LIBERTY UNIVERSITY

SCHOOL OF MUSIC

**The Effects of the Orff Approach on Language Acquisition for
Spanish Foreign Language Students**

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Thesis Project Proposal Research I

BY

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Abstract

Despite the abundance of literature that supports music education connecting to language learning, limited research evaluates the effectiveness of elementary music methodologies, such as the Orff approach, in helping foreign language students in their language learning. The Orff approach develops musicianship in every student through music, movement, speech, and drama. Guided by Gardner's theory of multiple intelligences, the researcher implemented a quasi-experimental research study to measure the language fluency of 100 elementary students participating in general music and learning Spanish as a foreign language. The researcher placed half of the students in the treatment group exploring the Orff approach in general music and half in the control group in music appreciation. After completing a Spanish pretest and participating in the two-month intervention, both groups are assessed via the Spanish Student Growth Objective (SGO) halfway benchmark. Scores reflect students' listening, speaking, reading, and writing abilities. This work provides evidence of the effects of the Orff approach on language acquisition. It allows readers to ascertain the potential connections between the brain regions responsible for language learning and those responsible for developing musicianship. Such a study is groundbreaking because it can inspire the development of professional learning communities among the arts and language departments and promote further cross-curricular connections to music. Furthermore, this study can encourage further research as scholars can test various general music methodologies and successful acquisition of other target or foreign languages.

Keywords: Orff, language acquisition, music appreciation, quasi-experiment, student growth objective (SGO), multiple intelligences.

Chapter 1

Introduction

Chapter One introduces the topic of discovering whether the Orff approach affects

language acquisition for Spanish foreign language students. This quasi-experimental study

measures students' progress in Spanish. All students in the study are taught Spanish through the

same language approach(s), but in music class, half of the students attend general music taught

through the Orff approach. In contrast, the other half attend a music appreciation class through a

theoretical approach. Specifically, students learn Spanish through Total Physical Response,

Grammar Translation, Audio-Lingual Method, and The Silent Way, as students learn commands

in the target language, translate the target language into their native language, and participate in

dialogue and independent speech in the target language. This chapter also contains the topic's

background, theoretical frameworks, problem and purpose statement, research questions, and

hypotheses.

Background of Topic

With students currently challenged to adapt to the evolving school environment that

resulted from the pandemic, it is essential to teach students creativity, problem-solving, and

communication.[1] Sean Slade and Philip Lambert explain that although these skills were once

considered soft skills, "The value of soft skills has been elevated in recent years by global

agencies…These are not new, but they are newly important. What is new are the large-scale

social, economic, environmental, and technological changes that have taken place across the

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[1] Sean Slade and Philip Lambert, "Reclaiming Soft Skills," Ascd.Org, Last modified 2019, https://www.ascd.org/blogs/reclaiming-soft-skills.

planet, elevating soft skills as essential learning in schools."[2] Teachers must maximize their instructional time by ensuring that the concepts and activities students complete in class have long-term and sustainable value, as students learn in unprecedented and unpredictable times.

When considering these needs of students learning post-pandemic, education must prioritize language-based courses to improve students' interactive abilities. The problem is that music is often considered an art form, but its language developmental tendencies tend to go unnoticed and under-utilized. The inspiration behind exploring the effects of the Orff approach on foreign language acquisition lies in addressing today's students' social, emotional, and cultural needs. Students communicate through gestures, body language, musical questions/answers, tone of voice, group interaction, and presentation.[3] Foreign language programs allow for similar experiences, including improvised interactions, physical responses, and collaborations between the teacher and students.[4] There are opportunities for language teachers to utilize songs as tools for memorization, conceptual reinforcement, and brain breaks. Music educators can enhance students' learning experiences by enlivening them with catchy melodies and promoting kinesthetic learning through actions and dances. With the music and foreign language curricula sharing instructional and stylistic similarities, it seems appropriate to connect the two subject areas and to determine whether a performance-based experiential approach such as Orff or a historical/theoretical approach such as music appreciation is more beneficial to language learning. This quantitative study assesses whether Orff or music

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[2] Slade and Lambert, "Reclaiming Soft Skills," 2019.

[3] Gunild Keetman, *Elementaria: First Acquaintance with Orff-Schulwerk* (Germany: Schott Musik Intl Mainz, 1984), 25.

[4] Diane Larsen-Freeman, *Techniques and Principles in Language Teaching,* 3rd ed. (Oxford: Oxford University Press, 2012.), 2.

appreciation produces the most outstanding foreign language fluency among upper elementary school students in general music and Spanish.

There are various ways music teachers can connect music learning with language learning. Notably, the Orff process consists of four stages: imitation, exploration, literacy, and improvisation.[5] This process also relates to language acquisition, as students begin by imitating the teacher through actions, speech, and writing.[6] Next, they explore by creating new topics of conversation as they speak in the target language via a word wall, pictures, or other tactile or technological aids. Then, they learn to read and write in the target language, and finally, they improvise speech and writing based on their ideas and acquired grammar. Such improvisation is possible because, as Chomsky explains, all humans are born with universal language capabilities; they merely determine the rules of the language variant where they reside.[7] Since this process has historically been successful when acquiring one's first language, it may improve music and foreign language literacy/acquisition.

A wealth of literature supports the Orff method. Researchers have collected and examined evidence supporting this claim. Informative texts, theories, district resources, and data were analyzed and interpreted to support the experimental process and inform the topic's innate pedagogical implications. The study applied quantitative experiments such as Campisi's study about the implementation of songs in Italian language learning as a model for this study, as well

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[5] Keetman, *Elementaria*, 11.

