage by a very slim margin of 0.49% more than the experimental group. Likewise, the control group also increased their highest percentage by 11.76% more than the experimental group. For the category of average percentage, the experimental group increased their score by 8.85% more than the control group, thus repeating the pattern of the control group improving more on the outlying scores as opposed to the experimental group improving more on average scores.

Fifth Grade Comparisons

Table 27. Fifth Grade Baseline Assessment and Final Cumulative Assessment Comparison

Many comparisons can be drawn from the data in Table 27, including the starker contrasts between both groups of fifth-grade participants. This table presents data from the Baseline Assessment and Final Cumulative Assessment of the fifth-grade control and experimental groups. This table shows the lowest, average, and highest percentage scored by both groups in each metric, which are expanded upon in Figures 43, 44, and 45.

Group	Percentage Type	Percentage of Total Questions Answered		Percentage of Total Questions Correct		Percentage of Questions Correct out of Questions Answered	
		Baseline	Final	Baseline	Final	Baseline	Final
Control (n=20 Students)	Lowest	15.91%	29.55%	2.27%	9.09%	4.76%	17.02%
	Average	51.48%	67.22%	16.76%	42.67%	34.41%	63.41%
	Highest	77.27%	97.73%	44.32%	73.86%	92.86%	94.87%
Experimental (n=18 Students)	Lowest	11.36%	48.86%	3.41%	31.82%	10.00%	41.18%
	Average	41.35%	75.95%	20.52%	64.14%	50.63%	83.47%
	Highest	80.68%	100.00%	65.91%	100.00%	100.00%	100.00%

Figure 43. Fifth Grade Baseline Assessment and Final Cumulative Assessment Comparison
(Total Questions Answered)

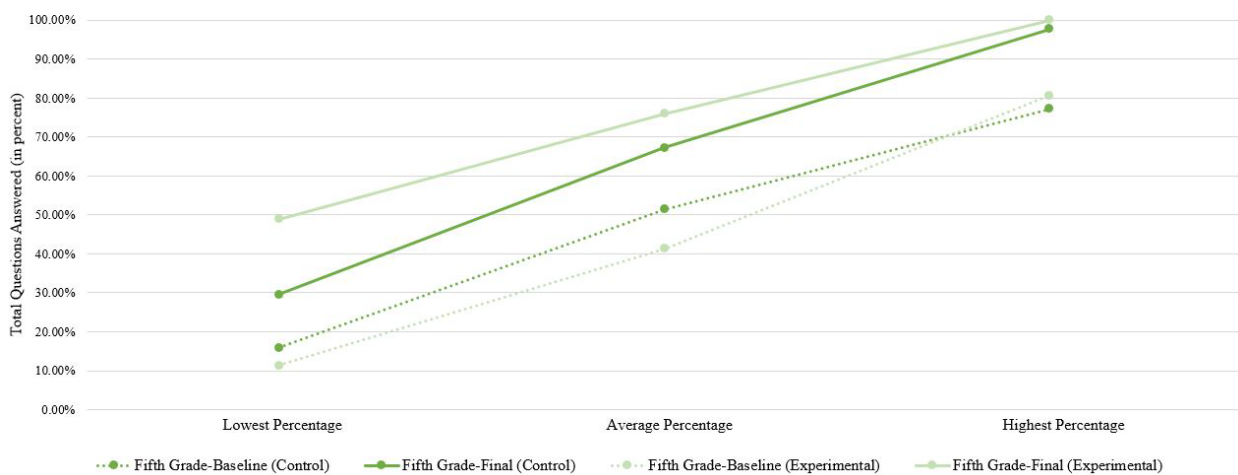


Figure 43 compares the percentage of total questions answered on the Baseline Assessment (BA) and Final Cumulative Assessment (FCA) by the fifth-grade control and experimental groups. Members of the control group received a low score of 15.91% on the BA,

which increased by 16.64% for a low score of 29.55% on the FCA. This group also averaged 51.48% on the BA and 67.22% on the FCA, resulting in a 15.74% difference. For the highest score, control group students earned 77.27% on the BA, with a 20.46% increase to 97.73% on the FCA.

In the experimental group, the lowest score on this metric was 11.36% on the BA, which increased by 37.5% to 48.86% on the FCA. Experimental group students increased their average score by 34.6%, with an average of 41.35% on the BA and 75.95% on the FCA. The highest score on the BA was 80.68%, while the highest score on the FCA was 100%, creating a 19.32% increase.

Overall, the experimental group saw greater gains in the lowest and average percentage of total questions answered. Members of this group improved the lowest score by 20.86% more than the control group, and the average score by 18.86% more. The control group only managed to increase the highest score by a small margin of 1.14% more than the experimental group.

Figure 44. Fifth Grade Baseline Assessment and Final Cumulative Assessment Comparison
(Total Questions Correct)

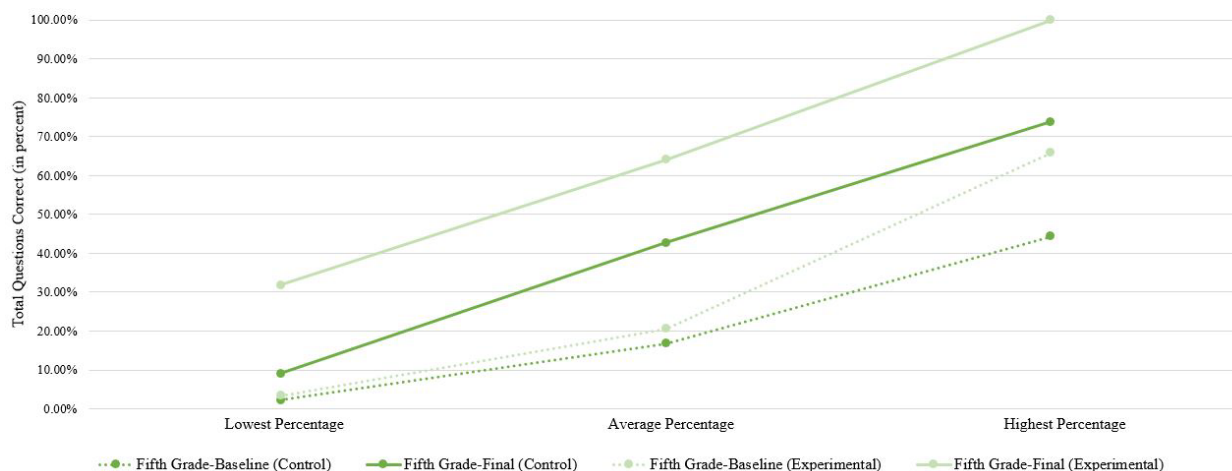


Figure 44 compares fifth-grade control and experimental group scores on the Baseline Assessment and Final Cumulative Assessment in terms of percentage of total questions correct. The control group had a low score in this category of 2.27% on the BA, which rose by 6.82% to reach 9.09% on the FCA. A 25.91% increase was recorded between the BA average score of 16.76% and the FCA average score of 42.67%. Students in the control group also improved their highest score, going from 44.32% on the BA to 73.86% on the FCA for a 29.54% difference.

For this metric, the experimental group earned a low score of 3.41% on the BA, followed by a 28.41% increase to 31.82% on the FCA. Another significant difference of 43.62% appeared in the average scores, with 20.52% on the BA and 64.14% on the FCA. Students received a high score of 65.91% on the BA, which increased by 34.09% to a perfect score of 100% on the FCA.

The experimental group improved more than the control group for lowest, average, and highest percentage of total questions correct. Students in the experimental group increased their score by 21.59% more than the control group, increased their average score by 17.71% more, and increased their high score by 4.55% more.

Figure 45. Fifth Grade Baseline Assessment and Final Cumulative Assessment Comparison
(Questions Correct out of Questions Answered)

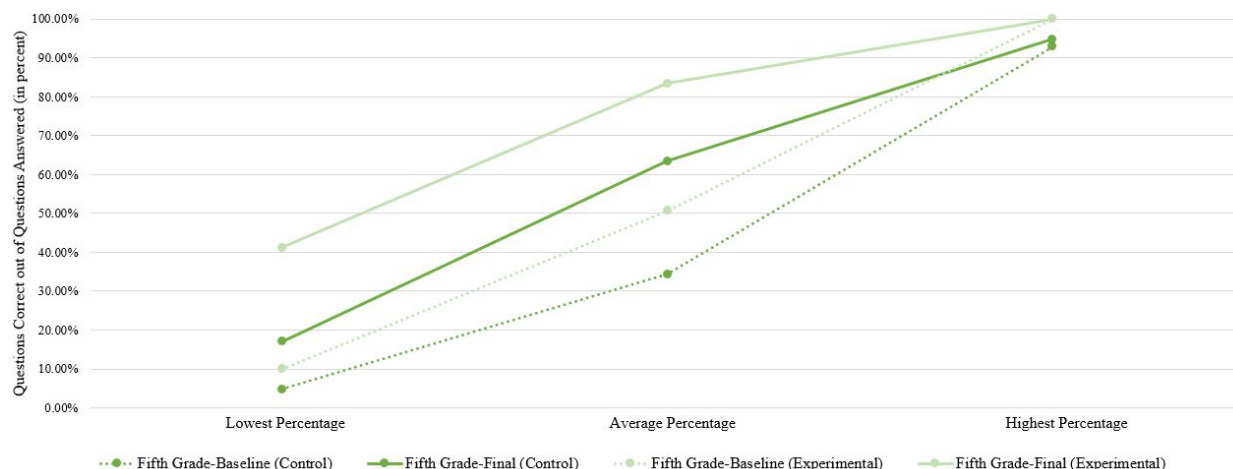


Figure 45 compares the lowest, average, and highest percentage of questions correct out of questions answered by the fifth-grade control and experimental groups on the Baseline Assessment and Final Cumulative Assessment. The control group raised their lowest score on the BA from a 4.76% to a 17.02% on the FCA, resulting in a 12.26% increase. Students also increased the average score by 29%, going from 34.41% on the BA to 63.41% on the FCA. For the highest percentage, the control group only increased a small amount (2.01%) from 92.86% on the BA and 94.87% on the FCA.

Experimental group students earned a low score of 10% on the BA and increased 31.18% to score 41.18% on the FCA. The average score rose from 50.63% on the BA to 83.47% on the FCA for a 32.84% difference. However, the highest score between the BA and FCA saw no change, as students in the experimental group had answered 100% of questions correctly out of questions answered on both assessments.

Figure 45 revealed a similar trend to previous metrics, in that the experimental group led the majority of categories in terms of most improved score from the BA to the FCA. The

experimental group increased their lowest percentage by 18.92% more than the control group, and their average percentage by 3.84% more. Control group students increased their highest percentage by 2.01% more than experimental group students.

Baseline Assessment and Final Cumulative Assessment Comparison by Skill

Data in the following section compared control and experimental group progress from the Baseline Assessment to the Final Cumulative Assessment by specific skills being assessed. Both assessments were also organized by grade level. To most accurately measure student ability and growth, this section only addressed the average percentage of questions answered correctly by each group for each skill. For each data set, the control was indicated by the darker colored bars in each figure, while the experimental group was indicated by the lighter colored bars.

Third Grade Comparison by Skill

Table 28. Third Grade Baseline Assessment and Final Cumulative Assessment Skill Comparison (Average Percentage of Total Questions Correct)

Although both third-grade groups were generally close in answer accuracy, Table 28 highlights their differences by comparing the average percentage of total questions answered correctly on each section of the Baseline Assessment (BA) and the Final Cumulative Assessment (FCA). This data is divided into six parts and expanded upon in Figures 46, 47, 48, 49, 50, and 51.

Group	Part 1		Part 2		Part 3		Part 4		Part 5		Part 6	
	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Control (n=21 Students)	11.57%	65.99%	10.20%	63.95%	2.76%	18.30%	1.82%	18.63%	5.82%	23.28%	3.97%	15.87%
Experimental (n=30 Students)	26.19%	68.57%	14.76%	52.86%	11.93%	24.91%	4.02%	20.29%	15.18%	36.67%	5.28%	28.06%

Figure 46. Third Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 1: Treble Clef Note Identification

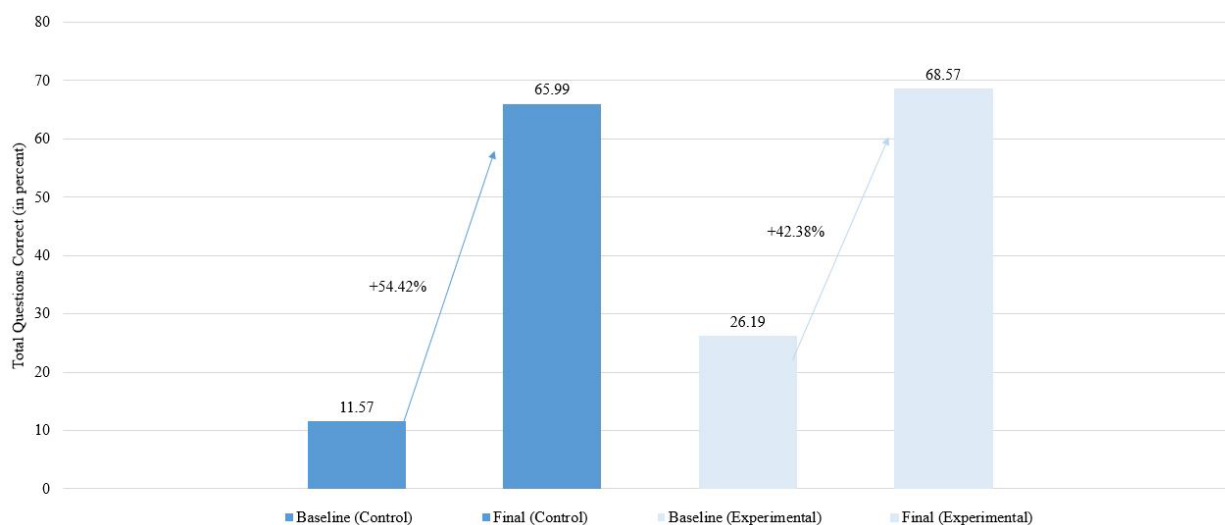


Figure 46 compares the average percentage of questions answered correctly on Part 1 of the Baseline Assessment and Final Cumulative Assessment by third-grade students. Part 1 consisted of seven questions that required students to identify notes on the treble clef staff by letter name. Students in the control group answered 11.57% of questions correctly on the BA, which increased by 54.42% to 65.99% on the FCA. The experimental group averaged 26.19% on the BA and 68.57% on the FCA, for a 42.38% increase. Overall, the control group increased their score by 12.04% more than the experimental group on this skill.

Figure 47. Third Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 2: Bass Clef Note Identification

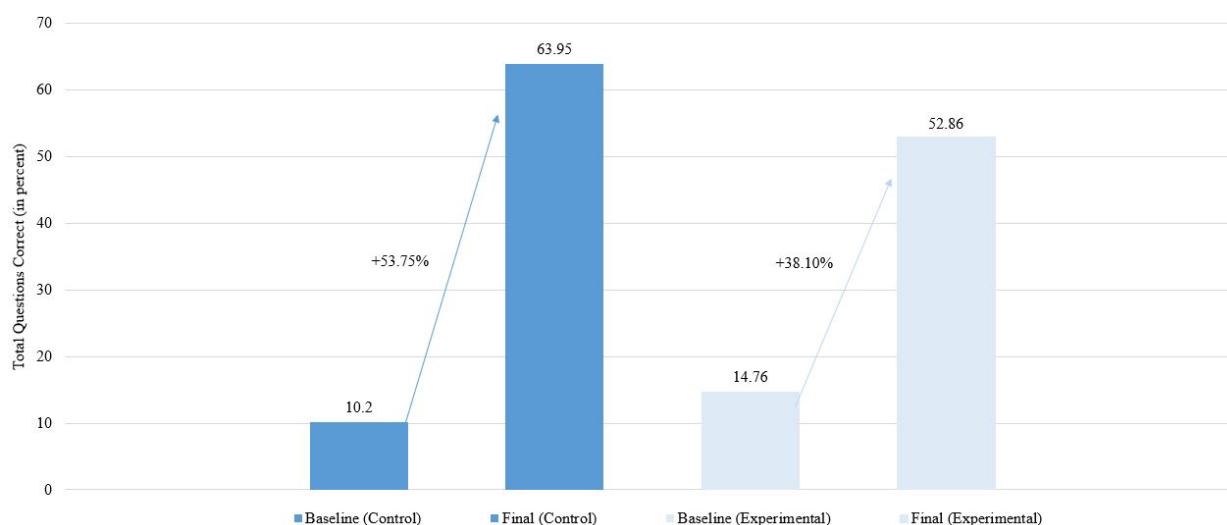


Figure 47 compares the average percentage of questions answered correctly on Part 2 of the Baseline Assessment and Final Cumulative Assessment by third-grade students. Part 2 of the assessments required students to identify seven notes by letter name on the bass clef staff. The control group averaged 10.2% on the BA and 63.95% on the FCA for a 53.75% increase. Experimental group students averaged 14.76% on the BA and increased their score by 38.1% to achieve 52.86% on the FCA. Members of the control group showed greater improvement in this skill, raising their score by 15.65% more than the experimental group.

Figure 48. Third Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 3: Grand Staff Note Identification

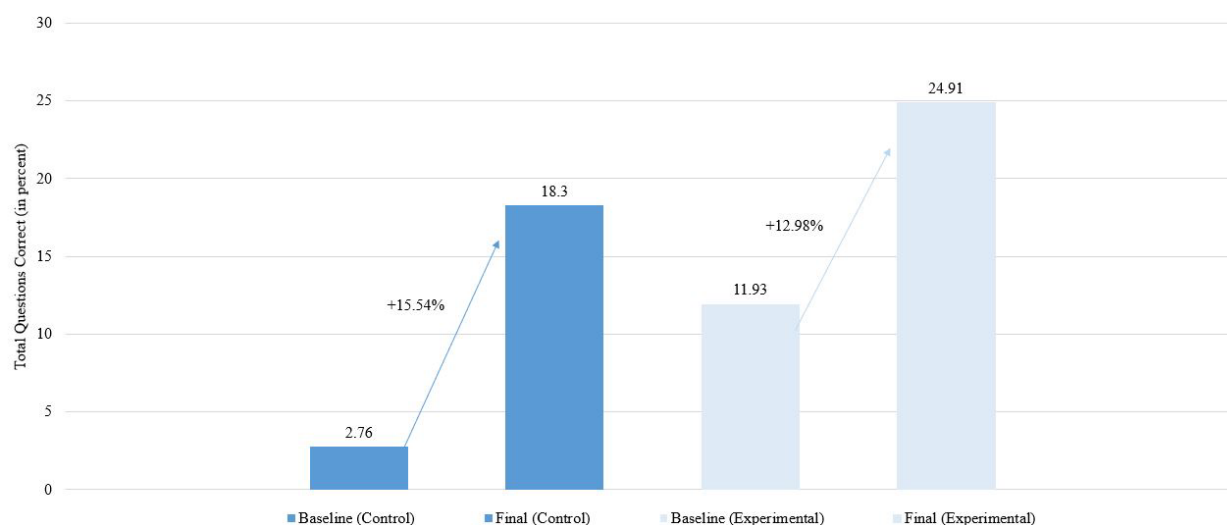


Figure 48 compares the average percentage of total questions answered correctly by third-grade students for Part 3 of the Baseline Assessment and Final Cumulative Assessment. Part 3 consisted of nineteen questions that required students to identify notes by letter name on the grand staff using notes within the staff, as well as ledger lines. Students in the control group averaged 2.76% on the BA and 18.3% on the FCA, which created a 15.54% difference between the assessments. The experimental group averaged 11.93%, increasing their score by 12.98% to 24.91% on the FCA. Between both groups, the control group increased their average score by 2.56% more than the experimental group.

Figure 49. Third Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 4: Treble and Bass Clef Notation

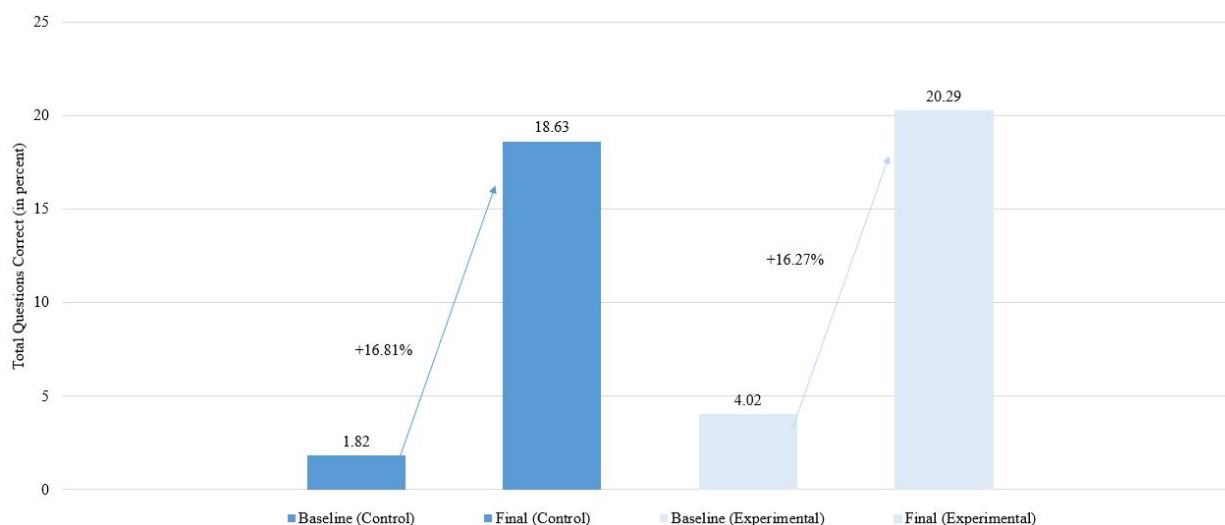


Figure 49 compares the average percentage of total questions correct on Part 4 of the Baseline Assessment and Final Cumulative Assessment by the third-grade control and experimental groups. Part 4 was the inverse of the previous three sections, requiring students to use a whole note and write notes on separate treble and bass clef staves. Students were provided with a letter and expected to write in a whole note on the line or space, up to two ledger lines above and below each staff, that the note could appear. This exercise had a total of thirty-four possible answers. The control group averaged 1.82% on the BA and 18.63% on the FCA, increasing their score by 16.81%. A 16.27% increase was recorded for the experimental group, who averaged 4.02% on the BA and 20.29% on the FCA. Control group students improved more than experimental group students by a thin margin of 0.54%.

Figure 50. Third Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 5: Rhythm Identification

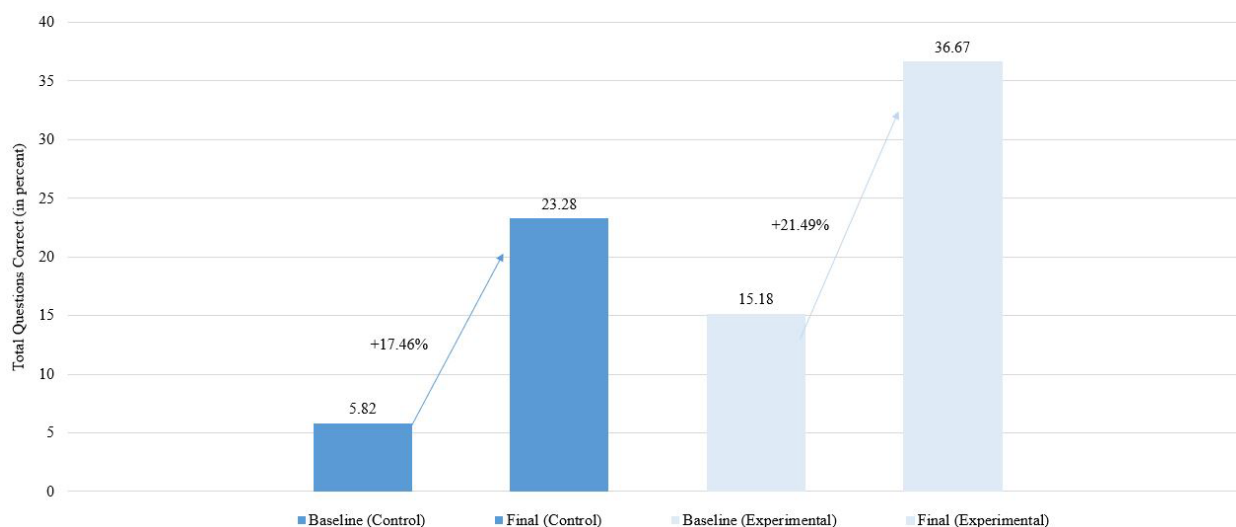


Figure 50 compares the average percentage of questions answered correctly by third-grade students on Part 5 the Baseline Assessment and Final Cumulative Assessment. Part 5 required students to identify nine standard rhythmic figures by name using a word bank. In the control group, students achieved a 17.46% increase from 5.82% on the BA to 23.28% on the FCA. The experimental group also saw an increase from the BA (15.18%) to the FCA (36.67%), resulting in a 21.49% difference. Contrary to previous sections, the experimental group actually improved this skill at a higher rate, increasing their average by 4.03% more than the control group.

Figure 51. Third Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 6: Composition

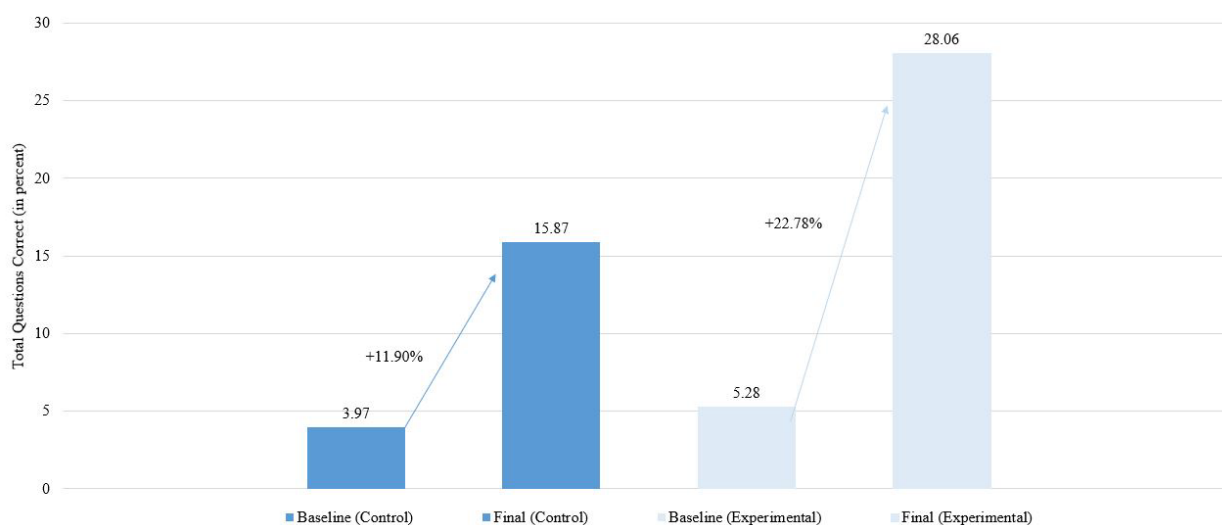


Figure 51 compares the average percentage of total questions correct on Part 6 of the Baseline Assessment and Final Cumulative Assessment for both third-grade groups. Part 6 focused on composition and required students to complete four measures of music in 2/4 time, four measures in 3/4 time, and four measures in 4/4 time, for a total of twelve possible answers. Students were also encouraged to use a combination of notes, rhythms, and rests to demonstrate their understanding of note value and time signature constraints, as well as melodic concepts and notation capabilities. The control group averaged 3.97% on the BA and 15.87% on the FCA, increasing their average by 11.9%. Members of the experimental group increased their average score by 22.78% from 5.28% on the BA to 28.06% on the FCA. The experimental group raised their Part 6 score by 10.88% more than the control group.

Fourth Grade Comparison by Skill

Table 29. Fourth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison (Average Percentage of Total Questions Correct)

Much like the third-grade students, fourth-grade participants generally showed similar scoring trends for each skill. Table 29 compares the average percentage of total questions correct on each section of the Baseline Assessment (BA) and the Final Cumulative Assessment (FCA) by the fourth-grade control and experimental groups. Figures 52, 53, 54, 55, 56, and 57 address each individual skill by comparing data and degree of improvement between assessments.

Group	Part 1		Part 2		Part 3		Part 4		Part 5		Part 6	
	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Control (n=14 Students)	39.80%	85.71%	7.14%	62.25%	7.14%	24.44%	4.83%	29.41%	27.78%	36.51%	3.57%	35.71%
Experimental (n=17 Students)	31.93%	86.55%	17.65%	74.79%	8.98%	27.55%	5.19%	38.75%	25.49%	39.87%	9.80%	36.76%

Figure 52. Fourth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 1: Treble Clef Note Identification

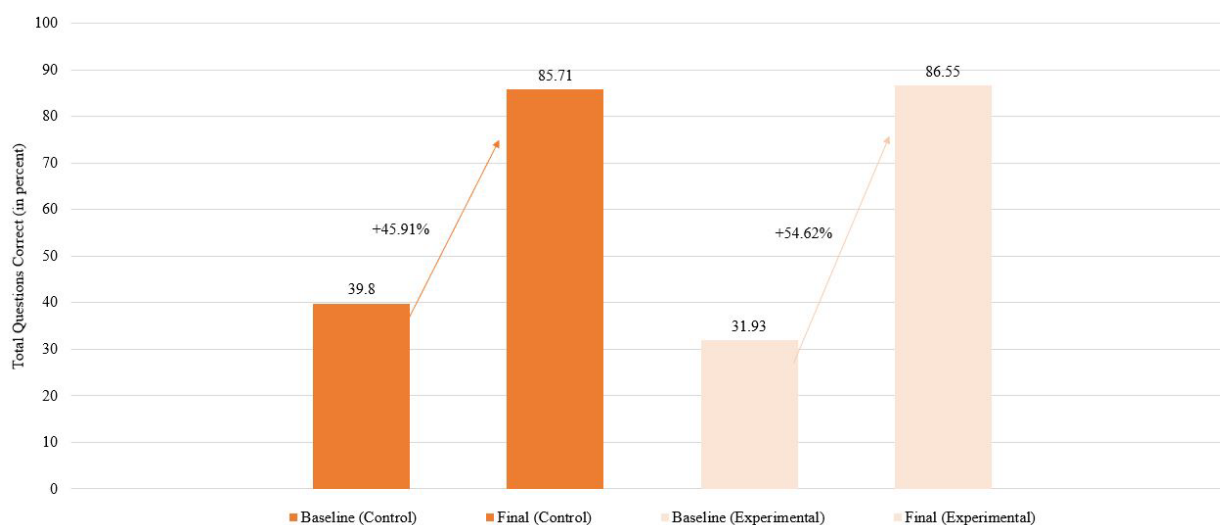


Figure 52 compares the average percentage of questions answered correctly by fourth-grade students on Part 1 of the Baseline Assessment and Final Cumulative Assessment. The control group averaged 39.8% on the BA and 85.71% on the FCA, raising their average by

45.91%. Students in the experimental group averaged 31.93% on the BA, which increased by 54.62% to 86.55% on the FCA. Overall, the experimental group increased their average by 8.71% more than the control group.

Figure 53. Fourth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 2: Bass Clef Note Identification

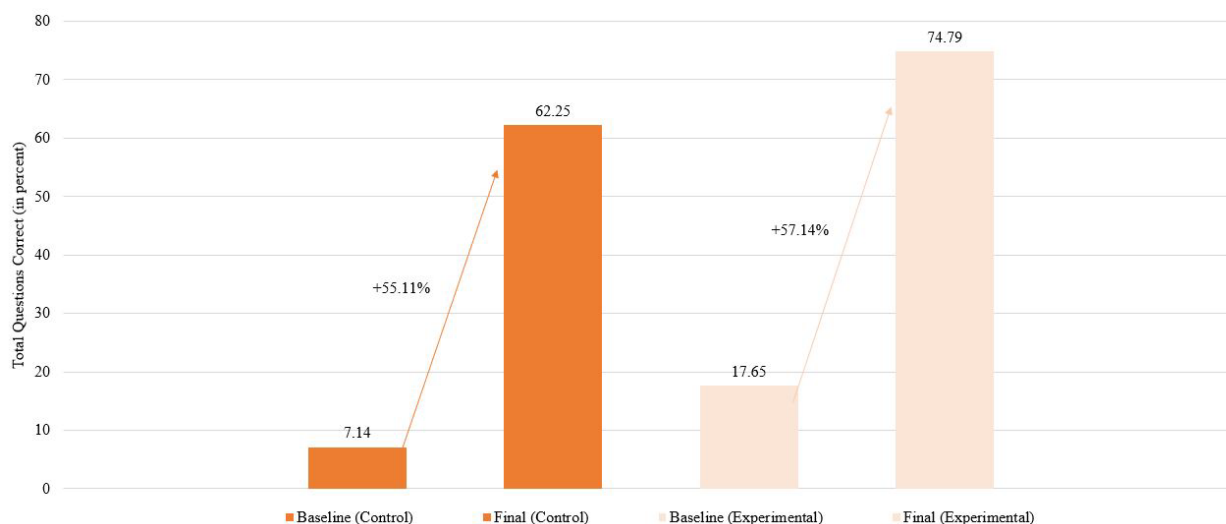


Figure 53 compares the average percentage of questions answered correctly by fourth-grade students on Part 2 of the Baseline Assessment and Final Cumulative Assessment. A 55.11% increase was noted between the control group's average on the BA (7.14%) and FCA (62.25%). The experimental group saw a similar increase of 57.14%, going from 17.65% on the BA to 74.79% on the FCA. For Part 2, students in the experimental group increased their average by 2.03% more than students in the control group.

Figure 54. Fourth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 3: Grand Staff Note Identification

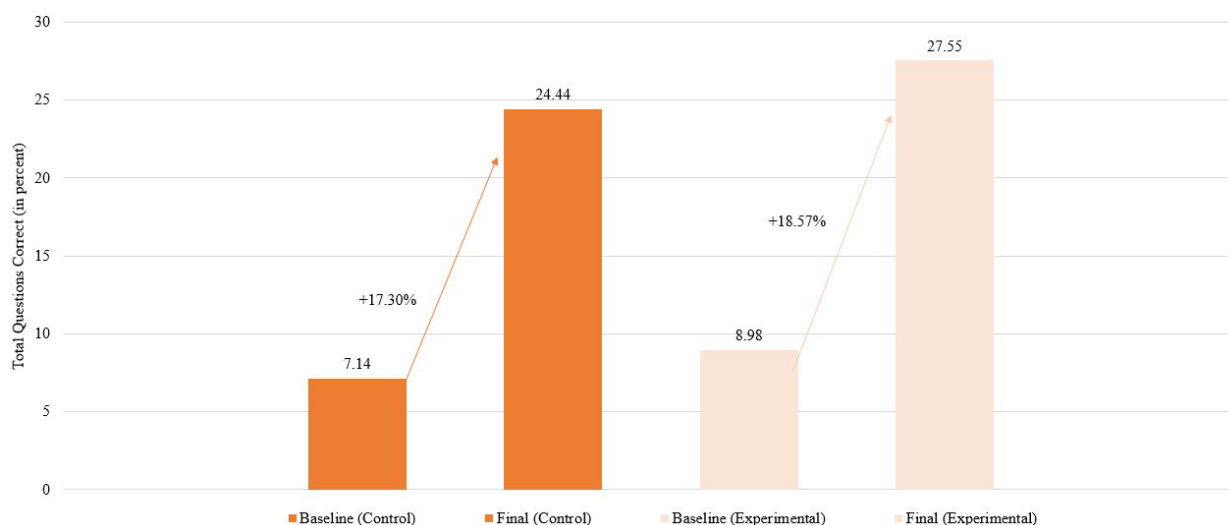


Figure 54 compares the average percentage of total questions correct on Part 3 of the Baseline Assessment and Final Cumulative Assessment by fourth-grade students. Similar to Part 2, the control group averaged 7.14% on the BA and increased by 17.3% to reach 24.44% on the FCA. The experimental group averaged 8.98% on the BA and 27.55% on the FCA, which created a 18.57% gap between the assessments. Experimental group students improved their scores by a small margin of 1.27% more than control group students.

Figure 55. Fourth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 4: Treble and Bass Clef Notation

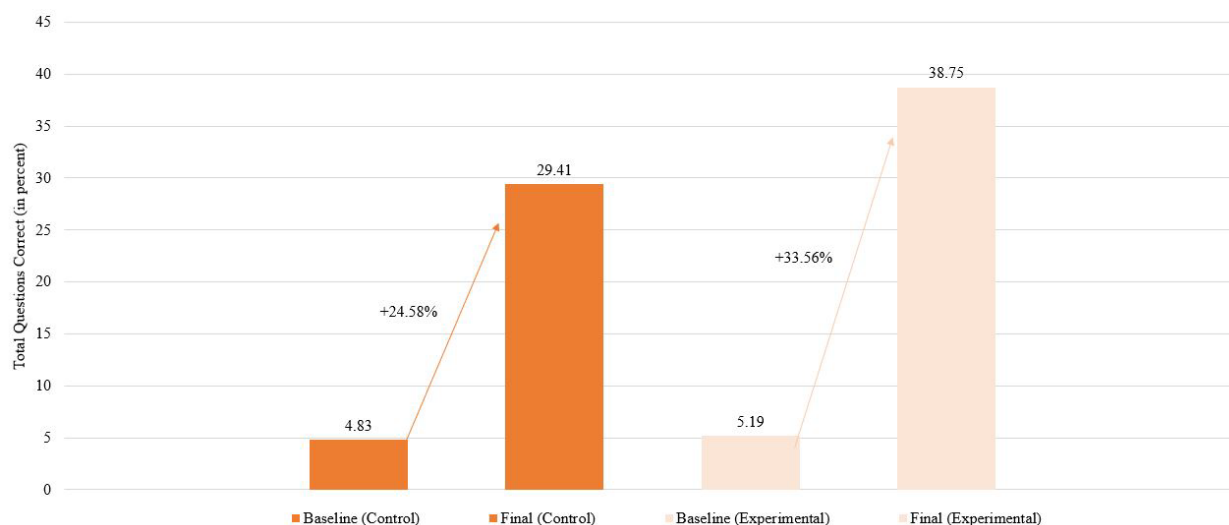


Figure 55 compares the fourth-grade control and experimental groups in terms of average percentage of total questions correct on the Baseline Assessment and Final Cumulative Assessment. The control group raised their average score by 24.58% from the BA (4.83%) to the FCA (29.41%). Members of the experimental group averaged 5.19% on the BA and increased their score by 33.56% to earn an average of 38.75% on the FCA. Between both groups, the experimental group increased their average score on Part 4 by 8.98% more than the control group.