[6] Julia S. Falk, "Language Acquisition and the Teaching and Learning of Writing," *College English* 41, no. 4 (1979): 437. https://doi.org/10.2307/376287

[7] Ibid.

as a resource of information about how the study of music aids in language acquisition.[8] The researcher examined sources for connections between music and language learning and knowledge regarding how the brain acquires music and linguistic intelligence. District resources such as assessment records, standards, curriculum, repertoire, and lesson materials guide the experimental process by providing resources to shape instruction for the two distinct groups. These resources, provided by the music and foreign language departments, also inform the assessment process. They detail what teachers should assess and examine in student work and performance. As Creswell and Creswell explain, "Researchers use the scholarly literature in a study to present results of similar studies to relate the present study to an ongoing dialogue in the literature and to provide a framework for comparing results of a study with other studies."[9] Examples include books, journals, magazines, dissertations, and websites. The literature is referenced and presented throughout the chapters to give the reader a more comprehensive understanding of the topic and the study's core concepts.

Theoretical Framework

Garner's theory of multiple intelligences suggests that intelligence is a broad concept characterized by insight into separate bits of intelligence: visual-spatial intelligence, linguistic-verbal intelligence, logical-mathematical intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, naturalistic intelligence.[10] Such

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[8] Salvatore Campisi, "La Ballata Dell'amore Cieco': A Case Study on the Use of Songs in Italian Language Learning," in *Literature in Language Learning: New Approaches*, ed. A. B. Almeida, U. Bavendiek & R. Biasini, (Research-publishing.net, 2020), 60.

[9] John W. Creswell and J. David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed. (Los Angeles: Sage Publications, Inc., 2018), 45.

[10] Howard Gardner, *Frames of Mind : The Theory of Multiple Intelligences. (*New York: Basic Books, 1983), 3.

intelligence encompasses far more than a person's intellect; each person has and develops bits of intelligence that align with their strengths and interests. Each intelligence accompanies unique abilities. For example, a person with musical intelligence may be able to learn instruments quickly, whereas a person with linguistic-verbal intelligence may excel in learning new languages.

This study focuses on musical and linguistic-verbal intelligence, explores potential connections between them, and determines whether such relationships appear in the experiment. Relevant claims to the study include how Gardner claims that there are parallels between musical and linguistic-verbal intelligence. For example, Gardner states, "As is the case with language, musical facility can be elaborated to a considerable degree simply through exploration and exploitation of the oral-aural channel."[11] He also suggests that each intelligence can be developed over time, thus diluting the concept of talent and disagreeing with the theory that people are born with a fixed intelligence. Additionally, Gardner explains that intelligence represents both a form and a learning method. In the case of musical intelligence, a person could excel in reading music, and they may also learn other subjects more successfully when music is incorporated. Similarly, a person with linguistic-verbal intelligence is a strong reader and writer and may be more engaged in open-ended narrative activities over one-word answer worksheets.

Problem Statement

Despite the abundance of literature supporting music education as connecting to language learning, limited research explores this concept at the elementary level. Studies have also evaluated the effectiveness of elementary music methodologies, such as the Orff approach, in

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[11] Gardner, *Frames of Mind*, 129.

supporting foreign language students' language learning. Gunild Keetman explains that

elemental music, a foundation of the Orff approach, combines music with movement, dance, and

speech.[12] She explains, "To preserve this unity [of music, movement, dance, and speech] is one

of the main tasks that Orff Schulwerk has set itself. It requires, besides the development of music

and language abilities, an elemental movement training of equal aim that can provide a

reciprocal benefit to musical capacity through the strong emphasis on rhythmic elements."[13]

More specifically, there is a lack of research focusing on Spanish foreign language

students. Instead, such studies focus on the influence of music instruction on language learning

more generally. Courtney Rieb and James Cohen explain, "Music is a prelinguistic strategy for

communication…Since musical intelligence develops even before linguistic-verbal intelligence,

these musical skills should be capitalized on to facilitate the development of language and the

language acquisition process."[14]Additionally, qualitative perceptual analysis regarding music's

contributions to language learning is more common than quantitative analysis. Anthony Brandt,

Molly Gebrian, and L. Robert Slevc claim, "Without the ability to hear musically, it would be

impossible to learn to speak."[15] Hodges supports this notion with his theory that humans are

inherently musical and rely on this ability to "shape their humanity."

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[12] Keetman, *Elementaria,* 107.

[13] Ibid.

[14] Courtney Rieb and James Cohen, "The Impact of Music on Language Acquisition," Mid-Western Educational Researcher 32, no. 4 (2020): 66. https://ezproxy.liberty.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=149724850&site=ehost-live&scope=site

[15] Anthony Brandt, Molly Gebrian, and L. Robert Slevc, "Music and Early Language Acquisition" Frontiers in Psychology 3, no. 327 (2012): 1. https://www.frontiersin.org/articles/10.3389/fpsyg. 2012.00327/full

Even humans challenged by pitch matching when singing recognize when another person is asking a question or telling a statement based on the melodic contour of speech. Hodges explains that humans can decipher the syllables and natural rhythm of words and phrases, stating, "Rhythmic activities in the acquisition of language are so important that they form a basis for acquiring cognitive expectancies and for interrelating cognition and affect."[16] Furthermore, deaf people can feel the music through its vibrations. Theoretically, musicianship aids in both language implementation and expressivity. These statements are more influential when supported by legitimate statistics and field-based evidence than literary evidence alone. This experiment will likely embody such theoretical insight by tracking music students' foreign language abilities. The problem is that the literature has not fully addressed whether the Orff approach affects language acquisition in elementary school-aged students.

Purpose Statement

This quasi-experimental study will ascertain whether Orff affects language acquisition among Spanish foreign language students. The quantitative research method is applied, as the experiment compares the Spanish scores of Orff and music appreciation students. The data determine which type of music education improves students' language abilities. The independent variable is the musical approaches applied to teach music to elementary students. In contrast, the dependent variable is the Spanish scores determining the language acquisition level resulting from the musical instruction. At the same time, the participants are elementary students in elementary schools A and B, and the sample consists of fourth-grade students in general music and first-year Spanish foreign language. Finally, the population is elementary students in Public School District (New Jersey).

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[16] Hodges, *Music In The Human Experience*, 156.

Significance of the Study

Studying the effects of the Orff approach on foreign language students can further develop the connections between linguistic and musical intelligence, thus advancing the science of neural connectivity and catalyzing cognitive development among children. Such results can help shape future curricula, inform learning styles, and inspire differentiated instruction. Music teachers can support their students in developing skills in other content areas while expanding their musical opportunities by incorporating a more diverse repertoire, as students would be able to learn the foreign lyrics organically and focus more on the stylistic and expressive tendencies within the literature. Cross-curricular connections are essential because they convey to students how subjects are interrelated. Helping students make academic connections can result in transfer learning and increase confidence since students will be familiar with their studies. Slade and Lambert support this notion explaining that creativity and performance are skill sets that are fluid, malleable, adjustable, and adaptable; "they can be used across a multitude of situations and circumstances time and time again."

Furthermore, it provides insight to general music teachers on whether Orff is a practical approach to developing foreign language acquisition. Depending on the results, this study may help music educators advocate for such training and professional development. For example, should Orff students earn higher foreign language scores, school principals may decide to provide more collaborative opportunities for music and foreign language teachers or ask music teachers to share some relevant components of the Orff approach at a staff meeting. Through this process, educators can implement actions to make education more relevant and approachable to students.

Research Questions

The research questions guiding this study include the following:

RQ1: Is there a difference in the foreign language (Spanish) proficiency in terms of

pronunciation, conversation, and literacy (as measured by the Spanish Student Growth

Objective and Benchmark Assessments inspired by WIDA) between elementary students

that learn music via the Orff approach and those who do not?

RQ2: Is there a relationship between foreign language (Spanish) proficiency in terms of

pronunciation, conversation, and literacy (as measured by the Spanish Student Growth

Objective and Benchmark Assessments inspired by WIDA) and advanced music literacy

acquisition (as measured by tiered rubric benchmark assessments)?

Hypotheses

Research Question One may be addressed by the following hypothesis:

$H_0 1$: There exists no significant difference in foreign language (Spanish) proficiency in

terms of pronunciation, conversation, and literacy (as measured by the Spanish Student

Growth Objective and Benchmark Assessments inspired by WIDA and found in Chapter

Three) among students that learn music through the Orff approach (as measured by tiered

rubric benchmark assessments).

H_1 There is a significant difference in foreign language (Spanish) proficiency in terms of

pronunciation, conversation, and literacy (as measured by the Spanish Student Growth

Objective and Benchmark Assessments inspired by WIDA) among students that learn

music via the Orff approach (as measured by tiered rubric benchmark assessments which

readers can find in Chapter Three).

Research Question Two may be addressed with the following hypothesis:

H_02: There is no significant relationship between foreign language (Spanish) proficiency

in terms of pronunciation, conversation, and literacy (as measured by the Spanish Student

Growth Objective and Benchmark Assessments inspired by WIDA and found in Chapter

Three) and advanced music literacy acquisition (as measured by tiered rubric benchmark

assessments).

H_2: There is a significant relationship between foreign language (Spanish) fluency in

terms of cognition, memory, and pedagogy (as measured by the Spanish Student Growth

Objective and Benchmark Assessments inspired by WIDA and found in Chapter Three)

and advanced music literacy acquisition (as measured by tiered rubric benchmark

assessments).

Identification of the Variables

John W. Creswell and J. David Creswell explain, "A variable refers to a characteristic or

attribute of an individual or an organization that can be measured or observed and that varies

among the people or organization being studied."[17] The independent variable in this study is the

approach taught to the participants. The treatment group receives Orff instruction, whereas the

control group receives music appreciation instruction. The dependent variable is foreign

language (Spanish) acquisition measured via the Spanish Student Growth Objective Assessment.

Manipulation checks vary by group, but researchers use both to determine the time frame for

when students are ready to complete the Spanish Student Growth Assessment. The Orff

treatment group's manipulation check consists of a music benchmark. When students can

successfully improvise, manipulate, and perform rhythm brick phrases, create an extension to a

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[17] Creswell and Creswell, *Research Design*, 50.

folk dance, and complete a group project, they are deemed ready for the Spanish Student Growth Assessment. Conversely, the music appreciation control group's manipulation check consists of a theoretical benchmark. When students can listen to a piece of music and apply music vocabulary to identify elements of the music they hear, including instrumentation/voicing, style, and mode, teachers deem students prepared for the Spanish Student Growth Assessment.

The Spanish teacher organizes the Spanish Student Growth Assessment and criteria and bases the formatting on the World-Class Instructional Design and Assessment (WIDA) rubric categories.[18] WIDA creates language development standards and assessments for P-12 multilingual students, measuring language proficiency through six levels: 1-Entering, 2-Emerging, 3-Developing, 4-Expanding, 5-Bridging, and 6-Reaching.[19]

Core Concepts

Carl Orff developed his approach from the philosophy that students learn and embody music when they explore, experience, and create music.[20] Students learn music through language's natural rhythms and tonalities. They are presented with creative challenges and collaborate with their peers to add their original ideas to the music they study. Students own their learning as they not only create and master their pieces but also critique and enhance their work. Thus, making music through this approach results in students developing and engaging their critical thinking, problem-solving, and imaginative skills. Music, movement, speech, and drama

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[18] "WIDA Writing Rubric Grades 1-12 | WIDA", Wida.Wisc.Edu, Last modified 2022, https://wida.wisc.edu/resources/wida-writing-rubric-grades-1-12.

[19] Ibid.

[20] "What Is Orff Schulwerk? - American Orff-Schulwerk Association", American Orff-Schulwerk Association, Last modified 2022, https://aosa.org/about/what-is-orff-schulwerk/.

are essential components of Orff, and teachers can implement these components to ignite creativity and promote transfer learning.[21] Lawson Carroll's study connects band instruction to English language arts instruction. It claims that when music and language teachers recognize their pedagogical parallels, students will likely demonstrate higher-level skills in both subjects.[22] Music teachers can implement this concept by asking students how many syllables are in their rhythm phrase, or a foreign language teacher asking students to clap the rhythm of the teacher's Spanish phrase to focus pronunciation and spoken phrase.