Figure 56. Fourth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 5: Rhythm Identification

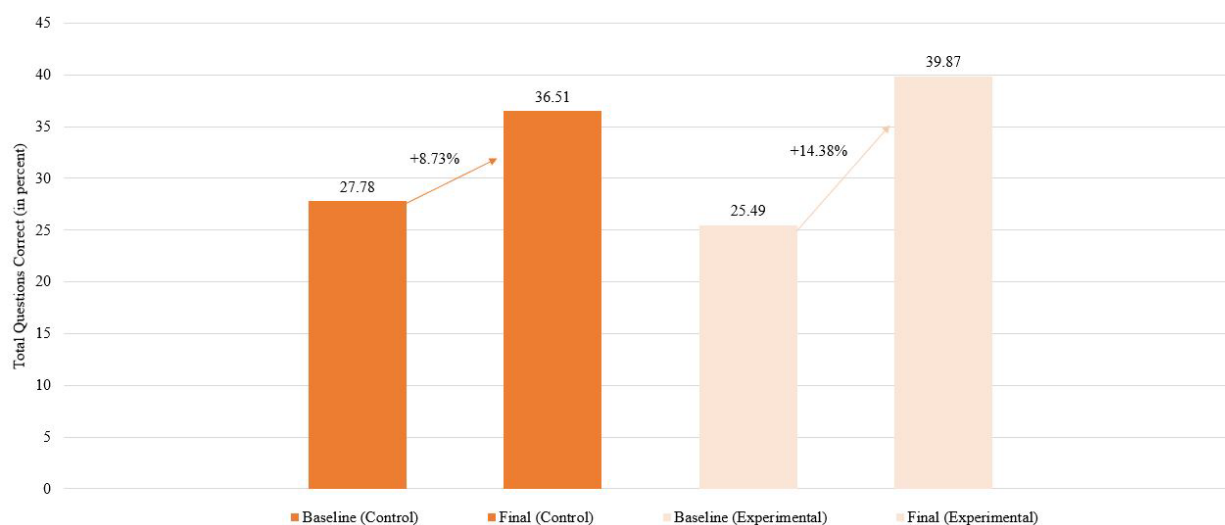


Figure 56 compares Part 5 of the Baseline Assessment and Final Cumulative Assessment with regard to the average percentage of questions answered correctly by fourth-grade students. Members of the control group averaged 27.78% on the BA and 36.51% on the FCA, which generated an 8.73% increase in average score. The experimental group demonstrated a 14.38% improvement from the BA (25.49%) to the FCA (39.87%). Overall, the experimental group rose in average score by 5.65% more than the control group.

Figure 57. Fourth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 6: Composition

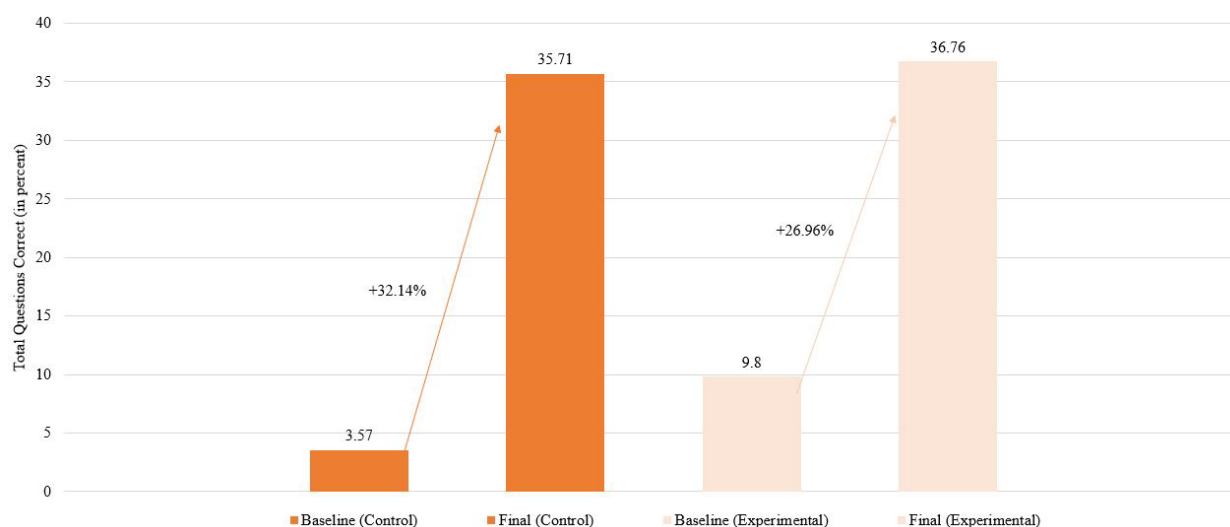


Figure 57 compares the average percentage of total questions correct for fourth-grade students on Part 6 of the Baseline Assessment and Final Cumulative Assessment. Control group students earned an average score of 3.57% on the BA and 35.7% on the FCA, resulting in a 32.14% difference. A 26.96% increase was noted in the experimental group between their average of 9.8% on the BA and 36.76% on the FCA. Part 6 was the only section of the assessments that showed a higher increase in average from the control group, which improved 5.18% more than the experimental group.

Fifth Grade Comparison by Skill

Table 30. Fifth Grade Baseline Assessment and Final Cumulative Assessment Skill Comparison (Average Percentage of Total Questions Correct)

Greater contrast between fifth-grade assessment scores were recorded, particularly within each specific skill. Table 30 compares the average percentage of total questions answered correctly on each section of the Baseline Assessment (BA) and the Final Cumulative Assessment (FCA) by the fifth-grade control and experimental groups. This data is divided by skill in six sections and elaborated on in Figures 58, 59, 60, 61, 62, and 63.

Group	Part 1		Part 2		Part 3		Part 4		Part 5		Part 6	
	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Control (n=20 Students)	72.14%	90.00%	12.86%	80.71%	11.05%	34.47%	9.41%	33.68%	35.56%	45.00%	2.50%	29.58%
Experimental (n=18 Students)	64.29%	97.62%	35.72%	92.86%	19.01%	61.70%	12.26%	50.98%	32.10%	79.63%	3.70%	57.41%

Figure 58. Fifth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 1: Treble Clef Note Identification

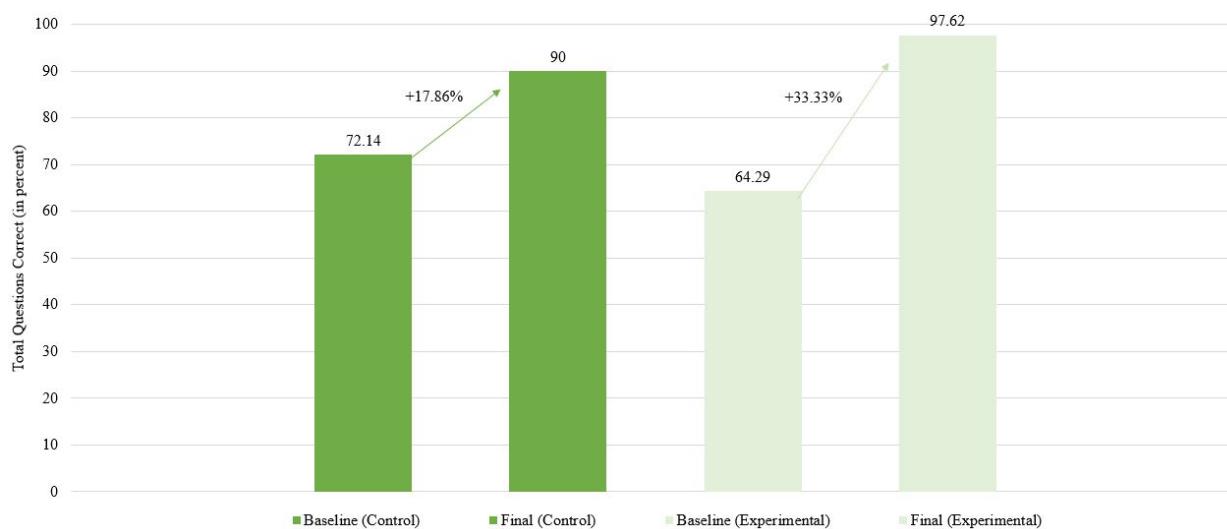


Figure 58 compares the average percentage of questions answered correctly by fifth-grade students on Part 1 of the Baseline Assessment and Final Cumulative Assessment. The control group averaged 72.14% on the BA and increased by 17.86% to reach 90% on the FCA.

Members of the experimental group averaged 64.29% on the BA and 97.62% on the FCA, for a 33.33% increase in average score. The experimental group increased their average score by 15.47% more than the control group on Part 1.

Figure 59. Fifth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 2: Bass Clef Note Identification

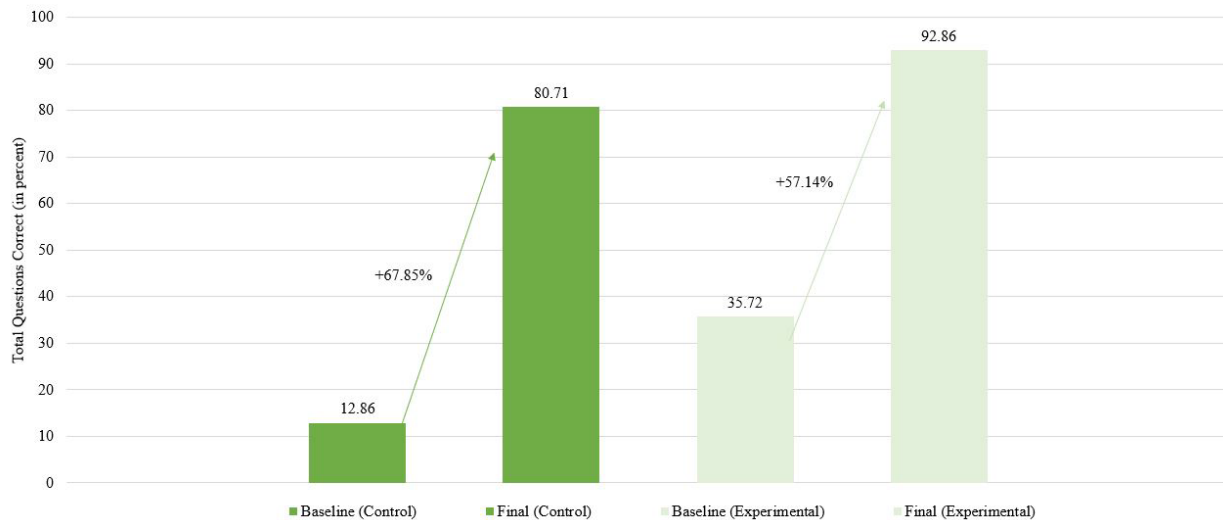


Figure 59 compares the average percentage of total questions correct on Part 2 of the Baseline Assessment and Final Cumulative Assessment of the fifth-grade students. A significant difference of 67.85% was recorded between the control group's BA average score of 12.86% and FCA average score of 80.71%. A similarly large increase of 57.14% was also found between the experimental group's BA average of 35.72% and FCA average of 92.86%. Overall, the control group improved their average score by 10.71% more than the experimental group.

Figure 60. Fifth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 3: Grand Staff Note Identification

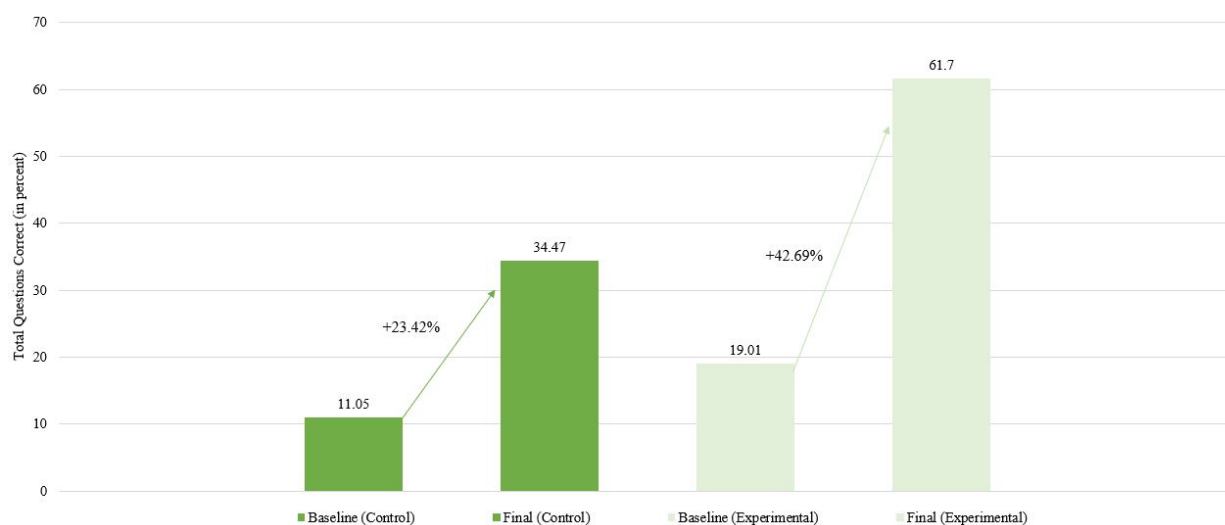


Figure 60 compares the average percentage of questions answered correctly by the fifth-grade control and experimental groups on Part 3 of the Baseline Assessment and Final Cumulative Assessment. The control group averaged 11.05% on the BA and increased by 23.42% to an average of 34.47% on the FCA. Students in the experimental group averaged 19.01% on the BA and 61.7% on the FCA, for a 42.69% difference. For Part 3, the experimental group increased their average score by 19.27% more than the control group.

Figure 61. Fifth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 4: Treble and Bass Clef Notation

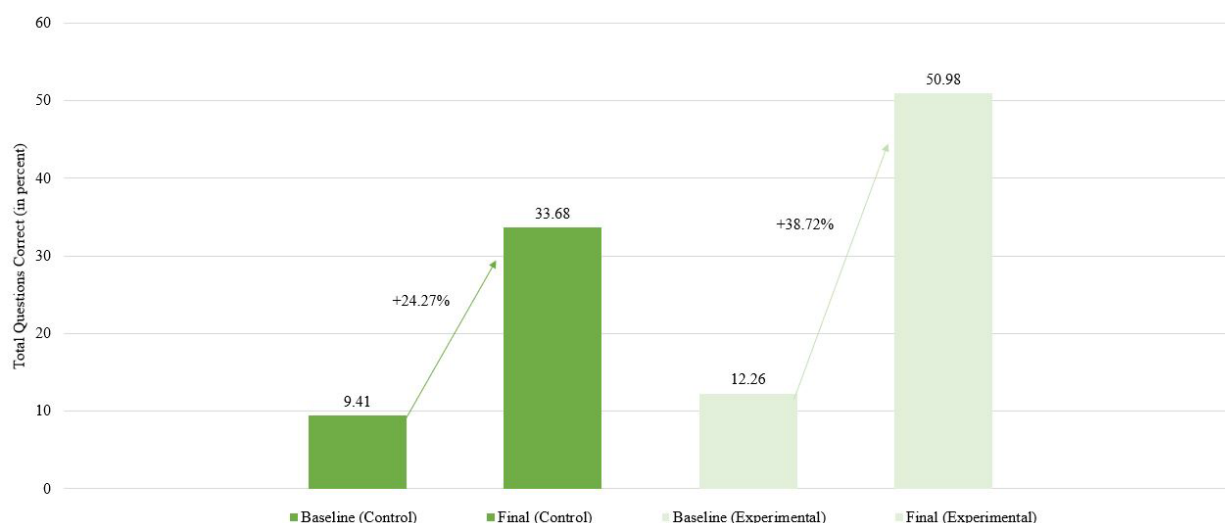


Figure 61 compares the average percentage of total questions correct achieved by fifth-grade students on Part 4 of the Baseline Assessment and Final Cumulative Assessment. Control group students raised their average score by 24.27% from the BA (9.41%) to the FCA (33.68%). The experimental group averaged 12.26% on the BA and climbed by 38.72% to 50.98% on the FCA. Members of the experimental group improved their average score by 14.45% more than members of the control group on Part 4.

Figure 62. Fifth Grade Baseline Assessment and Final Cumulative Assessment Skill

Comparison of Part 5: Rhythm Identification

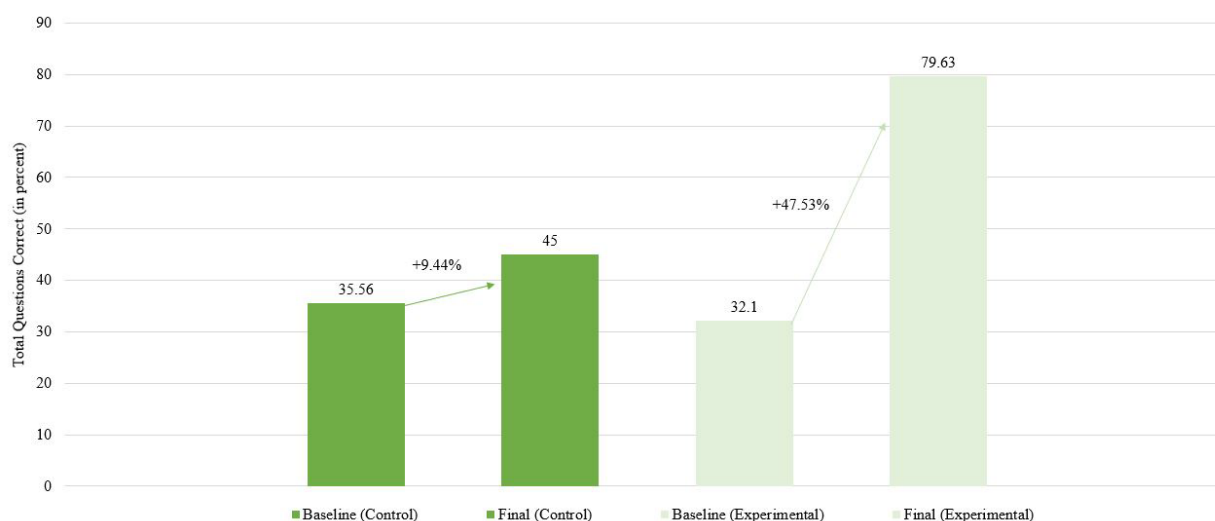


Figure 62 compares the average percentage of questions answered correctly by fifth-grade students on Part 5 of the Baseline Assessment and Final Cumulative Assessment. For the control group, a 9.44% increase in the average score was recorded between the BA (35.56%) and the FCA (45%). The experimental group also saw improvement in the average score between the BA (32.1%) and the FCA (79.63%), which showed a 47.53% difference. Experimental group students improved their average score in Part 5 by a significant margin of 38.09% more than the control group.

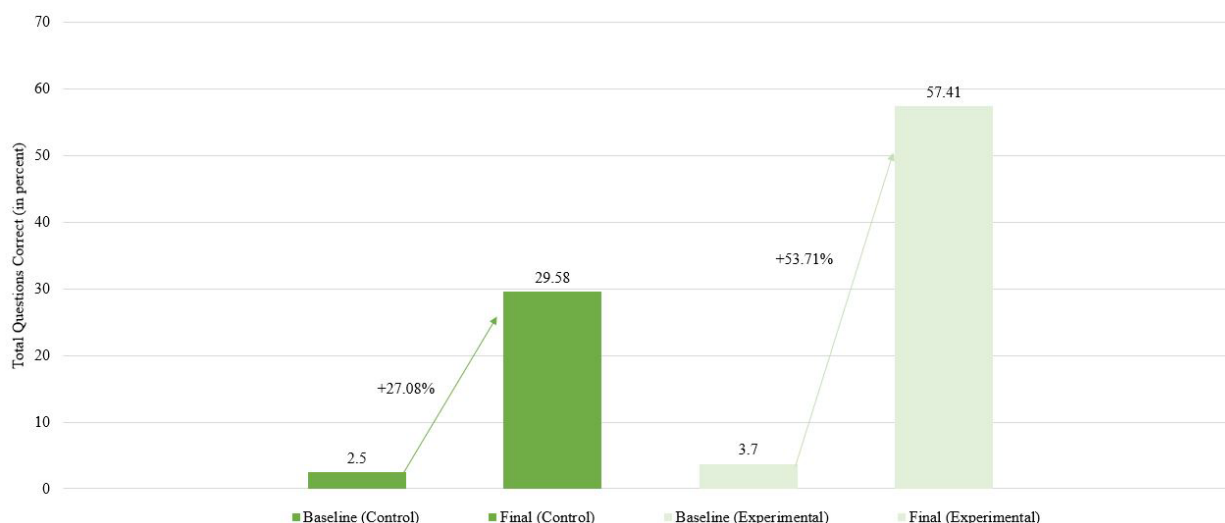
Figure 63. Fifth Grade Baseline Assessment and Final Cumulative Assessment Skill**Comparison of Part 6: Composition**

Figure 63 compares the average percentage of questions answered correctly by the fifth-grade control and experimental groups on Part 6 of the Baseline Assessment and Final Cumulative Assessment. Students in the control group averaged 2.5% on the BA, with their average score rising 27.08% to reach 29.58% on the FCA. The experimental group saw a dramatic increase of 53.71% in average score, going from 3.7% on the BA to 57.41% on the FCA. Overall, members of the experimental group increased their average score by 26.63% more than the control group.