Lawson Carroll adds, "The content area literacy texts and influential music pedagogues such as Kodaly, Orff, and Suzuki deliver the same message: simply reading and rereading material does not work. [23] For example, it is unacceptable for a teacher to merely tell students to practice their concert music. They must mirror best practices for correcting errors. Teachers must also scaffold difficult musical passages to make challenging aspects of the repertoire more approachable. Furthermore, students benefit from aurally experiencing complex music before learning to read complex written works. During this process, students need time to interact with one another, process the content, apply the content, and reflect on the content. Students need steps, strategies, and skills." [24]

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[21] "What Is Orff Schulwerk."

[22] David Lawson Carroll, "The Reciprocal Relationship Between Text Literacy and Music Literacy Among Beginning Band Students" (Ed.D diss., Northern Illinois University, 2017), 113.

[23] Ibid.

[24] Carroll, "The Reciprocal Relationship Between Text Literacy and Music Literacy," 113.

Orff provides an ensemble experience similar to a band where students learn essential concepts of technique, literacy, expressivity, balance, and teamwork. Such skills correlate with the steps of language acquisition because, similar to music, language students need to learn the technique of spelling the words they hear, as instrumentalists need to learn to play the key corresponding to the note's location on the staff. Students achieve literacy when reading and writing in the target or musical language. Expressivity helps speakers and musicians convey meaning and emotions. Balance is also relevant in language and music since students must learn when to play and sing and when to listen. Finally, teamwork is essential for project-based instruction and ensuring a positive classroom environment. Palubinski's findings support these notions: "The academic, social, cognitive benefits to music education strongly support the implementation of music education programs for the enrichment of academic courses in a more hands-on and interactive setting."[25] Musicians communicate through their music via the messages embedded within the lyrics and the dynamic shifts of the instrumental phrases. They are responsible for ensuring fidelity to the composer's intentions and portraying their connections with the music. Evian adds, "The way I work with people in my world is very similar to the way that jazz musicians communicate. When I have a band in, and we're talking about a certain drum part, everybody's just scatting rhythms at one another as jazz musicians talk. Music is a language; the more you listen and speak it, the better you are at it."[26]

Orff implements a similar approach, as students express themselves and communicate

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[25] Karen Palubinski, "Effects of Music Education on Academic Achievement" (EdD diss., Arizona State University, 2019), 2-3.

[26] Sam Evian, "Music Is a Language," *Relix 48, no. 7 (2021): 12-12.*. https://ezproxy.liberty.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=153611299 &site=ehost-live &scope=site

musically through untuned instruments, tuned instruments, recorder, body percussion, movement, and voice. Depending on the song or activity, students discover their role in the music, whether they are the melody, a supporting harmony, a sound effect, or a pulse, to name a few. Students then learn the techniques associated with their roles. For example, bass xylophonists responsible for the heartbeat of the ensemble can explore simple, broken, cross-over, and level borduns to ascertain which style best complements the arrangement and piece. As conversations occur creatively and often spontaneously, Orff pertains to creativity via improvisation and composition through movement, pentatonic exploration, rhythm bricks, and layered ostinati. Musicians converse through call-and-response techniques and turn-taking. Furthermore, students experience various opportunities to create lyrics.

Just as musicians communicate via their primary instrument, students in foreign language classes learn to communicate in a language other than their native language. The foreign language curriculum comprises various methodologies, including Total Physical Response, grammar-translation, Audio-Lingual Method, and the silent way. Total Physical Response teaches language through movement and the language's associated actions.[27] Conversely, The Silent Way entails the teacher speaking as little as possible and encouraging the students to converse in a foreign language.[28] Grammar Translation entails students translating words and phrases from a foreign language to their native language.[29] Finally, the Audio-Lingual Method

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[27] Larsen-Freeman, *Techniques and Principles in Language Teaching,* 107.

[28] Ibid.*,* 53.

[29] Ibid.*,* 11.

relies on the teacher modeling the target language and emphasizing conversations with students in the target language.

Often, language teachers begin the school year with a physical response to expose students to the target language and allow them to interact in a playful and approachable manner. Next, students connect the target language with their native language through grammar translation. The Audio-Lingual Method removes the students' native language from instruction by transitioning them to exclusively communicating in a foreign language. Students rely on the teacher's voice as a model and sharpen their listening and vocal abilities within the language. Finally, students are ready for the silent method, where instruction becomes more student-centered as they initiate communication in the target language. This study examines potential connections between music and foreign language methodologies through teacher collaboration, literary research, and experimentation.

The researcher collects data via a pre-test and post-test influenced by the foreign language Student Growth Objective (SGO). An SGO is an assessment students complete at the beginning and end of the year to measure student growth and achievement. Typically, teachers create benchmarks to administer in between the SGO assessments to track student progress and tailor instruction. This study's scores serve as benchmarks for the foreign language department. The SGO measures teaching effectiveness in New Jersey, comprising 15 percent of their overall summative score.

This research study relies on Gardner's theory of multiple intelligences which proposes that "instead of a single dimension called intellect, on which individuals can be rank-ordered, vast differences obtain across individuals in their intellectual strengths and weaknesses and also

in their style of attack in cognitive pursuits."[30] Gardner argues that music and language

intelligence have common brain origins, which raises the question of whether Orff exposure will

cause language scores to increase over time. Musical intelligence consists of the ability to recall

melodies, replicate rhythm, and follow changes in a theme throughout a composition. Successful

language learners have advanced verbal/linguistic intelligence, which consists of solid

storytelling, advocating, and scribing abilities.[31] When people master various literacies, including

musical scores and language literacy, they can apply their cognitive strengths to approach more

daunting bits of intelligence, allowing them to contribute to those interrelated subjects.[32]

Carl Orff is well known for his motto, "Tell me, I forget…show me, I

remember…Involve me, I understand."[33] This statement resonates with Patel's OPERA

hypothesis, which emphasizes the need for authentic learning, repetition, emotional connections

to learning endeavors, and maintaining focus throughout the learning experience. His findings

reveal that music training has benefits to language learning, as proposed by Gardner, and he

explains this theory through his analysis of the acronym he created:

> **O**verlap: Music and language overlap in the brain.
> **P**recision: Music places more precise demands on neural systems than language.
> **E**motion: Music elicits strong emotions, which reinforces learning.
> **R**epetition: Musical experiences involve a great deal of repetition, which reinforces
> learning.

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[30] Howard Gardner, *Multiple Intelligences: New Horizons, (*New York: Basic Books, 2006), 196.

[31] Larsen-Freeman, *Techniques and Principles in Language Teaching,* 3.

[32] Gardner, *Frames of Mind*, 376.

[33] "Classics For Kids", Classicsforkids.Com, Last modified 2022, https://www.classicsforkids.com/teachers/resources.php?article=Orff_Approach.

Attention: Music demands focused attention.[34]

Patel's research confirms that music's complex and rewarding nature ignites brain plasticity, improving speech capabilities. With Orff's engaging process and the brain's natural connections between music-making and language learning, music teachers can implement this information to enhance music and language literacy through a focused yet experiential learning environment.

Definition of Terms

The following terms assist the reader in understanding the context of each concept in this study:

Student Growth Objective (SGO): According to the State of New Jersey, "SGOs are long-term academic goals for groups of students set by teachers in consultation with their supervisors."[35] These goals align with the National and State Standards and the department's mission. This study includes the administration of a Spanish SGO to assess students' language proficiency throughout their Orff or music appreciation instruction. The Spanish teacher develops a pre-and post-assessment, approved by the administration, and used to track each student's progress and determine whether they met the SGO.

The Orff approach: The Orff approach is a pedagogical approach implemented in music education, developed by Carl Orff and his colleague Gunild Keetman. Students sing, say, dance, and play instruments in a playful learning environment.[36] This approach emphasizes creativity,

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[34] Hodges, *Music In The Human Experience*, 156.

[35] Phil Murphy and Sheila Oliver, "Achievenj: Student Growth Objectives (Sgos)," State.Nj.Us, Last modified 2019, https://www.state.nj.us/education/AchieveNJ/teacher/objectives.shtml#:~:text=A%20Student%20Growth%20Objective%2C%20or,in%20consultation%20with%20their%20supervisors.&text=Based%20on%20available%20prior%20student,student%20growth%20and%2For%20achievement.

[36] Keetman, *Elementaria,* 107.

experimentation, and expressivity. Students experience hands-on, kinesthetic learning presented in a way that is accessible to them. In this study, half of the participants are taught using this approach and then complete the Spanish SGO assessment.

Elemental Music: According to the New England Chapter of the American Orff-Schulwerk Association, "Elemental music is never music alone but forms a unity with movement, dance, and speech. It is music that one makes oneself, in which one takes part not as a listener, but as a participant."[37]

Music Appreciation: Music Appreciation is a conceptual framework for music education that emphasizes listening, reflecting, and analyzing various repertoire and styles of music.[38] Students often learn about music by studying its context, history, and theoretical framework. In this study, half of the participants are taught via this approach and then complete the Spanish SGO assessment.

Total Physical Response (TPR): Total Physical Response (TPR) is a pedagogical approach for learning languages developed by American psychologist Dr. James Asher. The technique mimics how humans acquire their first language. Students respond to speech with actions until they reproduce the vocabulary and formulate sentences. Johanna Kawasaki at Bridge Universe explains, "By acting out language, it is thought that students interpret meaning through different parts of the brain, pairing physical and intellectual analysis."[39] Thus,

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[37] New England Chapter of the American Orff-Schulwerk Association, "Defining Elemental Music," 2022, http://www.neaosa.org/defining-elemental-music.html#:~:text=Carl%20Orff%3A,listener%2C%20but%20as%20a%20participant

[38] Henkjan Honing, *Musical Cognition,* 41.

[39] Larsen-Freeman, *Techniques and Principles in Language Teaching,* 107.

kinesthetic learning occurs by expressing the understanding of words through movement, and students begin to process the language. This study examines potential connections between music and foreign language approaches and pedagogies.

Grammar Translation: The Grammar Translation method developed from the classical method traditionally implemented to teach Ancient Greek and Latin.[40] This methodology emphasizes the structure of language and its associated rules, which students learn to apply to translate the target language into their native language.[41] This study examines potential connections between music and foreign language approaches and pedagogies.

Audio-lingual Method: The Audio-Lingual Method aims to improve students' oral skills when learning a new language. Students memorize specific phrases and questions in the target language. Teachers closely monitor pronunciation and intonation to ensure students communicate authentically and expressively.[42] Students and teachers speak the target language exclusively and prioritize everyday dialogue over academic or grammatical sentence structure. This study examines potential connections between music and foreign language approaches and pedagogies.

This study examines potential connections between music and foreign language approaches and pedagogies. **The Silent Way**: The Silent Way encourages teachers to be as silent as possible to promote students speaking in the target language as much as possible. Alternatively, the teacher provides visuals and props to cue discussion topics and support

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[40] Ibid., 11.

[41] Ibid., 12.

[42] Ibid., 37.

learners in attempting to communicate. Problem-solving, discovery, and creativity are the three main themes emphasized in this approach.[43]

Gardner's Theory of Multiple Intelligences: Howard Gardner's theory of multiple intelligences suggests that people acquire intelligence over time. Gardner also expands upon the definition of intelligence, claiming that intelligence is far more complex than people do or do not possess. Gardner believes each person has a unique set of intelligence, ranging from "linguistic intelligence, logical-mathematical intelligence, spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalist intelligence."[44] Specific to this study, Gardner believes that musical and linguistic intelligence originates from common brain regions.