Conclusion

Upon reviewing the assessment data for the Baseline Assessment (BA), Unit 1 Assessment (U1A), Unit 2 Assessment (U2A), and Final Cumulative Assessment (FCA), it is evident that both the control group and experimental group saw improvement in their Music Literacy Acquisition and Application skills. Although the U1A and U2A were not included in the final data comparisons, the researched opted to include the results of these assessments in the

chapter to acknowledge the similar scoring trends throughout the six-week process and reinforce the consistency and integrity of the applied study.

Members of the third-grade experimental group consistently outperformed members of the control group on the FCA in the categories of lowest, average, and highest percentage on the metrics of total questions answered, total questions correct, and questions correct out of questions answered. However, the control group saw a greater increase in scores from the BA to the FCA, and therefore demonstrated a higher level of improvement. This improvement was also noted in the breakdown by skill, as the control group showed greater increases in score on Part 1, 2, 3, and 4 from the BA to the FCA, whereas the experimental group only improved more on Part 5 and 6. Overall, both groups showed the most significant improvement on Part 1, which addressed treble clef note identification, and the second highest level of improvement on Part 2, which addressed bass clef note identification.

Much like the third-grade students, members of the fourth-grade experimental group scored higher in all but one category on the FCA and improved the most in terms of average percentage on all three metrics measured. The control group improved more in the category of lowest and highest percentage for each metric, which was a pattern that was consistent through all three metrics of total questions answered, total questions correct, and questions correct out of questions answered. The individual skill breakdown revealed that both the control and experimental group improved the most at Part 2, or bass clef note identification. Their second most-improved skill was seen in Part 1, which covered treble clef note identification.

The fifth-grade experimental group demonstrated the most significant improvement, besting the control group in every metric and category, with the exception of two “highest percentage” categories due to the maximum percentage possible being 100%. Similarly, the

experimental group students also scored higher in every metric and category on the FCA. This was further demonstrated in the skill-based breakdown with the experimental group improving most in Part 1, 3, 4, 5, and 6, while the control group only improved more in Part 2. The skill comparison revealed that both groups increased their average scores the most on Part 2, which was devoted to bass clef note identification. However, unlike the third and fourth-grade groups which had a second-highest score in another note identification category, composition was the second most-improved skill by fifth-grade students.

Students who were part of the experimental group in all three grade levels demonstrated the highest level of mastery in all but two instances, including lowest percentage of total questions answered (third grade, 30.68%), and lowest percentage of total questions correct (fourth grade, 13.64%). Although the third and fourth-grade control groups showed a greater level of improvement from the BA to the FCA, the fifth-grade control group was not able to replicate this result. Ultimately, utilizing practices of English Language Acquisition and Application proved to be more effective in improving the music literacy abilities of elementary students in grades three through five, as students taught with this method came the closest to mastery, with one fifth-grade experimental group student even achieving total mastery of the skills taught by scoring 100% on the FCA. In terms of skills that showed the most improvement, note identification, and specifically bass clef note identification, had the highest increase in average score. While composition was the second most-improved skill among fifth-grade students, it was the third among fourth-grade students, fourth among third-grade experimental group students, and sixth among third-grade control group students.

Chapter Five: Discussion and Recommendations

Overview

This applied study was designed to determine if modeling music literacy acquisition and application (MLAA) after English literacy acquisition and application (ELAA) would impact the music literacy abilities of elementary students. This study also sought to determine which aspects of MLAA showed the most significant level of improvement.

Expected Limitations

As with any study, there were a number of expected limitations. Due to the nature of an applied study that was focused on elementary students, the number of expected limitations were high. One limitation was gathering permission to collect student data. Since the children were in grades three through five, use of their assessment scores was dependent on parental consent and student assent. Forms were physically printed and sent home with each student, but even with additional contact with parents and guardians via provided email addresses, not all of the parental consent forms were returned, regardless of whether the parent gave consent, or intended to give consent for data to be used or not.

Another expected limitation was student attendance. Based on the available data from the 2023-2024 school year, the researcher's elementary school was documented as having approximately 612 students enrolled, with a chronic absenteeism rate (students who miss 10% or more of scheduled school days) of 15.03%.¹ Conducting a study using about half of the student population could result in potentially forty-six children missing school on a daily basis.

In addition to the challenge of absences, music was one of five resource classes offered on a weekly basis, with each of these courses only accounting for 45 minutes of the school day.

¹ "Jordan Springs Elementary School Quality Profile," School Quality Profiles, Virginia Department of Education, accessed March 30, 2025, <https://schoolquality.virginia.gov/schools/jordan-springs-elementary>.

Students officially started each school day at 9:00am and ended at 3:30pm, which equates to 1,950 minutes of instructional time for students who attend school all five weekdays. At a maximum, students were present in music class 2.3% of the time they were in school each week. Coupled with the chronic absenteeism rate, this could have significantly limited the number of students who completed the Baseline, Unit 1, Unit 2, and Final Cumulative assessments, and received all six weeks of music literacy instruction.

Another time-related limitation was the six-week term of the study. Music literacy only covers a portion of the required curriculum and standards for elementary general music education in Virginia, so other time during the year was allotted to address these additional skills, leaving only six weeks to dedicate solely to music literacy. This time constraint also created limits on the sheer amount of music literacy content that could be addressed, which prompted the research to opt for the most necessary information that would take students from no literacy to being able to sing and play with some semblance of tonal and rhythmic accuracy. Additionally, activities were limited to using only the materials that were available to the researcher.

Unexpected Limitations

The most prominent unexpected limitation was the institutional bias that the researcher faced when approaching music literacy through the use of written activities and assessments. The general consensus at the researcher's school was that "resource" classes, such as music, art, library, and physical education, are not as important as the core subjects of math, language arts, social studies, and science. Upon receiving each assessment, students were confused at the requirement of written work, despite the use of similar assessments in previous music classes during the researcher's tenure at the school.

Discussion

Levels of Mastery

Although the experimental group in each grade level demonstrated the highest level of aptitude in terms of applying the acquired music literacy skills in an assessment setting, the degree of mastery still differed by grade level. The researcher utilized activities for both groups that would aid in the acquisition and application of music literacy skills, therefore following the theoretical framework of Bloom's Taxonomy.² In order to align the practices of music literacy acquisition and application (MLAA) and English literacy acquisition and application (ELAA), the researcher categorized the steps of "remember" and "understand" as acquisition, and "apply," "analyze," "evaluate," and "create," as application.³ The researcher also utilized the school division's current grading scale for elementary students to determine each group's level of mastery in accordance with the school division which they are a part of.⁴

Results of this applied research study showed that members of the third-grade control group averaged 26.08% accuracy on the Final Cumulative Assessment (FCA), which equated to a letter grade of "N" (needs improvement) based on the grading scaled used by the researcher's school division.⁵ In terms of skill development, Table 28 showed that control group students also averaged an "S" (satisfactory) for the skills of treble clef note identification and bass clef note identification, and an "N" for grand staff note identification, treble and bass clef notation, rhythm identification, and composition on the FCA. Such grades indicate that third-grade control group

² "What Is Bloom's Taxonomy?" Bloom's Taxonomy, accessed June 8, 2024, <https://bloomstaxonomy.net/>.

³ Ibid.

⁴ "O, S, N Scale," Report Cards, Frederick County Public Schools, accessed July 13, 2025, <https://www.frederickcountyschoolsva.net/learning/report-cards>.

⁵ Ibid.

students were capable of the acquisition phases of remembering and understanding, but still struggled with the application phase, which included higher-level skills like evaluating and creating.

The experimental group also earned an overall grade of “N” on the FCA, as the group’s average percentage of total questions correct was 30.36%. Although this was a higher average than the control group, members of the experimental group only managed a grade of “S” for treble clef note identification, receiving an “N” for the other five skills addressed by the FCA, as shown in Table 28. Similarly, the experimental group also struggled to move past the acquisition phase of MLAA. Both third-grade groups were still primarily in the development stage of learning music literacy, aligning with the “emergent” phase of literacy often associated with young children learning to pronounce letters and understand the basic functions of the alphabet, also referred to as “grapheme-phoneme correspondence.”⁶ Considering the emergent literacy phase is supposed to occur before a child enters school, there was a misalignment of skills, and the third-grade students in this applied research study were much further behind in MLAA compared to ELAA. This occurrence also corroborated Kluck’s sentiment that students begin their music education at a detriment when music educators neglect the inherent connection between learning music and learning a language from an early age.⁷

The fourth-grade control group averaged 37.01% correct on total questions on the FCA, earning them an overall grade of “N.” Similar to the third-grade control group, Table 29 revealed that students received an “S” for both treble clef note identification and bass clef note

⁶ Dima Safi, Pascal Lefebvre, and Marie Nader, “Literacy Acquisition: Reading Development,” *Handbook of Clinical Neurology* 173 (2020): 187, <https://doi.org/10.1016/b978-0-444-64150-2.00017-4>.

⁷ Adam Kluck, “The Music Literacy Conundrum,” *The Choral Journal* 61, no. 2 (2020): 56, <https://www.jstor.org/stable/27034944>.

identification, while receiving an “N” for the remaining four skill sets. Members of the fourth-grade experimental group fared slightly better, with an overall average of 42.85% on the FCA, which still equated to a grade of “N.” However, Table 29 showed that experimental group students earned an average grade of “O” (outstanding) for treble clef note identification, an “S” for bass clef note identification, and an “N” for the other skills assessed. Even with an overall grade of “N”, indicating that both fourth-grade groups were still developing their music literacy abilities, the experimental group actually demonstrated mastery on one of the skills.

FCA scores of the fourth-grade control group indicate that the students are likely still in the “emergent” phase of music literacy, as they achieved a satisfactory grade on only two out of six skill sets being measured. These individuals demonstrated that they were capable of remembering and understanding the basic concepts of music literacy, but like the third-grade students, still struggled to apply the knowledge to more advanced tasks. Due to the instance of mastery that occurred in the fourth-grade experimental group results, students can be more accurately placed in the “early” literacy phase, where they are exploring unfamiliar concepts and connecting previously learned information.⁸ Fourth-grade experimental group members also navigated the application of “constrained skills,” such as the seven-letter musical alphabet, ledger lines, and multiple clefs, with more aptitude than control group students, thus putting them one phase ahead.⁹

Students in the fifth-grade control group answered an average of 42.67% of total questions correctly, which still translated to an “N.” Per Table 30, this group demonstrated mastery in treble clef note identification, earning an “O” for this skill, competency in bass clef

⁸ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 187.

⁹ Catherine E. Snow and Timothy J. Matthews, “Reading and Language in the Early Grades,” *The Future of Children* 26, no. 2 (2016): 58, <http://www.jstor.org/stable/43940581>.

note identification with an “S,” and indicated a need for development with an “N” in the remaining skills. By comparison, the fifth-grade experimental group was the only group to average a grade of “S” with 64.14% of questions answered correctly. Experimental group students achieved an average that also showed mastery of both treble and bass clef note identification skill sets, earning an “O” for each. Additionally, they demonstrated competency and received an “S” in grand staff note identification and rhythm identification, while earning an “N” in treble and bass clef notation and composition.

Both fifth-grade groups achieved the overall highest scores and improvement, which could be expected based on the age group and experience in music. Although the fifth-grade control group was still in the “early” literacy phase, the experimental group was arguably within the “conventional” literacy phase, demonstrating competency in four out of six skill sets and mastery in two out of six skill sets. Members of the experimental group also demonstrated a stronger ability to combine skills to understand and create meaning, which further signified conventional literacy.¹⁰ These students also improved their compositional abilities, second only to bass clef note identification, therefore reaching the stage of application through creativity and analysis. Moreover, the experimental group achieved higher scores in categories that required more abstract thought and allowed for multiple possible answers, otherwise known as “unconstrained skills.”¹¹

Standard of Learning Achievement

For this applied research study, the researcher utilized the Virginia Music Standards of Learning (SOLs) to ensure that expected learning outcomes were achieved within the music

¹⁰ Safi, Lefebvre, and Nader, “Literacy Acquisition: Reading Development,” 189.

¹¹ Snow and Matthews, “Reading and Language in the Early Grades,” 59.

classroom over the six-week study period.¹² The primary music SOLs that the study focused on were 3.1, 4.1, and 5.1 (creative process/composition), and 3.12, 4.12, and 5.12 (music literacy), as these most closely relate to MLAA.¹³ Content created for the experimental group lessons also incorporated key concepts from the Virginia English SOLs to model instruction after ELAA.¹⁴ Parallel skills included FFR.1 (print concepts), FFR.2 (phonemic awareness), RV.1 (vocabulary development and word analysis), W.1 (purposes for writing), and W.2 (organization and composition).¹⁵ Based on the level of mastery achieved by the third-, fourth-, and fifth-grade control groups, students did not meet grade-level music standards of learning, earning an overall grade of “N.” Although the third and fourth-grade experimental groups achieved higher scores than their control group counterparts, they still received an overall grade of “N” and did not meet the grade-level standards. Only the fifth-grade experimental group received a grade of “S,” indicating grade-level achievement of the music standards.

This six-week snapshot of student learning revealed how students acquire and apply music literacy skills, as well as how realistic the expectations for music literacy are, based on the current Virginia Music SOLs. Furthermore, the researcher only addressed the most necessary standards that pertained to music literacy, allowing students the space to focus on reading, writing, and playing or singing music. In an English literacy setting, an overall grade of “N” for a group of students would be detrimental because literacy is so integral to learning as a whole,

¹² “Music- Elementary Standards Progression Chart,” Music, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/2024/637949943111470000>.

¹³ Ibid.

¹⁴ “2024 English Standards of Learning,” English, Reading, and Literacy, Virginia Department of Education, accessed June 8, 2024, <https://www.doe.virginia.gov/home/showpublisheddocument/53643/638499760936600000>.

¹⁵ Ibid.

especially for elementary-aged children. The same can be said for the domain of music.

However, a class with such an insufficient pass rate on an English literacy standardized test would likely be investigated in some capacity to ensure better fidelity when teaching and implementing standards. Without any official standardized music assessment at the elementary level, five out of six classes failing to meet music literacy standards potentially goes unnoticed.

Based on the applied study results, this scenario is problematic because the traditional methodologies used to teach music literacy are not enabling students to achieve some of the most important musical standards. Students who were taught using English literacy practices fared better, but in many instances still did not reach the desired grade-level standards. This raises questions about the alignment and rigor of the Virginia Music SOLs, and whether they are truly developmentally appropriate for students. As Kluck mentions in his article, music and language are linked from birth and continue to be throughout a child's development.¹⁶ If parents, caregivers, and educators were to maintain this connection and form a child's musical abilities accordingly, then perhaps music standards like the VA Music SOLs might be more attainable in the different grade levels to which they are assigned. Kluck argues that for many, the reality of early musical training and intervention does not exist.¹⁷ This was the case for the majority of students involved in the researcher's study.

Recommendations

The following recommendations were developed to guide music educators in providing a more effective and holistic approach to teaching music literacy. The first recommendation pertains to the culture of music programs and how implementing specific pedagogical practices

¹⁶ Kluck, "The Music Literacy Conundrum," 56.

¹⁷ Ibid.

can lead to a higher level of learning over time. Members of the control groups were generally taught using Orff and Kodály-inspired pedagogy, which often employed rote learning and gamified activities that promoted creativity through action. Many of these lessons aligned with student expectations for music class, as well as other resource classes, that are typically viewed as a “break” from general education, contributing to the “institutional bias” cited as an unexpected limitation. Students who were part of the experimental groups participated in activities that were predicated on reading, writing, and audiation, which more closely emulated English literacy lessons. While the researcher initially encountered more opposition to this style of learning, student buy-in and confidence increased throughout the six weeks, as evidenced by their higher average percentage of questions answered and a higher average percentage of questions correct on the Final Cumulative Assessment.

The control group exercises revolved around learning, followed by doing. In contrast, the experimental group exercises frequently incorporated writing to address the “pedagogical asymmetry” between music and language highlighted in Waller’s article. It is evident based on this study that students benefited from the increase in written activities, which required them to compose and diagram their work. Although these types of activities may not initially be considered exciting or engaging, the results indicate that they are especially effective with students in grades three through five. Educators seeking to enhance students’ music literacy abilities should not necessarily abandon activities that are gamified or yield quick results, but instead substitute some of these with ones that require more instances of practical application, particularly in writing and composing. Not only will this begin to shape the expectation that writing is a regular part of acquiring music literacy, but it will also signal to non-music educators

that music is a legitimate area of study that calls upon and enhances many of the skills used in other core subject areas.

The researcher's second recommendation centers on navigating state standards successfully. Approaching standards in education can be daunting, especially when music educators may be at the mercy of policymakers who are not well-versed in the realistic developmental stages of music students. In the case of the Virginia Music SOLs, these standards do not undergo a revision process at the same time as the core subjects, but are revised at the same interval. For instance, the English literacy SOLs were revised in 2010, 2017, and then again in 2024, putting them on a seven-year cycle. Music SOLs were last revised in 2020, which means they are not due for another revision until 2027. Even if they are not adequately serving the needs of students and educators, waiting for the music standards to be updated is not a viable option for music teachers who are obligated to meet grade-level standards from year to year.

Fifth-grade experimental students were the only group in this applied study to average a satisfactory grade on the FCA and meet the music SOLs. This means that the methodology, based on English literacy and utilizing English SOLs, was effective to a greater degree than using solely music-based practices aimed at reaching music standards. Therefore, the researcher recommends implementing more English literacy-based practices into the music classroom, starting at an even earlier stage in a child's musical development. This can take many different forms, such as vocabulary exercises, written drills, opportunities for audiation, and composition exercises. Implementing ELAA practices in the music classroom can also appropriately align the "emergent," "early," and "conventional" literacy phases with those of the English classroom.¹⁸ Aligning music standards with English standards may also bolster both sets of skills, allowing

¹⁸ Safi, Lefebvre, and Nader, "Literacy Acquisition: Reading Development," 187-189.

them to grow in a symbiotic manner, rather than music skills evolving at a much later stage. Teachers can and should continue to use Orff and Kodály-based practices, as well as Dalcroze, Suzuki, and any other method that inspires a love of music in children while teaching them important concepts. According to the study, control group students who learned with these methods also showed improvement, even though their overall mastery was less than that of the experimental group. However, to enable students to transition from exploring music to executing musical performance and creation at a high level, they must acquire the necessary literacy skills. In an effort to start meeting these music literacy standards, ELAA practices should be implemented for students in all elementary grade levels and adjusted accordingly based on their English literacy abilities.

Further recommended research would include utilizing additional texts and resources designed for the English literacy classroom and modifying concepts to fit the music classroom. The researcher was primarily bound to *The Science of Reading* and Houghton Mifflin Harcourt: *Into Reading* for the English literacy aspect of this applied study due to the school division's requirements. However, educators might consider investigating teaching tools and programs used in their school system to create materials and activities that are more consistent with the way literacy is being taught to their students. Additional research may also involve implementing concepts from the mathematics education sector to enhance rhythmic competencies.