Chapter Summary

This quantitative, quasi-experimental research study seeks to determine whether the Orff approach influences foreign language acquisition. It also aims to investigate potential connections between music education and language learning. Music educators can serve in this study as they explore their musical system and its capability to facilitate transfer learning. When teachers consider their subject in the broader landscape of educating the whole child, they can develop cross-curricular relationships, which may make learning more organic and memorable when they implement the optimal instructional approach for each subject.

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[43] Larsen-Freeman, *Techniques and Principles in Language Teaching,* 54.

[44] Gardner, *Frames of Mind*, 73

Chapter Two: Literature Review

Introduction

The following sections comprise evidence supporting music education's connections with language acquisition generally, as well as literature supporting both music appreciation curriculum and curriculum addressing the Orff approach and active music-making. Regarding language learning, many of the studies regarding language learners focus on students acquiring the English language specifically. Some people are learning English as a Second Language (ESL) to communicate with the locals within their community. The subject English to Speakers of Other Languages (ESOL) refers to speakers of multiple languages who may have learned some English in their native country. Lastly, the term English Language Learners (ELLs) refers to students unable to communicate proficiently in English and who require academic modifications to understand the content in each subject area. Furthermore, sources also include insight and inspiration regarding how to prepare for an experiential study and how to prepare curricula that represent both approaches fairly and effectively.

Theoretical Framework of the Research: Gardner's Theory of Multiple Intelligences

Gardner's theory of multiple intelligences has allowed teachers to differentiate and diversify instruction based on their student's unique needs and assets by raising awareness regarding various intelligence domains. Initially, Gardner categorized intelligence into seven significant categories but expanded to eight important types of intelligence in the 1990s. Ping, Ng, and Yeung created a chart analyzing Gardner's bits of intelligence[45]

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[45] Fung Ping et al., "The Practice and Assessment of Cantonese Opera in Interdisciplinary Chinese Language Courses in Hong Kong," *International Journal of Learning*, 17, no. 7 (2010): 277. https://doi.org/10.18848/1447-9494/CGP/v17i07/47166.

Eight Bits of Intelligence	Description	Characteristics/ Strengths
1. Verbal-Linguistic Intelligence	Expressing oneself through oral and written language.	Figurative and expressive language, reading, listening, speaking, and writing.
2. Logistical-Mathematical Intelligence	This intelligence is the foundation of Science and Mathematics.	Rationality, pattern-finding, completing experiments, developing inquiry, inventing, and introducing new ideas.
3. Spatial Intelligence	Involves perception, innovation, and picture and image reconstruction.	Attention to detail, creating charts and graphs; sensitive to tiny parts, directions, and locations.
4. Musical Intelligence	The ability to compose Music, including understanding, appreciating, and commenting on the Music.	Singing in tune, rhythmic activities, identifying genres, composing Music, and sensitivity to non-lingual sounds and the melody of daily noise.
5. Bodily-Kinesthetic Intelligence	It relates to physical fitness and the ability to operate one's body.	Operating mechanical objects, physically challenging their body, working, moving, and acting.
6. Interpersonal Intelligence	Possessing this intelligence can enable an individual to be active in social interaction.	Getting along with others, working efficiently, picking up on others' emotions, and cooperative learning.
7. Intrapersonal Intelligence	An ability to understand one's feelings and emotional status.	Working independently and guiding themselves by understanding themselves.
8. Naturalist Intelligence	Possessed by those who can get along well with natural plants, animals, minerals, clouds, and planets.	Outdoor activities, classifying natural sceneries and organisms, understanding nature.

Figure 1: Gardner's Eight Intelligences
Source: Fung Ping et al., "The Practice and Assessment of Cantonese Opera in Interdisciplinary Chinese Language Courses in Hong Kong," *International Journal of Learning*, 17, no. 7 (2010): 277. https://doi.org/10.18848/1447-9494/CGP/v17i07/47166.

Ping, Ng, and Yeung's study reveals that their students develop multiple intelligences through participating in and studying Cantonese Opera:[46]

Interdisciplinary Activities in Cantonese Opera	"Multiple Intelligences" used by students							
	1	2	3	4	5	6	7	8
Script Analysis	✓	✓				✓	✓	✓
Singing	✓	✓		✓		✓		
Acting			✓		✓	✓		✓
Speaking	✓	✓				✓		
Martial Art			✓		✓	✓		✓

Figure 2: Cantonese Opera's Multiple Intelligences
Source: Ping et al., "The Practice and Assessment of Cantonese Opera," 277.

Of note is that musical intelligence is only one small component compared to the broad range of skills acquired through opera participation. The study found that Cantonese Opera develops all eight bits of intelligence through its five foundational activities. Surprisingly, even though opera is primarily a musical activity, interpersonal intelligence is developed the most through this experience and is present in all five opera activities, a skill critical to practicing and acquiring a language.

Perihan Savas' experiment supports the previous claims as her findings state, "51% of the participants mainly indicated that even though linguistic intelligence is an important variable in foreign language learning, it's not enough to guarantee the success of learners because foreign

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[46] Ping et al., "The Practice and Assessment of Cantonese Opera," 277.

language learning is a complex and multidimensional process."[47] These participants create

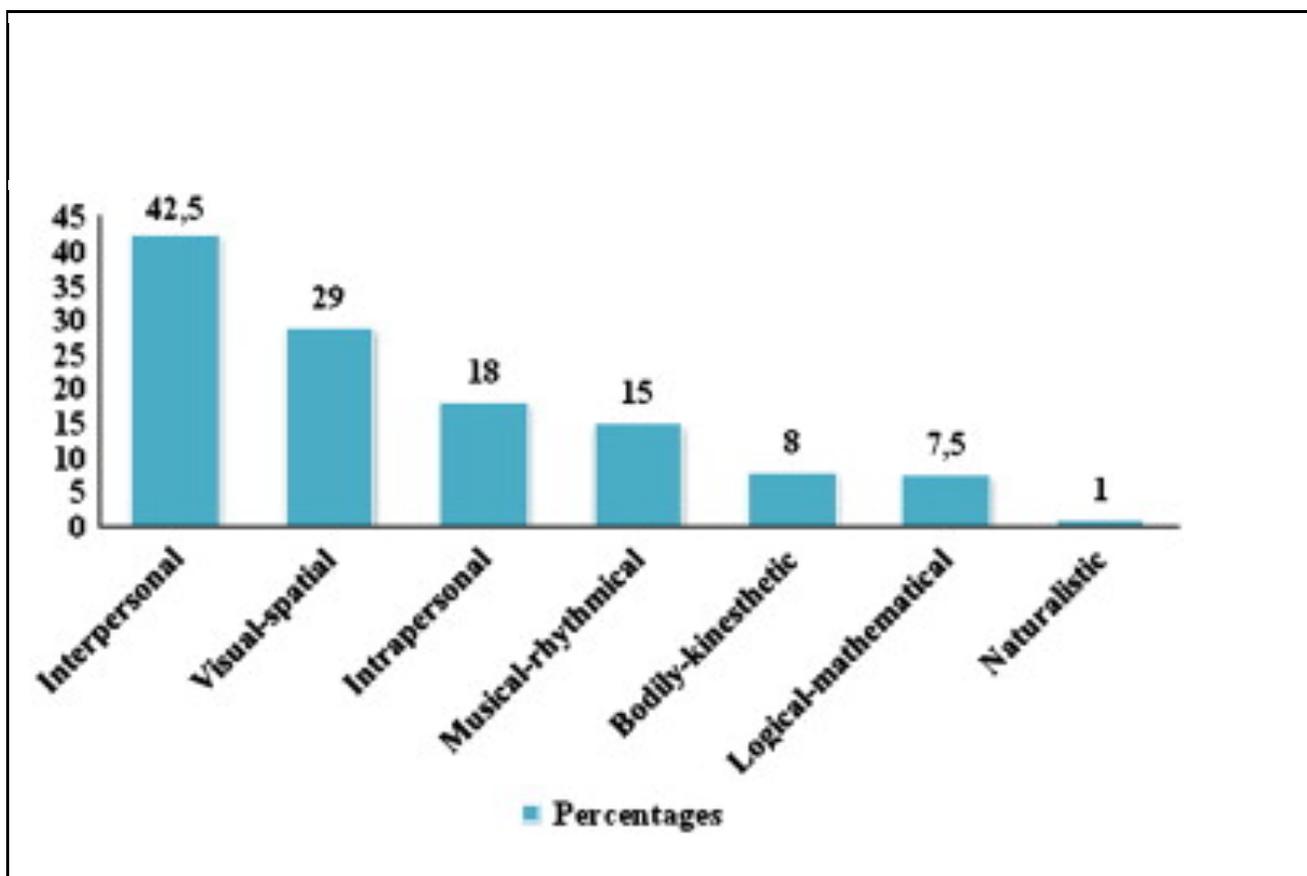lessons to develop other bits of intelligence besides linguistic intelligence

Figure 3: Results of the frequency analysis conducted on the Linguistic + other intelligence type category.
Source: Perihan Savas, "Pre-service English as a foreign language teachers' perceptions of the relationship between multiple intelligences and foreign language learning," *Learning and Individual Differences* 22, no. 6 (2012): 852, https://doi.org/10.1016/j.lindif.2012.05.003.

As Figure 3 depicts, interpersonal intelligence is often combined with linguistic

intelligence when teaching English as a foreign language. Since communication is the goal of

foreign language learning, it is equally important that language learners understand emotions and

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[47] Perihan Savas, "Pre-service English as a foreign language teachers' perceptions of the relationship between multiple intelligences and foreign language learning," *Learning and Individual Differences* 22, no. 6 (2012): 852, https://doi.org/10.1016/j.lindif.2012.05.003.

empathize with others as it is for them to understand the words people are saying. Lastly, findings indicate that speakers benefit most from active practice and interaction opportunities with native speakers.

Participants find success through songs and background music applications during foreign language work. While musical intelligence ranks fourth on the scale of frequencies, participants acknowledge how musical activity aids in pronunciation skills, rhythm, and pitch. They also add that incorporating Music in foreign language learning makes the acquisition process more enjoyable, connects with people's feelings, and makes these learning experiences easier to retain. Lastly, Perihan Savas mentions Milovanov et al. and how they discover that language students with higher musical aptitude score higher on the English pronunciation test.[48]

The interactive, explorative, and creative aspects of language acquisition carry into Orff music instruction as students explore language and musical structure, interact through conversation and collaboration, and create Music and language as they build upon discussions, improvisations, and compositions. Readers can see Gardner's eight bits of intelligence reflected in elemental music-making, opera workshops, and foreign language coursework. Specifically, when analyzing the multiple intelligences developed through the Orff approach in comparison to Cantonese Opera, there are various similarities:

Interdisciplinary Activities in Cantonese Opera	"Multiple Intelligences" applied by students							
	1	2	3	4	5	6	7	8
Repertoire Analysis	✓	✓				✓	✓	✓
Singing	✓	✓		✓		✓		

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[48] Savas, "Pre-service English," 852.

Interdisciplinary Activities in Cantonese Opera	"Multiple Intelligences" applied by students							
	1	2	3	4	5	6	7	8
Acting/Storytelling			✓		✓	✓		✓
Speaking/ Rhythmic Speech	✓	✓				✓		
Movement and Dance			✓		✓	✓		✓

Figure 4: "Multiple Intelligences" applied by students
Note: The table above only shows the skills learned in Orff that align with Cantonese Opera rather than an exhaustive list of skills developed in Orff.

Conversely, since music appreciation is more analytical and less creative, the repertoire analysis is the only coinciding activity to the Cantonese Opera study.