Summary

The purpose of this applied research study was to determine if modeling music literacy acquisition and application after English literacy acquisition and application would have an effect on the music literacy abilities of children in third, fourth, and fifth grade. It was determined that ELAA practices were overall more effective at teaching music literacy, and that

music symbol identification and composition skills saw the most improvement over the course of the six-week study. This chapter offered recommendations of increased ELAA practices in the music classroom to improve music literacy abilities in preparation for lifelong music making. Moreover, the researcher suggested earlier implementation of these practices in a child's schooling process to combat the problem of curriculum inconsistencies and standard misalignment between music and English literacy.

Appendix A: Doctoral Thesis Proposal Decision

Doctoral Thesis Proposal Decision

The Thesis Committee Chair and Reader have rendered the following decision concerning the
proposal status for

Madeline A. Lee

on the research topic title of

The Impact of Modeling Music Literacy After English Literacy on Elementary Students'

Music Reading Abilities

as submitted on February 18, 2025

 X

Full Approval to proceed with no proposal revisions.

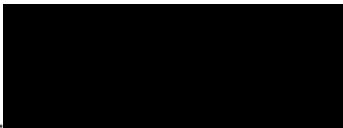
The student may fully engage the research and writing process according to the established timeline. Upon full approval, the student may apply for IRB approval, if applicable (see STEP 4 concerning IRB approval process).

Provisional Approval to proceed with Proposal pending cited revisions.

This is the most common decision. The student must resubmit the Proposal with cited revisions according to the established timeline. The Thesis Committee Chair should indicate the Committee's status on your response to the required revisions. The student may NOT apply for IRB approval until full approval is granted.

Redirection of Proposal

The student is being redirected to develop a new proposal, as minor revisions will not meet the expectations for the thesis. The student may NOT apply for IRB approval.

<u>John Wilkerson</u> Print Name of Thesis Committee Chair	 Signature	<u>3/6/25</u> Date
Michelle Swanson Print Name of Reader	 Signature	3/7/2025 Date

Appendix B: Liberty University IRB Approval Letter

LIBERTY UNIVERSITY

INSTITUTIONAL REVIEW BOARD

March 18, 2025

Madeline Lee
John Wilkerson

Re: IRB Application - IRB-FY24-25-1574 The Impact of Modeling Music Literacy After English Literacy on Elementary Students' Music Reading Abilities

Dear Madeline Lee and John Wilkerson,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds that your study does not meet the definition of human subjects research. This means you may begin your project with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study/project is not considered human subjects research because it will consist of quality improvement activities, which are not "designed to develop or contribute to generalizable knowledge" according to 45 CFR 46. 102(l).

Please note that this decision only applies to your current application. Any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

For a PDF of your IRB letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at [REDACTED]

Sincerely,

G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office

Appendix C: Frederick County Public School Division IRB Approval Letter



Office of Assessment and Accountability

Crystal Nicola

Request to Collect Data for Educational Studies

Name: Madeline Lee School: [REDACTED]Home Address: [REDACTED]Phone: [REDACTED]Current Teaching Assignment or Credentials: Elementary Music (Credentials: K12 Instrumental Music Education)Course and Instructor/Advisor: MUSC 889, Dr. John WilkersonOrganization/University: Liberty University School of MusicTopic of Research: Music Literacy (Title: The Impact of Modeling Music Literacy After English Literacy on Elementary Students' Music Reading Abilities)

Reason for Data Collection

Fulfill study requirements of an applied study for the completion of a Doctorate of Music Education degree

Specific Data to be Collected

Assessment scores used to demonstrate student music literacy abilities. Assessments include a baseline assessment, unit 1 assessment, unit 2 assessment, and final cumulative assessment.

Data Will be Collected From:	Students * (Attach required Parental Notification/Permission Form)
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Description of Data Gathering Techniques

Data will be gathered by administering periodic assessments that will determine the level of understanding of music literacy concepts. Students will be taught in a control and experimental group, though both groups will receive the same content instruction. The control group will be instructed using traditional music literacy practices, while the experimental group will be instructed using practices that are modeled after English literacy practices.

Description of Data Use

Data will be used in quantitative comparisons within the context of my doctoral thesis.

Amount of Time Required to Supply Information Six weeks

Computer Hardware/Software Requirements

n/a (SPSS will be used on my personal computer for the purposes of comparing data and making charts, but no software is necessary for the students or the actual data collection.)

Time Frame for Collecting Data Six Weeks

Dissemination/Publication of Data Data will be published in this doctoral thesis through Liberty University. No names will be used, and participating students will be assigned a bland pseudonym of a number.

I understand that data collection from Frederick County Public Schools as described in this request will not be utilized in any manner that will identify Frederick County Public Schools as an organization or its employees, students, or parents as individuals. I further understand that participation by employees, parents, or students of Frederick County Public Schools is optional and at the individual's discretion.

Signature: Madeline A. Lee

Date: 3/16/2025

Attach all relevant documents (class syllabus, project rubric, survey, questionnaire, interview questions, parental notification/permission letters, etc.)
(upload files)

Submit requests and documents to the Office of the Assessment, Reporting and Program Evaluation prior to data collection. Approval must be obtained prior to any data collecting.

Approved

☒

Not Approved

☐

Limitations Under Which Approval is Given

No identifying information may be included in the final report, to include division, teacher, or student names. Please share a copy of your results and/or final report with our office when finished. Best wishes!

Signature: Crystal Nicola

Date: March 27, 2025

Crystal Nicola, Director of Assessment and Accountability
(Typed Name Serves as Signature)

Appendix D: Applied Study Parental Consent Form (English)

Music Literacy Study Parental Consent Form

Title of the Project: The Impact of Modeling Music Literacy After English Literacy on Elementary Students' Music Reading Abilities

Principal Investigator: Madeline A. Lee, Doctoral Candidate, School of Music, Liberty University

Key Information about the Research Study

Your child is invited to participate in a research study. To participate, he or she must be a 3rd, 4th, or 5th grade student at Jordan Springs Elementary School, located in Stephenson, VA. Taking part in this research project is voluntary.

Things you should know:

- The purpose of the study is to compare instructional methods used for teaching music literacy. If you allow your child to participate, he or she will be asked to participate in music literacy instruction and complete a baseline assessment, two unit assessments, and a final cumulative assessment. This will take approximately 6 weeks, with each lesson and assessment being part of your child's regularly scheduled 45-minute music class.
- This music literacy unit is already a part of the music curriculum. However, allowing your child to participate in the study simply means that their assessment data can be used as part of this research. If you do not consent to your child's participation, they will still be completing these lessons and assessments as a normal part of their music education, but their assessment results will not be included in this research.
- Potential direct benefits to subjects may include an increased aptitude in music literacy.
- Taking part in this research project is voluntary. Your child does not have to participate, and he or she can stop at any time.

Please take time to read this entire form and ask questions before deciding whether to allow your child to take part in this research project.

What is the study about and why are we doing it?

The purpose of the study is to determine if using instructional techniques commonly used to teach English literacy will have an impact on a student's music literacy abilities.

What will participants be asked to do in this study?

If you agree to allow your child to be in this study, I will ask him or her to do the following:

1. Pre-Study: Students will be divided into a "control" and "experimental" group. Both groups will receive the instruction on the same content, in the same order. Students in the "control" group will receive instruction using standard music literacy practices, while students in the "experimental" group will receive instruction based on English literacy practice. Students will be divided into groups by classroom teacher.

2. Baseline Assessment: Students will complete a paper and pencil baseline assessment to measure prior knowledge of the following concepts: treble clef, bass clef, and grand staff note names and locations; whole notes, half notes, quarter notes, eighth notes, sixteenth notes, and corresponding rests; 4/4 time, 3/4 time, and 2/4 time, and how these relate to beats and rhythm; and basic composition using standard musical parameters. (20 minutes)
3. Week 1 Music Literacy Lesson: Students will receive instruction on treble clef, the treble clef symbol, note names and locations within the treble clef staff, the range of the pitches of the treble clef, and the symbol of a whole note for notation purposes. (25 minutes)
4. Week 2 Music Literacy Lesson: Students will receive instruction on bass clef symbol, note names and locations within the bass clef staff, the range of pitches within the bass clef, ways to differentiate the treble and bass clef staves, and the grand staff. (30 minutes)
5. Unit 1 Assessment: Students will complete a paper and pencil assessment to measure their ability to identify notes on the treble clef, bass clef, and grand staff, write notes in the correct location on each staff, and compose four measures of music using whole notes. (15 minutes)
6. Week 3 Music Literacy Lesson: Students will receive instruction on notes below the treble clef staff down to the second ledger line, notes above the bass clef staff up to the second ledger line, and whole note, half note, quarter note, and paired eighth note rhythms. (45 minutes)
7. Week 4 Music Literacy Lesson: Students will receive instruction on ledger lines between the treble and bass clef on the grand staff, and whole, half, and quarter rests. (30 minutes)
8. Unit 2 Assessment: Students will complete a paper and pencil assessment to measure their ability to identify and write notes on the treble clef, bass clef, and grand staff to include the ledger lines between staves; identify, write, and count rhythmic figures that utilized whole, half, quarter, and eighth notes and rests; and compose four measures of music using learned notes and rhythms. (15 minutes)
9. Week 5 Music Literacy Lesson: Students will receive instruction on notes above the treble clef staff up to the second ledger line, notes down to the second ledger line below the bass clef staff, grouped sixteenth notes, the concept of a time signature starting with 4/4 time, dotted half notes, and 3/4 time. (45 minutes)
10. Week 6 Music Literacy Lesson: Students will receive instruction on notes on the grand staff ranging from two ledger lines below the bass clef staff to two lines above the treble clef staff, and 2/4 time. (25 minutes)
11. Final Cumulative Assessment: Students will complete a paper and pencil assessment to measure their current knowledge of the following concepts: treble clef, bass clef, and grand staff note names and locations; whole notes, half notes, quarter notes, eighth notes, sixteenth notes, and corresponding rests; 4/4 time, 3/4 time, and 2/4 time, and how these relate to beats and rhythm; and basic composition using standard musical parameters. (20 minutes)

How could participants or others benefit from this study?

The direct benefit participants should expect to receive from taking part in this study is an increased aptitude for music literacy.

Expected benefits to the music education discipline and music education literature include an improved methodology for teaching music literacy at the elementary level, and more available information comparing music literacy instructional methods.

What risks might participants experience from being in this study?

The expected risks from participating in this study are minimal, which means they are equal to the risks your child would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept confidential by replacing names with numbers.
- Hardcopy assessments will be stored in a locked filing cabinet. Digital copies of assessments and other data pertaining to the study will be stored on a password-locked computer, in password-locked PDF files. The researcher will have access to the data. After three years, all electronic records will be deleted and all hardcopy records will be shredded.

Is the researcher in a position of authority over participants, or does the researcher have a financial conflict of interest?

The researcher serves as the music teacher at Jordan Springs Elementary School. This disclosure is made so that you can decide if this relationship will affect your willingness to allow your child to participate. No action will be taken against an individual based on his or her decision to allow his or her child to participate in this study.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to allow your child to participate will not affect your or his or her current or future relations with Liberty University, Frederick County Public Schools, or Jordan Springs Elementary School. If you decide to allow your child to participate, he or she is free to not answer any question or withdraw at any time without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw your child from the study or your child chooses to withdraw, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw him or her or should your child choose to withdraw, data collected from your child will be destroyed immediately and will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Madeline A. Lee. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [REDACTED]. You may also contact the researcher's faculty sponsor, Dr. John Wilkerson, at [REDACTED].

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the IRB. Our physical address is Institutional Review Board, [REDACTED]. [REDACTED] our phone number is [REDACTED] and our email address is [REDACTED].

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

By signing this document, you are agreeing to allow your child to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to allow my child to participate in the study.

Printed Child's/Student's Name

Parent/Guardian's Signature

Date

Appendix E: Applied Study Parental Consent Form (Spanish)

Formulario de Consentimiento de los Padres para el Estudio de Alfabetización Musical

Título del Proyecto: El Impacto De Modelar la Alfabetización Musical Después de la Alfabetización en Inglés en las Habilidades de Lectura Musical de los Estudiantes de Primaria
Investigador principal: Madeline A. Lee, Candidata a Doctorado, Escuela de Música, Liberty University

Información Clave sobre el Estudio de Investigación

Su hijo está invitado a participar en un estudio de investigación. Para participar debe ser un estudiante de 3rd, 4th, o 5th grado en la Escuela Primaria Jordan Springs, ubicada en Stephenson, VA. La participación en este proyecto de investigación es voluntaria.

Cosas que debes saber:

- El propósito del estudio es comparar los métodos de instrucción utilizados para enseñar alfabetización musical. Si permite que su hijo participe, se le pedirá que participe en la instrucción de alfabetización musical y que complete una evaluación inicial, dos evaluaciones de unidad y una evaluación acumulativa final. Esto tomará aproximadamente 6 semanas, y cada lección y evaluación formará parte de la clase de música de 45 minutos programada regularmente para su hijo.
- Esta unidad de alfabetización musical ya forma parte del currículo de música. Sin embargo, permitir que su hijo/a participe en el estudio simplemente significa que los datos de su evaluación pueden utilizarse en esta investigación. Si no autoriza la participación de su hijo/a, este/a seguirá completando estas lecciones y evaluaciones como parte normal de su educación musical, pero los resultados de sus evaluaciones no se incluirán en esta investigación.
- Los posibles beneficios directos para los sujetos pueden incluir una mayor aptitud en la alfabetización musical.
- La participación en este proyecto de investigación es voluntaria. Su hijo no tiene que participar y puede dejar de hacerlo en cualquier momento.

Por favor, tómese el tiempo para leer este formulario completo y hacer preguntas antes de decidir si permitirá que su hijo participe en este proyecto de investigación.

¿De qué se trata el estudio y por qué lo hacemos?

El propósito del estudio es determinar si el uso de técnicas de instrucción comúnmente utilizadas para enseñar alfabetización en inglés tendrá un impacto en las habilidades de alfabetización musical de un estudiante.

¿Qué se les pedirá a los participantes que hagan en este estudio?

Si acepta permitir que su hijo participe en este estudio, le pediré que haga lo siguiente:

1. Estudio previo: los estudiantes se dividirán en un grupo de "control" y un grupo "experimental". Ambos grupos recibirán la instrucción sobre el mismo contenido, en el

- mismo orden. Los estudiantes del grupo "control" recibirán instrucción utilizando prácticas estándar de alfabetización musical, mientras que los estudiantes del grupo "experimental" recibirán instrucción basada en la práctica de alfabetización musical en inglés. Los estudiantes serán divididos en grupos por el maestro del salón de clases.
2. Evaluación inicial: Los estudiantes completarán una evaluación inicial en papel y lápiz para medir el conocimiento previo de los siguientes conceptos: clave de sol, clave de fa y nombres y ubicaciones de las notas del pentagrama; notas completas, notas mitas, notas cuartas, corcheas, semicorcheas y silencios correspondientes; 4/4 de tiempo, 3/4 de tiempo y 2/4 de tiempo, y cómo se relacionan con los tiempos y el ritmo; y composición básica utilizando parámetros musicales estándar. (20 minutos)
 3. Lección de alfabetización musical de la semana 1: los estudiantes recibirán instrucción sobre la clave de sol, el símbolo de la clave de sol, los nombres de las notas y las ubicaciones dentro del pentagrama de la clave de sol, el rango de tonos de la clave de sol y el símbolo de una nota completa para fines de notación. (25 minutos)
 4. Lección de alfabetización musical de la semana 2: Los estudiantes recibirán instrucción sobre el símbolo de la clave de fa, los nombres de las notas y su ubicación dentro del pentagrama, el rango de tonos dentro de la clave de fa, las formas de diferenciar los pentagramas de clave de sol y de fa, y el pentagrama grande. (30 minutos)
 5. Evaluación de la Unidad 1: Los estudiantes completarán una evaluación con lápiz y papel para medir su capacidad para identificar notas en la clave de sol, la clave de fa y el pentagrama, escribir notas en la ubicación correcta de cada pentagrama y componer cuatro compases de música usando notas enteras. (15 minutos)
 6. Lección de alfabetización musical de la semana 3: los estudiantes recibirán instrucción sobre las notas debajo del pentagrama de clave de sol hasta la segunda línea del libro mayor, las notas por encima del pentagrama de clave de fa hasta la segunda línea del libro mayor, y ritmos de notas completas, notas mitas, cuartas y corcheas emparejadas. (45 minutos)
 7. Lección de alfabetización musical de la semana 4: Los estudiantes recibirán instrucción sobre las líneas del libro mayor entre la clave de sol y de fa en el pentagrama, y los silencios enteros, medios, cuartos y octavos. (30 minutos)
 8. Evaluación de la Unidad 2: Los estudiantes completarán una evaluación con lápiz y papel para medir su capacidad para identificar y escribir notas en la clave de sol, la clave de fa y el pentagrama para incluir las líneas del libro mayor entre los pentagramas; identificar, escribir y contar figuras rítmicas que utilizan notas enteras, medias, cuartas y corcheas y silencios; y componer cuatro compases de música utilizando notas y ritmos aprendidos.
 9. Lección de alfabetización musical de la semana 5: Los estudiantes recibirán instrucción sobre las notas por encima del pentagrama de clave de sol hasta la segunda línea del libro mayor, notas hasta la segunda línea del libro mayor debajo del pentagrama de clave de fa semi corcheas agrupadas, el concepto de compás que comienza con el compás de 4/4, medias notas con puntillo y compás de 3/4. (45 minutos)
 10. Lección de alfabetización musical de la semana 6: los estudiantes recibirán instrucción sobre las notas del gran pentagrama que van desde dos líneas del libro mayor debajo del pentagrama de la clave de fa hasta dos líneas por encima del pentagrama de la clave de sol, cuartas con puntillo combinadas con una sola octava y compás de 2/4. (25 minutos)
 11. Evaluación acumulativa final: los estudiantes completarán una evaluación en papel y lápiz para medir su conocimiento actual de los siguientes conceptos: clave de sol, clave

de fa y nombres y ubicaciones de las notas del pentagrama; notas enteras, blancas, cuartas, corcheas, semicorcheas y silencios correspondientes; 4/4 de tiempo, 3/4 de tiempo y 2/4 de tiempo, y cómo se relacionan con los tiempos y el ritmo; y composición básica utilizando parámetros musicales estándar. (20 minutos)

¿Cómo podrían los participantes u otras personas beneficiarse de este estudio?

El beneficio directo que los participantes deberían esperar recibir al participar en este estudio es una mayor aptitud para la alfabetización musical.

Los beneficios esperados para la disciplina de educación musical y la literatura sobre educación musical incluyen una metodología mejorada para enseñar alfabetización musical en el nivel elemental y más información disponible que compare los métodos de instrucción de alfabetización musical.

¿Qué riesgos podrían experimentar los participantes al participar en este estudio?

Los riesgos esperados al participar en este estudio son mínimos, lo que significa que son iguales a los riesgos que su hijo enfrentaría en la vida cotidiana.

¿Cómo será? ¿Se protegerá la información personal?

Los registros de este estudio se mantendrán privados. Los informes publicados no incluirán ninguna información que permita identificar un tema. Los registros de investigación se almacenarán de forma segura y sólo el investigador tendrá acceso a los registros.

- Las respuestas de los participantes se mantendrán confidencial reemplazando los nombres con números.
- Las evaluaciones impresas se almacenarán en un archivador cerrado con llave. Las copias digitales de las evaluaciones y otros datos relacionados con el estudio se almacenarán en una computadora bloqueada con contraseña, en archivos PDF bloqueados con contraseña. El investigador tendrá acceso a los datos. Después de tres años, se eliminarán todos los registros electrónicos y se destruirán todos los registros impresos.

¿Está el investigador en una posición de autoridad sobre los participantes o tiene un conflicto de intereses financiero?

El investigador se desempeña como profesor de música en la escuela primaria Jordan Springs. Esta divulgación se realiza para que usted pueda decidir si esta relación afectará su voluntad de permitir que su hijo participe. No se tomarán medidas contra un individuo en función de su decisión de permitir que su hijo participe en este estudio.

¿La participación en el estudio es voluntaria?

La participación en este estudio es voluntaria. Su decisión de permitir que su hijo participe no afectará sus relaciones actuales o futuras con Liberty University, las Escuelas Públicas del Condado de Frederick o la Escuela Primaria Jordan Springs. Si decide permitir que su hijo participe, él o ella es libre de no responder ninguna pregunta o retirarse en cualquier momento sin afectar esas relaciones.

¿Qué se debe hacer si un participante desea retirarse del estudio?

Si decide retirar a su hijo del estudio o si su hijo decide retirarse, comuníquese con el investigador a la dirección de correo electrónico/número de teléfono que se incluye en el siguiente párrafo. Si usted decide retirarlo o si su hijo decide retirarse, los datos recopilados de su hijo se destruirán inmediatamente y no se incluirán en este estudio.

¿Con quién se comunica si tiene preguntas o inquietudes sobre el estudio?

La investigadora que realiza este estudio es Madeline A. Lee. Puedes hacer cualquier pregunta que tengas ahora. Si tienes preguntas más tarde, **estás animado** para contactarla en [REDACTED]. También puede comunicarse con el patrocinador docente del investigador, el Dr. John Wilkerson, en [REDACTED].

¿Con quién se comunica si tiene preguntas sobre los derechos como participante de una investigación?

Si tiene alguna pregunta o inquietud sobre este estudio y le gustaría hablar con alguien que no sea el investigador, **está animado** para contactar al IRB. Nuestra dirección física es Institutional Review Board, [REDACTED]; nuestro número de teléfono es [REDACTED] y nuestra dirección de correo electrónico es [REDACTED].

Descargo de responsabilidad: La Junta de Revisión Institucional (IRB) tiene la tarea de garantizar que la investigación con sujetos humanos se lleve a cabo de manera ética según lo definen y exigen las regulaciones federales. Los temas cubiertos y los puntos de vista expresados o aludidos por estudiantes y profesores investigadores son los de los investigadores y no reflejan necesariamente las políticas o posiciones oficiales de Liberty University.

Su consentimiento

Al firmar este documento, usted acepta permitir que su hijo participe en este estudio. Asegúrese de comprender de qué se trata el estudio antes de firmar. Se le entregará una copia de este documento para sus registros. El investigador conservará una copia con los registros del estudio. Si tiene alguna pregunta sobre el estudio después de firmar este documento, puede comunicarse con el equipo del estudio utilizando la información proporcionada anteriormente.

He leído y comprendido la información anterior. He hecho preguntas y he recibido respuestas. Doy mi consentimiento para permitir que mi hijo participe en el estudio.

Nombre impreso del Niño/Estudiante

Firma del Padre/Tutor

Fecha

Appendix F: Applied Study Minor/Child Assent Form (English)

Music Literacy Study Student (Minor/Child) Assent Form

What is the name of the study and who is doing the study?

The name of the study is “The Impact of Modeling Music Literacy After English Literacy on Elementary Students’ Music Reading Abilities” and the person doing the study is Madeline A. Lee. (Miss Lee)

Why is Madeline A. Lee (Miss Lee) doing this study?

Madeline A. Lee (Miss Lee) wants to know the best way to teach children to read and write music.

Why am I being asked to be in this study?

You are being asked to be in this study because you are a 3rd, 4th, or 5th grade student at Jordan Springs Elementary School.

If I decide to be in the study, what will happen and how long will it take?

If you decide to be in this study, you will participate in the following:

1. Pre-Study: Students will be divided into a “control” and “experimental” group. Both groups will receive the instruction on the same content, in the same order. Students in the “control” group will receive instruction using standard music literacy practices, while students in the “experimental” group will receive instruction based on English literacy practice. Students will be divided into groups by classroom teacher.
2. Baseline Assessment: Students will complete a paper and pencil baseline assessment to measure prior knowledge of the following concepts: treble clef, bass clef, and grand staff note names and locations; whole notes, half notes, quarter notes, eighth notes, sixteenth notes, and corresponding rests; 4/4 time, 3/4 time, and 2/4 time, and how these relate to beats and rhythm; and basic composition using standard musical parameters. (20 minutes)
3. Week 1 Music Literacy Lesson: Students will receive instruction on treble clef, the treble clef symbol, note names and locations within the treble clef staff, the range of the pitches of the treble clef, and the symbol of a whole note for notation purposes. (25 minutes)
4. Week 2 Music Literacy Lesson: Students will receive instruction on bass clef symbol, note names and locations within the bass clef staff, the range of pitches within the bass clef, ways to differentiate the treble and bass clef staves, and the grand staff. (30 minutes)
5. Unit 1 Assessment: Students will complete a paper and pencil assessment to measure their ability to identify notes on the treble clef, bass clef, and grand staff, write notes in the correct location on each staff, and compose four measures of music using whole notes. (15 minutes)
6. Week 3 Music Literacy Lesson: Students will receive instruction on notes below the treble clef staff down to the second ledger line, notes above the bass clef staff up to the second ledger line, and whole note, half note, quarter note, and paired eighth note rhythms. (45 minutes)
7. Week 4 Music Literacy Lesson: Students will receive instruction on ledger lines between the treble and bass clef on the grand staff, and whole, half, and quarter rests. (30 minutes)
8. Unit 2 Assessment: Students will complete a paper and pencil assessment to measure their ability to identify and write notes on the treble clef, bass clef, and grand staff to include the ledger lines between staves; identify, write, and count rhythmic figures that

- utilized whole, half, quarter, and eighth notes and rests; and compose four measures of music using learned notes and rhythms. (15 minutes)
9. Week 5 Music Literacy Lesson: Students will receive instruction on notes above the treble clef staff up to the second ledger line, notes down to the second ledger line below the bass clef staff, grouped sixteenth notes, the concept of a time signature starting with 4/4 time, dotted half notes, and 3/4 time. (45 minutes)
 10. Week 6 Music Literacy Lesson: Students will receive instruction on notes on the grand staff ranging from two ledger lines below the bass clef staff to two lines above the treble clef staff, and 2/4 time. (25 minutes)
 11. Final Cumulative Assessment: Students will complete a paper and pencil assessment to measure their current knowledge of the following concepts: treble clef, bass clef, and grand staff note names and locations; whole notes, half notes, quarter notes, eighth notes, sixteenth notes, and corresponding rests; 4/4 time, 3/4 time, and 2/4 time, and how these relate to beats and rhythm; and basic composition using standard musical parameters. (20 minutes)

Do I have to be in this study?

No, you do not have to be in this study. If you want to be in this study, then tell Madeline A. Lee (Miss Lee). If you don't want to, it's OK to say no. Madeline A. Lee (Miss Lee) will not be angry. You can say yes now and change your mind later. It's up to you.

What if I have a question?

You can ask questions any time. You can ask now. You can ask later. You can talk to the researcher. If you do not understand something, please ask the researcher to explain it to you again.

Signing your name below means that you want to be in the study.

Signature of Child/Witness

Date

Madeline A. Lee

Dr. John Wilkerson

Liberty University Institutional Review Board

Appendix G: Applied Study Minor/Child Assent Form (Spanish)

Formulario de Consentimiento para Estudiantes (Menores/Niños) del Estudio de Alfabetización Musical

¿Cuál es el nombre del estudio y quién lo realiza?

El nombre del estudio es “El Impacto de Modelar la Alfabetización Musical Después de la Alfabetización en Inglés en las Habilidades de Lectura Musical de los Estudiantes de Primaria” y la persona que realiza el estudio es Madeline A. Lee. (Miss Lee)

¿Por qué Madeline A. Lee (Miss Lee) está haciendo este estudio?

Madeline A. Lee (Miss Lee) quiere saber cuál es la mejor manera de enseñar a los niños a leer música.

¿Por qué me piden que participe en este estudio?

Se le pide que participe en este estudio porque es un 3rd, 4th, o 5th estudiante de grado en la Escuela Primaria Jordan Springs.

Si decido participar en el estudio, ¿qué pasará y cuánto tiempo llevará?

Si decide participar en este estudio, participará en lo siguiente:

1. Estudio previo: los estudiantes se dividirán en un grupo de "control" y un grupo "experimental". Ambos grupos recibirán la instrucción sobre el mismo contenido, en el mismo orden. Los estudiantes del grupo "control" recibirán instrucción utilizando prácticas estándar de alfabetización musical, mientras que los estudiantes del grupo "experimental" recibirán instrucción basada en la práctica de alfabetización musical en inglés. Los estudiantes serán divididos en grupos por el maestro del salón de clases.
2. Evaluación inicial: Los estudiantes completarán una evaluación inicial en papel y lápiz para medir el conocimiento previo de los siguientes conceptos: clave de sol, clave de fa y nombres y ubicaciones de las notas del pentagrama; notas completas, notas mitas, notas cuartas, corcheas, semicorcheas y silencios correspondientes; 4/4 de tiempo, 3/4 de tiempo y 2/4 de tiempo, y cómo se relacionan con los tiempos y el ritmo; y composición básica utilizando parámetros musicales estándar. (20 minutos)
3. Lección de alfabetización musical de la semana 1: los estudiantes recibirán instrucción sobre la clave de sol, el símbolo de la clave de sol, los nombres de las notas y las ubicaciones dentro del pentagrama de la clave de sol, el rango de tonos de la clave de sol y el símbolo de una nota completa para fines de notación. (25 minutos)
4. Lección de alfabetización musical de la semana 2: Los estudiantes recibirán instrucción sobre el símbolo de la clave de fa, los nombres de las notas y su ubicación dentro del pentagrama, el rango de tonos dentro de la clave de fa, las formas de diferenciar los pentagramas de clave de sol y de fa, y el pentagrama grande. (30 minutos)
5. Evaluación de la Unidad 1: Los estudiantes completarán una evaluación con lápiz y papel para medir su capacidad para identificar notas en la clave de sol, la clave de fa y el pentagrama, escribir notas en la ubicación correcta de cada pentagrama y componer cuatro compases de música usando notas enteras. (15 minutos)
6. Lección de alfabetización musical de la semana 3: los estudiantes recibirán instrucción sobre las notas debajo del pentagrama de clave de sol hasta la segunda línea del libro mayor, las notas por encima del pentagrama de clave de fa hasta la segunda línea del libro mayor, y ritmos de notas completas, notas mitas, cuartas y corcheas emparejadas. (45 minutos)
7. Lección de alfabetización musical de la semana 4: Los estudiantes recibirán instrucción sobre las líneas del libro mayor entre la clave de sol y de fa en el pentagrama, y los silencios enteros, medios, cuartos y octavos. (30 minutos)

8. Evaluación de la Unidad 2: Los estudiantes completarán una evaluación con lápiz y papel para medir su capacidad para identificar y escribir notas en la clave de sol, la clave de fa y el pentagrama para incluir las líneas del libro mayor entre los pentagramas; identificar, escribir y contar figuras rítmicas que utilizan notas enteras, medias, cuartas y corcheas y silencios; y componer cuatro compases de música utilizando notas y ritmos aprendidos.
9. Lección de alfabetización musical de la semana 5: Los estudiantes recibirán instrucción sobre las notas por encima del pentagrama de clave de sol hasta la segunda línea del libro mayor, notas hasta la segunda línea del libro mayor debajo del pentagrama de clave de fa semi corcheas agrupadas, el concepto de compás que comienza con el compás de 4/4, medias notas con puntillo y compás de 3/4. (45 minutos)
10. Lección de alfabetización musical de la semana 6: los estudiantes recibirán instrucción sobre las notas del gran pentagrama que van desde dos líneas del libro mayor debajo del pentagrama de la clave de fa hasta dos líneas por encima del pentagrama de la clave de sol, cuartas con puntillo combinadas con una sola octava y compás de 2/4. . (25 minutos)
11. Evaluación acumulativa final: los estudiantes completarán una evaluación en papel y lápiz para medir su conocimiento actual de los siguientes conceptos: clave de sol, clave de fa y nombres y ubicaciones de las notas del pentagrama; notas enteras, blancas, cuartas, corcheas, semicorcheas y silencios correspondientes; 4/4 de tiempo, 3/4 de tiempo y 2/4 de tiempo, y cómo se relacionan con los tiempos y el ritmo; y composición básica utilizando parámetros musicales estándar. (20 minutos)

¿Tengo que estar en este estudio?

No, no es necesario que esté en este estudio. Si desea participar en este estudio, dígaselo al investigador. Si no quieres, está bien decir que no. El investigador no se enojará. Puedes decir que sí ahora y cambiar de opinión más tarde. Tu decides.

¿Qué pasa si tengo una pregunta?

Puedes hacer preguntas en cualquier momento. Puedes preguntar ahora. Puedes preguntar más tarde. Puedes hablar con el investigador. Si no comprende algo, pídale al investigador que se lo explique nuevamente.

Firmar con su nombre a continuación significa que desea participar en el estudio.

Firma del niño/testigo

Fecha

Madeline Lee

[Redacted Signature]

Dr. John Wilkerson

[Redacted Signature]

Junta de Revisión Institucional de la Universidad Liberty

[Redacted Signature]

Appendix H: Researcher CITI Training Certificate for “Humanities Responsible Conduct of Research”

		Completion Date 19-Jan-2025 Expiration Date 19-Jan-2029 Record ID 67137168
This is to certify that:		
Madeline Lee		
Has completed the following CITI Program course:		
Humanities Responsible Conduct of Research (Curriculum Group)		
Humanities Responsible Conduct of Research (Course Learner Group)		
1 - RCR (Stage)		
Under requirements set by:		
Liberty University		
		Not valid for renewal of certification through CME.
		 Collaborative Institutional Training Initiative 101 NE 3rd Avenue, Suite 320 Fort Lauderdale, FL 33301 US www.citiprogram.org
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Appendix I: Researcher CITI Training Certificate for “Social and Behavioral Research”

		Completion Date 19-Jan-2025 Expiration Date 19-Jan-2028 Record ID 67137166
This is to certify that:		
Madeline Lee		
Has completed the following CITI Program course:		
Social & Behavioral Research - Basic/Refresher (Curriculum Group) Social & Behavioral Researchers (Course Learner Group) 1 - Basic Course (Stage)		
Under requirements set by:		
Liberty University		
		Not valid for renewal of certification through CME.
		 Collaborative Institutional Training Initiative 101 NE 3rd Avenue, Suite 320 Fort Lauderdale, FL 33301 US www.citiprogram.org
Generated on 19-Jan-2025. Verify at www.citiprogram.org/verify/?w0d466f34-cc47-4d79-bd12-8baeefe5c7a2-67137166		

Appendix J: Baseline Assessment

Music Literacy: Baseline Assessment

Name: _____ Class: _____

Miss Lee- Music

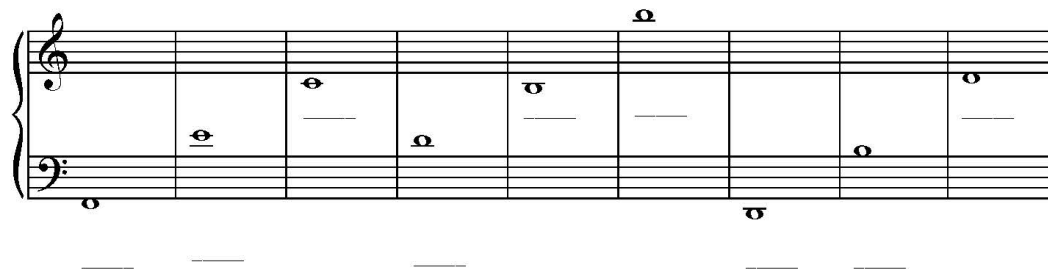
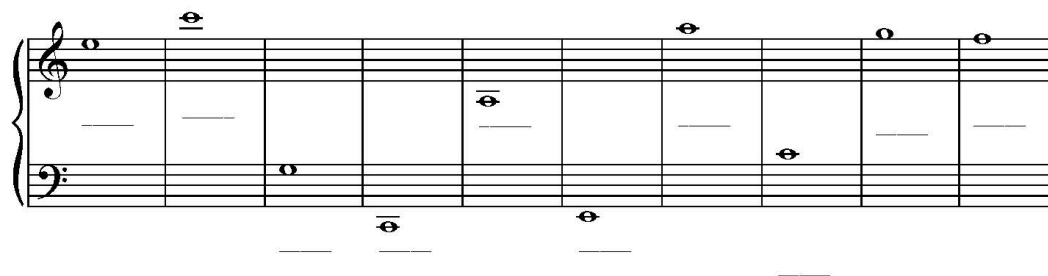
Part 1: Use the space below each measure to provide the letter name for each of the following notes on the treble clef.



Part 2: Use the space below each measure to provide the letter name for each of the following notes on the bass clef.



Part 3: Use the space below each measure to provide the letter name for each of the following notes on the grand staff. Be sure to carefully check each note location.



2

Music Literacy: Baseline Assessment

Part 4: On the treble clef and bass clef staves below, draw a whole note on each line or space that the provided note (letter) can appear, using up to two ledger lines above and below each staff.

B F D G C A E

B F D G C A E

Part 5: Using the provided word bank below, correctly label the musical symbols in each measure.

Whole Note	Whole Rest
Half Note	Half Rest
Quarter Note	Quarter Rest
Paired Eighth Notes	Dotted Half Note
Grouped Sixteenth Notes	

Part 6: Compose (write) 4 measures of music on each line, using the 2/4, 3/4, and 4/4 time signatures. (Remember how many beats can fit into each measure based on the time signature.) You may use notes from two ledger lines below to two ledger lines above each staff. You may also use any combination of rhythms and rests listed in Part 5, but may not have a measure that is "rest-only."

2/4

3/4

4/4

Appendix K: Control Group Week One Lesson Plan

Essential Question(s):

- What is the system used for identifying pitch?
- What is a staff?
- What is a treble clef?
- Why do the note names only use letters A through G?

Essential Vocabulary:

- Staff
- Treble Clef
- Whole Note
- Notation
- Pitch

Students will be able to:

- Recognize a musical staff and know that it has five lines and four spaces
- Identify a treble clef
- Differentiate between lines and spaces on the treble clef
- Identify notes by letter name within the five lines and four spaces of the treble clef

Assessment:

- Baseline Assessment
- Student demonstration- identifying treble clef notes aloud (Formative)

Materials/Resources:

- Whiteboard
- Pencil
- Baseline Assessment Packet
- Dry Erase Marker
- Eraser
- Smartboard
- Piano
- Treble Clef note flashcards
- Pool noodles

Opening (Before):

- Baseline Assessment:
 - Upon entering the music room, students will be given a white board, pencil, and baseline assessment packet.
 - The instructor will go over the directions for each part of the baseline assessment.
 - Students will have an opportunity to clarify any questions before beginning the baseline assessment.
 - Students will have 20 minutes to complete the Baseline Assessment

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.
 - Students will have an opportunity to ask for clarification or repeated instruction on the vocabulary words and definitions.
 - Notation Concepts:
 - Students will be introduced to the “Treble Clef Hand Staff”
 - Students will use their own hands to count the number of lines and spaces on the staff.
 - Students will audiate each letter name as they follow along on their own hands.
 - Students will view the musictheory.net introductory lesson to the staff and clefs.
 - As a class, students use musictheory.net resources to practice naming notes based on their places on the treble clef staff.
 - Students will be instructed on the whole note, as this is the primary note used in the software’s note identification exercises.

Closing (After):

- Application:
 - Note Swat Game:
 - The instructor will divide students evenly into four groups.
 - Each group will receive a different colored pool noodle.
 - The instructor will distribute the treble clef note flashcards on the floor in the middle of the room.
 - Students must “swat” the note being named by the instructor.
 - The first student to “swat” the correct note earns their team a point.
 - Students will rotate within their group who is “up” to use the pool noodle to select the correct flashcard.
 - The group with the most points wins the game.

Appendix L: Experimental Group Week One Lesson Plan

Essential Question(s):

- What is the system used for identifying pitch?
- What is a staff?
- What is a treble clef?
- Why do the note names only use letters A through G?

Essential Vocabulary:

- Staff
- Treble Clef
- Whole Note
- Notation
- Pitch

Students will be able to:

- Recognize a musical staff and know that it has five lines and four spaces
- Identify a treble clef
- Differentiate between lines and spaces on the treble clef
- Identify notes by letter name within the five lines and four spaces of the treble clef

Assessment:

- Baseline Assessment
- Student demonstration- identifying treble clef notes on whiteboards and aloud (Formative)

Materials/Resources:

- Whiteboard
- Pencil
- Baseline Assessment Packet
- Dry Erase Marker
- Smartboard
- Piano

Opening (Before):

- Baseline Assessment:
 - Upon entering the music room, students will be given a white board, pencil, and baseline assessment packet.
 - The instructor will go over the directions for each part of the baseline assessment.
 - Students will have an opportunity to clarify any questions before beginning the baseline assessment.
 - Students will have 20 minutes to complete the Baseline Assessment

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students
 - Students will practice writing each word (5x minimum) to ensure proper understanding, word recognition, and spelling. (repeated exposure)
 - Notation Concepts:
 - The instructor will lead students in the proper notation of whole notes on the lines and spaces of the staff to ensure accuracy.
 - The instructor will demonstrate a diatonic scale of 7 tones with the 8th tone repeating to explain the musical alphabet's use of the only letters A-G.
 - The instructor will demonstrate the 5 lines on the treble clef and their note names.
 - Guided practice for drawing whole notes on the 5 lines and labeling them with the letter name.
 - The instructor will demonstrate the 4 spaces of the treble clef and their note names.
 - Guided practice for drawing whole notes on the spaces and labeling them with the letter name.
 - Guided practice identifying notes on the lines and spaces of the treble clef.
 - Guided practice writing notes on the treble clef based on a given letter name.
 - Composition:
 - Students will compose a melody of 4 measures in the treble clef using whole notes.
 - Students will label the notes of their melodies by letter name.
 - Students will practice saying the names of the notes in the order that they have composed them.

Closing (After):

- Application
 - Audiation:
 - Student volunteers will share their compositions.
 - As a class, all students will practice saying the notes by name, and then audiating the notes on “doo” along with the instructor and a piano/keyboard instrument for pitch accuracy.
 - Conclusion:
 - Students will create their own pneumonic devices for the 5 lines (EGBDF) and 4 spaces (FACE) of the treble clef staff.
 - Student volunteers will share their ideas.
 - Students will vote on their favorite pneumonic device.

Appendix M: Control Group Week Two Lesson Plan

Essential Question(s):

- What is a bass clef?
- How is the bass clef different from the treble clef?
- Why do we need the bass clef?
- What is a grand staff?
- How does it combine the treble and bass clef?
- Why do we use the grand staff?
- What instruments use the grand staff?

Essential Vocabulary:

- Staff
- Treble Clef
- Bass Clef
- Grand Staff
- Whole Note
- Notation
- Pitch

Students will be able to:

- Recognize a musical staff and know that it has five lines and four spaces
- Identify a bass clef
- Differentiate between treble and bass clef
- Differentiate between lines and spaces on the bass clef
- Identify notes by letter name within the five lines and four spaces of the bass clef
- Recognize a grand staff, understanding that the treble clef is on the top and the bass clef is on the bottom
- Differentiate between treble and bass clef in the context of the grand staff
- Differentiate between lines and spaces on the grand staff
- Identify notes by letter name within the ten lines and eight spaces of the grand staff

Assessment:

- Student demonstration- identifying bass clef notes aloud (Informal)
- Student demonstration- identifying grand staff aloud (Formative)
- Unit 1 Assessment (Summative)

Materials/Resources:

- Smartboard
- Treble Clef Note Flashcards
- Bass Clef Note Flashcards
- Pool Noodles
- Whiteboard
- Pencil

- Smartboard
- Unit 1 Assessment packet

Opening (Before):

- Review:
 - Students will revisit the use of their treble clef hand staff.
 - Students will review treble clef using musictheory.net.
- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.
 - Students will have an opportunity to ask for clarification or repeated instruction on the vocabulary words and definitions.
 - Notation Concepts:
 - Students will be introduced to the “Bass Clef Hand Staff”
 - Students will use their own hands to count the number of lines and spaces on the staff.
 - Students will audiate each letter name as they follow along on their own hands.
 - Students will view the musictheory.net introductory lesson to the staff and clefs.
 - As a class, students use musictheory.net resources to practice naming notes based on their places on the bass clef staff.
 - The instructor will use the filter feature on musictheory.net to mix in notes that are both treble and bass clef to give students practice in differentiating the clefs.
 - Students will discuss the use of the grand staff in the context of music and as it pertains to instruments.
 - Students will practice identifying notes on the grand staff.

Closing (After):

- Application:
 - Note Swat Game:
 - The instructor will divide students evenly into four groups.
 - Each group will receive a different colored pool noodle.
 - The instructor will distribute the bass clef note flashcards on the floor in the middle of the room.
 - Students must “swat” the note being named by the instructor.
 - The first student to “swat” the correct note earns their team a point.
 - Students will rotate within their group who is “up” to use the pool noodle to select the correct flashcard.
 - After a few rounds, the instructor will add the treble clef note flashcards into the middle of the room to give students the opportunity to differentiate between clefs.
 - Unit 1 Assessment

- After instruction, students will receive the Unit 1 Assessment packet
- Students will have the opportunity to receive clarification on instructions before beginning.
- Students will have 15 minutes to complete the Unit 1 Assessment.

Appendix N: Experimental Group Week Two Lesson Plan

Essential Question(s):

- What is a bass clef?
- How is the bass clef different from the treble clef?
- Why do we need the bass clef?
- What is a grand staff?
- How does it combine the treble and bass clef?
- Why do we use the grand staff?
- What instruments use the grand staff?

Essential Vocabulary:

- Staff
- Treble Clef
- Bass Clef
- Grand Staff
- Whole Note
- Notation
- Pitch

Students will be able to:

- Recognize a musical staff and know that it has five lines and four spaces
- Identify a bass clef
- Differentiate between lines and spaces on the bass clef
- Differentiate between treble and bass clef
- Identify notes by letter name within the five lines and four spaces of the bass clef
- Recognize a grand staff, understanding that the treble clef is on the top and the bass clef is on the bottom
- Differentiate between treble and bass clef in the context of the grand staff
- Differentiate between lines and spaces on the grand staff
- Identify notes by letter name within the ten lines and eight spaces of the grand staff

Assessment:

- Student demonstration- identifying bass clef notes on whiteboards and aloud (Informal)
- Student demonstration- identifying grand staff notes on whiteboards and aloud (Formative)
- Unit 1 Assessment (Summative)

Materials/Resources:

- Whiteboard
- Dry Erase Marker
- Eraser
- Smartboard
- Piano

- Xylophones
- Pencil
- Unit 1 Assessment packet

Opening (Before):

- Review:
 - Review vocabulary of staff, treble clef, whole note, notation, and pitch.
 - Practice drawing the treble clef.
 - Review the letter names of the five lines of the treble clef.
 - Review the letter names of the four spaces of the treble clef.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students
 - Students will practice writing each word (5x minimum) to ensure proper understanding, word recognition, and spelling. (repeated exposure)
 - Notation Concepts:
 - The instructor will review proper notation of whole notes on the lines and spaces of the staff to ensure accuracy.
 - The instructor will demonstrate the 5 lines on the bass clef and their note names.
 - Guided practice for drawing whole notes on the 5 lines and labeling them with the letter name.
 - The instructor will demonstrate the 4 spaces of the bass clef and their note names.
 - Guided practice for drawing whole notes on the spaces and labeling them with the letter name.
 - Guided practice identifying notes on the lines and spaces of the bass clef.
 - Guided practice writing notes on the bass clef based on a given letter name.
 - The instructor will review proper notation of whole notes on the lines and spaces of the grand staff to ensure accuracy.
 - Guided practice identifying notes on the lines and spaces of the grand staff.
 - Guided practice writing notes on the grand staff based on a given letter name.
 - Composition:
 - The instructor will review expectations for using xylophones.
 - Students will compose a melody of 4 measures in the bass clef using whole notes.
 - Students will label the notes of their melodies by letter name.
 - Students will practice saying the names of the notes in the order that they have composed them.

- Upon completion, students will get together with a partner and they will perform each other's compositions on the xylophones.

Closing (After):

- Application
 - Audiation:
 - Student volunteers will share their compositions.
 - As a class, all students will practice saying the notes by name, and then audiating the notes using the bass xylophones along with the instructor and a piano/keyboard instrument for pitch accuracy.
 - Students will create their own pneumonic devices for the 5 lines (GBDFA) and 4 spaces (ACEG) of the bass clef staff.
 - Student volunteers will share their ideas.
 - Students will vote on their favorite pneumonic device
 - Unit 1 Assessment
 - After instruction, students will receive the Unit 1 Assessment packet
 - Students will have the opportunity to receive clarification on instructions before beginning.
 - Students will have 15 minutes to complete the Unit 1 Assessment.

Appendix O: Unit 1 Assessment

Music Literacy: Unit 1 Assessment

Name: _____ Class: _____

Miss Lee- Music

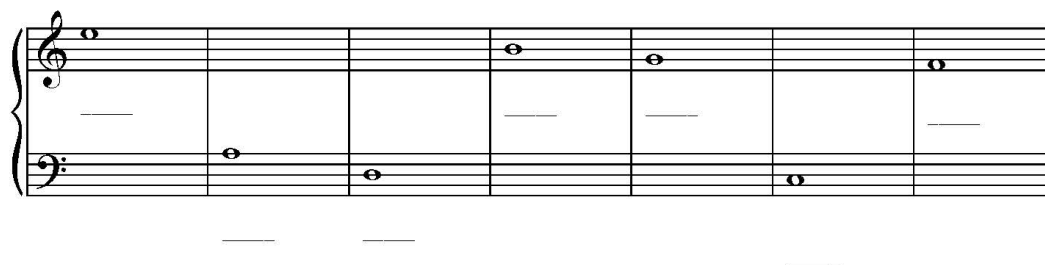
Part 1: Use the space below each measure to provide the letter name for each of the following notes on the treble clef.



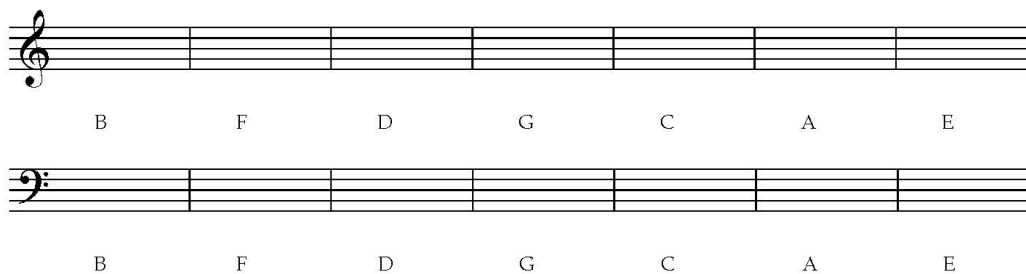
Part 2: Use the space below each measure to provide the letter name for each of the following notes on the bass clef.



Part 3: Use the space below each measure to provide the letter name for each of the following notes on the grand staff. Be sure to carefully check each note location.

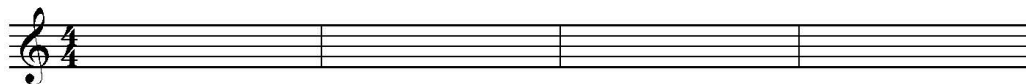


Part 4: On the treble clef and bass clef staves below, draw a whole note on each line or space that the provided note (letter) can appear. Only use notes within the treble and bass clef staves.



Two musical staves are provided for Part 4. The top staff is a treble clef staff with seven measures. Below each measure is a letter: B, F, D, G, C, A, E. The bottom staff is a bass clef staff with seven measures. Below each measure is a letter: B, F, D, G, C, A, E.

Part 5: Compose (write) 4 measures of music on the treble clef staff below, using the 4/4 time signature. (Remember how many beats can fit into each measure based on the time signature.) You may use notes within the lines and spaces of the staff. You may only use whole notes as rhythms.



A single treble clef staff is provided for Part 5. The staff has a 4/4 time signature and is divided into four measures. The staff is empty, ready for composition.

Appendix P: Control Group Week Three Lesson Plan

Essential Question(s):

- What are ledger lines?
- How do ledger lines extend the staff?
- How do we measure note duration?
- How do we maintain a steady beat?
- How do we differentiate sound from silence in music?

Essential Vocabulary:

- Ledger Line
- Whole Note
- Half Note
- Stem
- Notehead
- Quarter Note
- Paired Eighth Notes
- Beam
- Notehead
- Beat
- Pulse
- Tempo

Students will be able to:

- Identify notes up to two ledger lines below the treble clef staff
- Identify notes up to two ledger lines above the bass clef staff
- Identify a whole note, a half note, a quarter note, and paired eighth notes.
- Differentiate between whole notes, half notes, quarter notes, and paired eighth notes.

Assessment:

- Student demonstration- identifying treble and bass clef notes aloud (Formative)
- Student demonstration- identifying and counting rhythms aloud.

Materials/Resources:

- Chart Paper
- Markers
- Staff Paper
- Pencils
- Rhythm Sticks
- Smartboard

Opening (Before):

- Review:
 - Students will review notes on the treble clef, and bass clef, as well as the musical alphabet.

- Students will review whole notes as a notation symbol and the proper placement on the lines or in the spaces to ensure legibility and clarity.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.
 - Students will have an opportunity to ask for clarification or repeated instruction on the vocabulary words and definitions.
 - Notation Concepts:
 - Students will be introduced to the concept of ledger lines by extending the treble clef down to the second ledger line below (A3).
 - As a class, students will use musictheory.net to practice identifying notes within this range, expanding to include notes on the treble clef staff as well.
 - Students will be introduced to the concept of ledger lines by extending the bass clef up to the second ledger line above (E4).
 - As a class, students will use musictheory.net to practice identifying notes within this range, expanding to include notes on the bass clef staff as well.
 - Students will be introduced to the whole note as a four-beat rhythm, using Orff concepts to match words that can be spoken or extended over the course of four beats.
 - Students will repeat this step with half notes, and be introduced to the stem as a means to change a whole note to a half note.
 - Students will be introduced to the quarter note, using Kodály syllables to represent to quarter note sound and duration.
 - Students will repeat this step with eighth notes, and be introduced to the beam as a means to indicate eighth notes.
 - Students will practice these concepts as a group, working together to maintain a steady pulse at an appropriate tempo.

Closing (After):

- Application:
 - Group Brainstorm:
 - Students will be divided into groups.
 - Students will come up with as many words to use for whole and half notes as possible.
 - Students will write their ideas on the chart paper.
 - Students will compare how many words each group shared and discuss which words they feel best represents whole notes and half notes.
 - Class Practice:
 - Students will be given staff paper.
 - Students will write one measure of music using combination of quarter and eighth notes.
 - Underneath each rhythm, students will write the Kodály syllables to represent the quarter and eighth notes.

- The instructor will allow student volunteers to share their measure of music and the class will perform each excerpt using rhythm sticks and speaking the syllables aloud.

Appendix Q: Experimental Group Week Three Lesson Plan

Essential Question(s):

- What are ledger lines?
- How do ledger lines extend the staff?
- How do we measure note duration?
- How do we maintain a steady beat?
- How do we differentiate sound from silence in music?

Essential Vocabulary:

- Ledger Line
- Whole Note
- Half Note
- Stem
- Notehead
- Quarter Note
- Paired Eighth Notes
- Beam
- Notehead
- Beat
- Pulse
- Tempo

Students will be able to:

- Identify notes up to two ledger lines below the treble clef staff
- Identify notes up to two ledger lines above the bass clef staff
- Identify a whole note, a half note, a quarter note, and paired eighth notes.
- Differentiate between whole notes, half notes, quarter notes, and paired eighth notes.

Assessment:

- Student demonstration- identifying treble and bass clef notes aloud (Formative)
- Student demonstration- identifying and counting rhythms aloud.

Materials/Resources:

- Whiteboards
- Dry Erase Markers
- Erasers
- Staff Paper
- Pencils
- Rhythm Sticks
- Smartboard

Opening (Before):

- Review:
 - Students will review notes on the treble clef, and bass clef, as well as the musical alphabet.
 - Students will review whole notes as a notation symbol and the proper placement on the lines or in the spaces to ensure legibility and clarity.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.
 - Students will practice writing each word (5x minimum) to ensure proper understanding, word recognition, and spelling. (repeated exposure)
 - Notation Concepts:
 - Students will be introduced to the concept of ledger lines by extending the treble clef down to the second ledger line below (A3).
 - As a class, students will use whiteboards to practice drawing the ledger lines below the treble clef staff and placing the notes on those lines or in those spaces.
 - Students will audiate each letter name and pitch as they follow along.
 - Students will be introduced to the concept of ledger lines by extending the bass clef up to the second ledger line above (E4).
 - As a class, students will use whiteboards to practice drawing the ledger lines above the bass clef staff and placing the notes on those lines or in those spaces.
 - Students will audiate each letter name and pitch as they follow along.
 - Students will be introduced to the whole note as a four-beat rhythm, using a number system.
 - Students will repeat this step with half notes, and be introduced to the stem as a means to change a whole note to a half note.
 - The instructor will write a measure of music at a time and demonstrate diagramming rhythms using the number system. Students will copy this.
 - The instructor will write down up to four measures of music at a time, prompting students to diagram the rhythms on their own.
 - Students will be introduced to the quarter note, using a number system.
 - Students will repeat this step with paired eighth notes, and be introduced to the beam as a means to indicate eighth notes.
 - The instructor will write a measure of music at a time and demonstrate diagramming rhythms using the number system. Students will copy this.
 - The instructor will write down up to four measures of music at a time, prompting students to diagram the rhythms on their own.
 - Students will practice these rhythms using rhythm sticks and counting aloud.

Closing (After):

- Application:
 - Group Collaboration:
 - Students will be divided into groups of four.
 - Students will use staff paper to create one measure of music each, for a total of four measures.
 - Students may use whole notes, half notes, quarter notes, and paired eighth notes.
 - Students may use notes in the treble clef staff down to two ledger lines below the treble clef staff. Or notes in the bass clef staff up to two ledger lines above the bass clef staff.
 - Each group will challenge another group to diagram their four-measure composition using the number system, as well as label the notes present.

Appendix R: Control Group Week Four Lesson Plan

Essential Question(s):

- What are ledger lines?
- How do ledger lines extend the staff?
- How do we measure note duration?
- How do we maintain a steady beat?
- How do we differentiate sound from silence in music?

Essential Vocabulary:

- Ledger Line
- Whole Rest
- Half Rest
- Quarter Rest

Students will be able to:

- Identify notes between the treble and bass clef staff using ledger lines.
- Identify whole, half, and quarter rests.
- Differentiate between whole, half, and quarter rests.

Assessment:

- Student demonstration- identifying bass clef notes aloud (Formative)
- Student demonstration- identifying and counting rhythms aloud.
- Unit 2 Assessment (Summative)

Materials/Resources:

- Whiteboard
- Pencils
- Rhythm Sticks
- Smartboard
- Unit 2 Assessment Packet

Opening (Before):

- Review:
 - Students will review notes on the grand staff, as well as the musical alphabet.
 - Students will review whole notes, half notes, quarter notes and paired eighth notes and their durations.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.
 - Students will have an opportunity to ask for clarification or repeated instruction on the vocabulary words and definitions.
 - Notation Concepts:

- Students will be introduced to the concept of ledger lines that go between the treble and bass clef lines of the grand staff.
- As a class, students will use musictheory.net to practice identifying notes within this range, expanding to include notes in the treble and bass clef staff as well.
- Students will be introduced to the whole rest, half rest, and quarter rest.
 - Students may use either Orff words or Kodály symbols in a hushed tone to represent these rests.
- Students will practice these concepts as a group using rhythm sticks, working together to maintain a steady pulse at an appropriate tempo.

Closing (After):

- Application:
 - Unit 2 Assessment
 - After instruction, students will receive the Unit 2 Assessment packet
 - Students will have the opportunity to receive clarification on instructions before beginning.
 - Students will have 15 minutes to complete the Unit 2 Assessment.

Appendix S: Experimental Group Week Four Lesson Plan

Essential Question(s):

- What are ledger lines?
- How do ledger lines extend the staff?
- How do we measure note duration?
- How do we maintain a steady beat?
- How do we differentiate sound from silence in music?

Essential Vocabulary:

- Ledger Line
- Whole Rest
- Half Rest
- Quarter Rest

Students will be able to:

- Identify notes between the treble and bass clef staff using ledger lines.
- Identify whole, half, and quarter rests.
- Differentiate between whole, half, and quarter rests.

Assessment:

- Student demonstration- identifying bass clef notes aloud (Formative)
- Student demonstration- identifying and counting rhythms aloud.
- Unit 2 Assessment (Summative)

Materials/Resources:

- Whiteboard
- Dry Erase Marker
- Eraser
- Pencils
- Rhythm Sticks
- Smartboard
- Unit 2 Assessment Packet

Opening (Before):

- Review:
 - Students will review notes on the grand staff, as well as the musical alphabet.
 - Students will review whole notes, half notes, quarter notes, and paired eighth notes and their durations.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.

- Students will practice writing each word (5x minimum) to ensure proper understanding, word recognition, and spelling. (repeated exposure)
- Notation Concepts:
 - Students will be introduced to the concept of ledger lines that go between the treble and bass clef lines of the grand staff.
 - As a class, students will use whiteboards to practice drawing the ledger lines between the treble and bass clef lines on the grand staff and placing the notes on those lines or in those spaces.
 - Students will audiate each letter name and pitch as they follow along.
 - Students will be introduced to the whole rest, using a number system.
 - Students will repeat this step with the half rest and quarter rest.
 - The instructor will write a measure of music at a time and demonstrate diagramming rhythms using the number system. Students will copy this.
 - The instructor will write down up to four measures of music at a time, prompting students to diagram the rhythms on their own.
 - Students will practice these rhythms using rhythm sticks and counting aloud.

Closing (After):

- Application:
 - Unit 2 Assessment
 - After instruction, students will receive the Unit 2 Assessment packet
 - Students will have the opportunity to receive clarification on instructions before beginning.
 - Students will have 15 minutes to complete the Unit 2 Assessment

Appendix T: Unit 2 Assessment

Music Literacy: Unit 2 Assessment

Name: _____ Class: _____

Miss Lee- Music

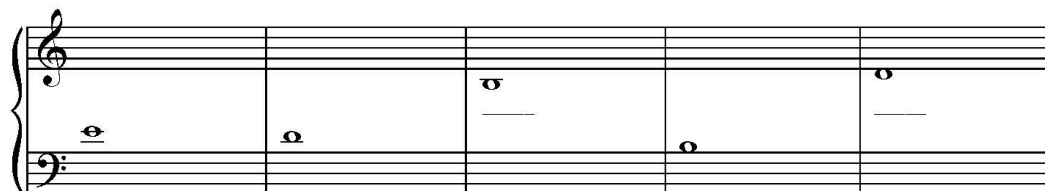
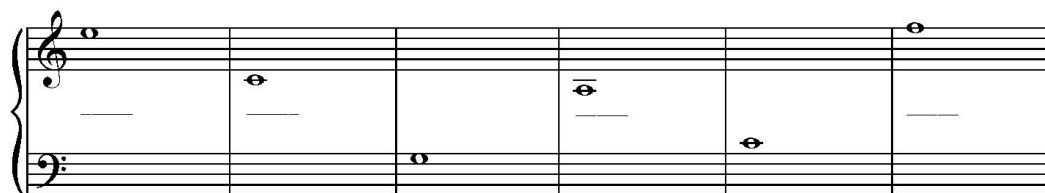
Part 1: Use the space below each measure to provide the letter name for each of the following notes on the treble clef.



Part 2: Use the space below each measure to provide the letter name for each of the following notes on the bass clef.



Part 3: Use the space below each measure to provide the letter name for each of the following notes on the grand staff. Be sure to carefully check each note location.



2

Music Literacy: Unit 2 Assessment

Part 4: On the treble clef and bass clef staves below, draw a whole note on each line or space that the provided note (letter) can appear, using up to two ledger lines above and below each staff.

B F D G C A E

B F D G C A E

Part 5: Using the provided word bank below, correctly label the musical symbols in each measure.

Whole Note	Whole Rest
Half Note	Half Rest
Quarter Note	Quarter Rest

Part 6: Compose (write) 4 measures of music on the treble clef staff below, using the 4/4 time signature. (Remember how many beats can fit into each measure based on the time signature.) You may use notes within the treble clef staff down to two ledger lines below the treble clef staff. You may also use any combination of rhythms and rests listed in Part 5, but may not have a measure that is "rest-only."

Appendix U: Control Group Week Five Lesson Plan

Essential Question(s):

- What are ledger lines?
- How do ledger lines extend the staff?
- How do we measure note duration?
- How do we maintain a steady beat?
- How do we differentiate sound from silence in music?

Essential Vocabulary:

- Ledger Line
- Sixteenth Note/Grouped Sixteenth Notes
- Beam
- Time Signature
- 4/4 Time
- Dotted Half Note
- 3/4 Time

Students will be able to:

- Identify notes up to two ledger lines above the treble clef staff
- Identify notes up to two ledger lines below the bass clef staff
- Identify grouped sixteenth notes.
- Differentiate between grouped sixteenth notes and paired eighth notes.
- Identify 4/4 time and understand how this affects rhythm.
- Identify dotted half note
- Differentiate between half note and dotted half note
- Identify 3/4 time and understand how this affects rhythm.

Assessment:

- Student demonstration- identifying treble and bass notes aloud (Formative)
- Student demonstration- identifying and counting rhythms aloud.

Materials/Resources:

- Pencils (for batons)
- Rhythm Bingo Cards
- Bingo Markers
- Smartboard

Opening (Before):

- Review:
 - Students will review notes on the treble clef and bass clef, as well as the musical alphabet.
 - Students will review whole notes/rests, half notes/rests, quarter notes/rests, and paired eighth notes.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.
 - Students will have an opportunity to ask for clarification or repeated instruction on the vocabulary words and definitions.
 - Notation Concepts:
 - Students will be introduced to the concept of ledger lines by extending the treble clef up to the second ledger line above (C6).
 - As a class, students will use musictheory.net to practice identifying notes within this range, expanding to include notes on the treble clef staff as well.
 - Students will be introduced to the concept of ledger lines by extending the bass clef down to the second ledger line below (C2).
 - As a class, students will use musictheory.net to practice identifying notes within this range, expanding to include notes on the bass clef staff as well.
 - Students will be introduced to grouped sixteenth notes as a one-beat rhythm that has four pieces, using Orff concepts to match words that can be spoken or extended over the course of one beat divided into four equal parts, or Kodály syllables.
 - Students will learn the difference in beaming between eighth and sixteenth notes (sixteenth has two beams.)
 - Students will practice these concepts as a group, working together to maintain a steady pulse at an appropriate tempo.
 - Students will be introduced to the 4/4 time signature.
 - Students will learn that each measure contains four beats
 - Students will use pencils as batons to conduct several excerpts of music in the 4/4 time signature with a 4 pattern.
 - Students will be introduced to the dotted half note as a three-beat rhythm, using Orff concepts to match words that can be spoken or extended over the course of three beats, or Kodály syllables.
 - Students will learn the difference between a regular half note and a dotted half note.
 - Students will practice these concepts as a group, working together to maintain a steady pulse at an appropriate tempo.
 - Students will be introduced to the 3/4 time signature.
 - Students will learn that each measure contains three beats
 - Students will use pencils as batons to conduct several excerpts of music in the 3/4 time signature with a 3 pattern.

Closing (After):

- Application:
 - Rhythm Bingo:
 - Students will be given Rhythm Bingo cards

- Students will hear a rhythmic excerpt from the card once and have to clap it back, using a combination of words or Kodály syllables to indicate the rhythms.
- Students will mark the matching rhythms on their Rhythm Bingo cards.
- Students will play several iterations of Rhythm Bingo.

Appendix V: Experimental Group Week Five Lesson Plan

Essential Question(s):

- What are ledger lines?
- How do ledger lines extend the staff?
- How do we measure note duration?
- How do we maintain a steady beat?
- How do we differentiate sound from silence in music?

Essential Vocabulary:

- Ledger Line
- Sixteenth Note/Grouped Sixteenth Notes
- Beam
- Time Signature
- 4/4 Time
- Dotted Half Note
- 3/4 Time

Students will be able to:

- Identify notes up to two ledger lines above the treble clef staff
- Identify notes up to two ledger lines below the bass clef staff
- Identify grouped sixteenth notes.
- Differentiate between grouped sixteenth notes and paired eighth notes.
- Identify 4/4 time and understand how this affects rhythm.
- Identify dotted half note
- Differentiate between half note and dotted half note
- Identify 3/4 time and understand how this affects rhythm.

Assessment:

- Student demonstration- identifying treble and bass notes aloud (Formative)
- Student demonstration- identifying and counting rhythms aloud.

Materials/Resources:

- Pencils
- Staff Paper
- Whiteboard
- Dry Erase Marker
- Eraser
- Smartboard
- Rhythm Sticks

Opening (Before):

- Review:
 - Students will review notes on the treble clef and bass clef, as well as the musical alphabet.

- Students will review whole notes/rests, half notes/rests, quarter notes/rests, and paired eighth notes.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.
 - Students will practice writing each word (5x minimum) to ensure proper understanding, word recognition, and spelling. (repeated exposure)
 - Notation Concepts:
 - Students will be introduced to the concept of ledger lines by extending the treble clef up to the second ledger line above the treble clef staff (C6).
 - As a class, students will use whiteboards to practice drawing the ledger lines below the treble clef staff and placing the notes on those lines or in those spaces.
 - Students will audiate each letter name and pitch as they follow along.
 - Students will be introduced to the concept of ledger lines by extending the bass clef down to the second ledger line below the bass clef staff (C2).
 - As a class, students will use whiteboards to practice drawing the ledger lines below the bass clef staff and placing the notes on those lines or in those spaces.
 - Students will audiate each letter name and pitch as they follow along.
 - Students will be introduced to grouped sixteenth notes, using a number system.
 - Students will differentiate between paired eighth notes and grouped sixteenth notes by number of beams.
 - The instructor will write a measure of music at a time and demonstrate diagramming rhythms using the number system. Students will copy this.
 - The instructor will write down up to four measures of music at a time, prompting students to diagram the rhythms on their own.
 - Students will practice these rhythms using rhythm sticks and counting aloud.
 - Students will be introduced to 4/4 time.
 - Students will practice with the instructor by combining different rhythms that add up to four beats total.
 - Students will copy rhythmic patterns given by the instructor and correctly place the barline after four beats.
 - Students will be introduced to dotted half notes, using a number system.
 - Students will differentiate between regular half notes and dotted half notes.
 - The instructor will write a measure of music at a time and demonstrate diagramming rhythms using the number system. Students will copy this.
 - The instructor will write down up to four measures of music at a time, prompting students to diagram the rhythms on their own.
 - Students will practice these rhythms using rhythm sticks and counting aloud.

- Students will be introduced to 3/4 time.
- Students will practice with the instructor by combining different rhythms that add up to three beats total.
- Students will copy rhythmic patterns given by the instructor and correctly place the barline after three beats.

Closing (After):

- Application:
 - Group Collaboration:
 - Students will be divided into groups of four.
 - Students will use staff paper to create one measure of music each, for a total of four measures in 4/4 time.
 - Students may use quarter notes, paired eighth notes, and sixteenth notes.
 - Students may use notes in the treble clef staff down to two ledger lines below the treble clef staff and up to two ledger lines above the treble clef staff.
 - Each group will challenge another group to diagram their four-measure composition using the number system, as well as label the notes present.
 - Students will use staff paper to create one measure of music each, for a total of four measures in 3/4 time.
 - Students may use dotted half notes, quarter notes, paired eighth notes, and sixteenth notes.
 - Students may use notes in the bass clef staff down to two ledger lines below the bass clef staff and up to two ledger lines above the bass clef staff.
 - Each group will challenge another group to diagram their four-measure composition using the number system, as well as label the notes present.

Appendix W: Control Group Week Six Lesson Plan

Essential Question(s):

- What are ledger lines?
- How do ledger lines extend the staff?
- How do we measure note duration?
- How do we maintain a steady beat?
- How do we differentiate sound from silence in music?

Essential Vocabulary:

- Ledger Line
- Time Signature
- 2/4 Time

Students will be able to:

- Identify grand staff notes from two ledger lines below the bass clef staff (C2) to two lines above the treble clef staff (C6)
- Identify and differentiate between whole note/rest, dotted half note, half note/rest, quarter note/rest, paired eighth notes, and grouped sixteenth notes.
- Identify 2/4 time and understand how this affects rhythm.

Assessment:

- Student demonstration- identifying bass clef notes aloud (Formative)
- Student demonstration- identifying and counting rhythms aloud.

Materials/Resources:

- Pencils (for batons)
- Whiteboard
- Final Cumulative Assessment Packet
- Smartboard

Opening (Before):

- Review:
 - Students will review notes on the grand staff from two ledger lines below the bass clef staff to two lines above the treble clef staff, as well as the musical alphabet.
 - Students will review whole notes/rests, half notes/rests, quarter notes/rests, and paired eighth notes, and grouped sixteenth notes.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.
 - Students will have an opportunity to ask for clarification or repeated instruction on the vocabulary words and definitions.
 - Notation Concepts:

- As a class, students will use musictheory.net to practice identifying notes from two ledger lines below the bass clef staff (C2) to two lines above the treble clef staff (C6).
- Students will practice all rhythmic concepts learned as a group, working together to maintain a steady pulse at an appropriate tempo.
- Students will review 4/4, 3/4, and 2/4 time signatures using listening examples and conducting.

Closing (After):

- Application:
 - Final Cumulative Assessment
 - After instruction, students will receive the Final Cumulative Assessment packet
 - Students will have the opportunity to receive clarification on instructions before beginning.
 - Students will have 20 minutes to complete the Final Cumulative Assessment.

Appendix X: Experimental Group Week Six Lesson Plan

Essential Question(s):

- What are ledger lines?
- How do ledger lines extend the staff?
- How do we measure note duration?
- How do we maintain a steady beat?
- How do we differentiate sound from silence in music?

Essential Vocabulary:

- Ledger Line
- Time Signature
- 2/4 Time

Students will be able to:

- Identify grand staff notes from two ledger lines below the bass clef staff (C2) to two lines above the treble clef staff (C6)
- Identify and differentiate between whole note/rest, dotted half note, half note/rest, quarter note/rest, paired eighth notes, and grouped sixteenth notes.
- Identify 2/4 time and understand how this affects rhythm.

Assessment:

- Student demonstration- identifying bass clef notes aloud (Formative)
- Student demonstration- identifying and counting rhythms aloud.

Materials/Resources:

- Pencils (for batons)
- Whiteboard
- Dry Erase Marker
- Eraser
- Final Cumulative Assessment Packet
- Smartboard

Opening (Before):

- Review:
 - Students will review notes on the grand staff from two ledger lines below the bass clef staff to two lines above the treble clef staff, as well as the musical alphabet.
 - Students will review whole notes/rests, half notes/rests, quarter notes/rests, and paired eighth notes, and grouped sixteenth notes.

Essential Instruction (During):

- Acquisition:
 - Vocabulary:
 - The instructor will provide vocabulary words and definitions for students.

- Students will practice writing each word (5x minimum) to ensure proper understanding, word recognition, and spelling. (repeated exposure)
- Notation Concepts:
 - As a class, students will use whiteboards to practice identifying notes from two ledger lines below the bass clef staff (C2) to two lines above the treble clef staff (C6).
 - Students will audiate each letter name and pitch as they follow along.
 - The instructor will write a measure of music at a time and demonstrate diagramming rhythms using the number system. Students will copy this.
 - The instructor will write down up to four measures of music at a time, prompting students to diagram the rhythms on their own.
- Application:
 - Final Cumulative Assessment
 - After instruction, students will receive the Final Cumulative Assessment packet
 - Students will have the opportunity to receive clarification on instructions before beginning.
 - Students will have 20 minutes to complete the Final Cumulative Assessment.

Appendix Y: Final Cumulative Assessment

Music Literacy: Final Cumulative Assessment

Name: _____ Class: _____

Miss Lee- Music

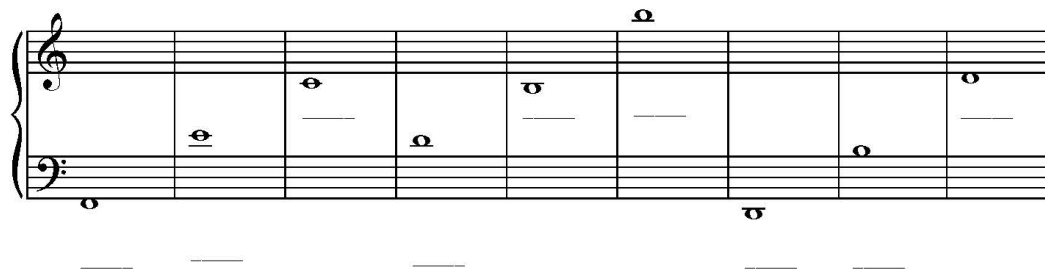
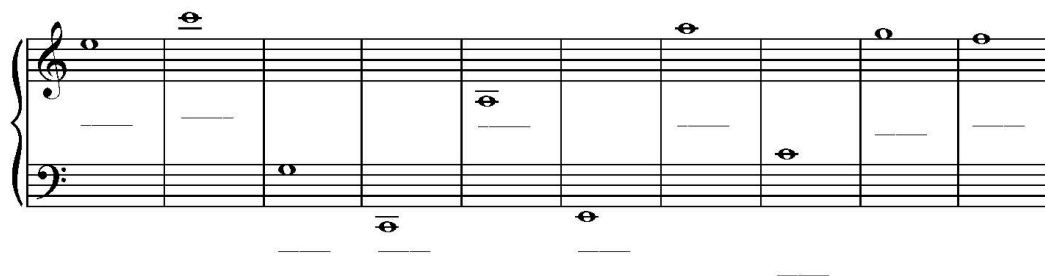
Part 1: Use the space below each measure to provide the letter name for each of the following notes on the treble clef.



Part 2: Use the space below each measure to provide the letter name for each of the following notes on the bass clef.



Part 3: Use the space below each measure to provide the letter name for each of the following notes on the grand staff. Be sure to carefully check each note location.



2

Music Literacy: Final Cumulative Assessment

Part 4: On the treble clef and bass clef staves below, draw a whole note on each line or space that the provided note (letter) can appear, using up to two ledger lines above and below each staff.

B F D G C A E

B F D G C A E

Part 5: Using the provided word bank below, correctly label the musical symbols in each measure.

Whole Note	Whole Rest
Half Note	Half Rest
Quarter Note	Quarter Rest
Paired Eighth Notes	Dotted Half Note
Grouped Sixteenth Notes	

Part 6: Compose (write) 4 measures of music on each line, using the 2/4, 3/4, and 4/4 time signatures. (Remember how many beats can fit into each measure based on the time signature.) You may use notes from two ledger lines below to two ledger lines above each staff. You may also use any combination of rhythms and rests listed in Part 5, but may not have a measure that is "rest-only."

2/4

3/4

4/4

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