Educational Trends

Educational trends in social-emotional learning in public schools nationwide inspire this study assessing the Orff approach's ability to aid in foreign language learning. Foreign language coursework demands advanced communication skills. Meanwhile, music students can express themselves and share their personal cultural stories and practices more than those not involved in Music.[49] There are speculations in the literature that suggest Music's experiential and playful nature causes students to take more creative risks.[50] Additionally, Gardner's theory of multiple

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[49] Renée Crawford,"Socially Inclusive Practices in the Music Classroom: The Impact of Music Education Used as a Vehicle to Engage Refugee Background Students," *Research Studies in Music Education* 42, no. 2 (2020): 250. http://dx.doi.org.ezproxy.liberty.edu/10.1177/1321103X19843001

[50] Crawford, "Socially Inclusive Practices in the Music Classroom," 250.

intelligences indicates that music and language learning are interdependent, and music instruction specifically advances language skills.[51]

This study can potentially influence language learning curricula as it may inspire language teachers to incorporate music-making within their subject area. Language teachers can employ songs to aid in vocabulary memorization. For example, students can sing "Juanito" to teach students the Spanish translation for parts of the body. Additionally, language teachers can apply dance to mimic physical responses. In the prior scenario, students can touch their heads each time the song mentions "la Cabeza," which would resemble the language acquisition technique, Total Physical Response. These situations represent a mere sample of the numerous music and language collaborative opportunities possibilities. Thus, this study can also inspire the development of professional learning communities amongst the arts and language departments and promote further cross-curricular connections to Music. Rieb and Cohen support this notion explaining, "As students acquire language skills, they will need to practice rhyming, segmenting, and blending to apply the language to construct sentences and participate in the discourse. Songs can be implemented to provide exercises with direct instruction in rhythm and analysis of song lyrics to promote training in these abilities."[52] Furthermore, this study can encourage further research as scholars can test methodologies such as Kodaly, Dalcroze, and Feierabend and successful acquisition of the Spanish language, English as a Second Language (ESL), and other foreign languages.

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[51] Howard Gardner, *Frames of Mind : The Theory of Multiple Intelligences. (*New York: Basic Books, 1983), 122.

[52] Rieb and Cohen, "The Impact of Music on Language Acquisition," 66.

Music Education's Connections with Language Acquisition

Hodges claims that all humans are born able to respond to Music, calling it a "universally innate human trait."[53] He references how human speech naturally comprises musical components that convey emotion and decipher meaning. He explains, "Long before youngsters begin to talk, they are adept at deciphering the emotional content of speech, largely due to the musical characteristics of IDS [infant-directed speech]. In IDS, it is the prosodic, or pitch, timbral, dynamic, and rhythmic aspects to which the baby responds, certainly not the verbal content."[54] Humans are musical because it is essential to human life as they learn to communicate through sound before semantics. Hodges suggests, "Music may have provided survival benefits by helping to establish parent-infant bonds, by aiding in the acquisition of language, by providing a unique way of knowing, and by playing important roles in social organization."[55] Thus, Hodges argues that since Music is inherent to all human beings and vital to human life, it has, therefore, inherently earned a position in the school curriculum, as all humans can find value in developing their musical behaviors.

According to Gardner, measuring intelligence is not a straightforward process. Instead, the concept of intelligence assumes the needs and practices within the communities where they reside. For example, a rural community may consider intelligence to include the tending and development of their farmland and the individual's moral and interpersonal skills. Conversely, an

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[53] Donald A. Hodges, *Music In The Human Experience: An Introduction To Music Psychology*, 2nd ed. (New York: Routledge, 2020), 39.

[54] Hodges, *Music In The Human Experience.,* 44.

[55] Ibid.

inner-city society may define intelligence through literary and technological fluency. Gardner adds that there are two foundational components of intelligence, which include "(1) Individuals who are capable of using their array of competencies in various domains of knowledge; and (2) the societies that foster individual development through the opportunities they provide, the institutions they support, and the value systems they promote…In this framework, intelligence becomes a flexible, culturally dependent construct."[56]
Gardner devised the concept of "Multiple Intelligences." generally, intelligence comprises numerous skill sets and knowledge. Additionally, people learn intelligence through various means, including but not limited to schooling, parent instruction, and experiential learning.

Gardner's research reveals that people possess the capability of developing various bits of intelligence and that each person has a unique cognitive capacity. Gardner states, "Buried far back in evolution, music and language may have arisen from a common expressive medium."[57] He also explains that a single standardized test cannot determine intelligence. He defines intelligence as comprising five main categories: linguistic, musical, logical-mathematical, spatial, and bodily-kinesthetic. He urges educators to structure curriculum and assessment to develop each of these bits of intelligence and allow each student to succeed. Gardner adds, "Linguistic and musical expression and communication had common origins and split off from one another several hundred thousand, or perhaps even a million, years ago."[58] Gardner's work introduces information about how students acquire musical and linguistic intelligence, which is

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[56] Howard Gardner, *Multiple Intelligences: New Horizons, (*New York: Basic Books, 2006), 199-199.

[57] Howard Gardner, *Frames of Mind : The Theory of Multiple Intelligences. (*New York: Basic Books, 1983), 122.

[58] Ibid., 122.

essential for preparing for the quasi-experimental study. It also challenges readers to consider the definition of intelligence, which will influence the assessments for the experimental aspect of the study.

Ballard's study on Music and the brain proves musicians are advantaged when learning languages. More importantly, she iterates the specific aspects of language application where musicians have an advantage, including:

1. Executive Functioning
2. Multi-tasking
3. Problem-Solving
4. Cognitive Development
5. Emotional Regulation
6. Brain Health
7. Spatial Abilities
8. Memory
9. Attention
10. Concentration
11. Language
12. Phonemic Awareness
13. Speech Perception
14. Pitch Perception
15. Verbal and Non-verbal Reasoning
16. Understanding of Emotion in Voices
17. Listening Skills Retained Through the Aging Process
18. Transfer of Information from Working Memory to Long-term Memory
19. Less Right or Left Handedness
20. Equal Use of Hands in Pianists
21. More Than Twice Better Accuracy Distinguishing Touch and Hearing.[59]

Additionally, her report shows that male musicians have 5 percent larger brains than non-musicians.[60] She emphasizes that brain development during music-making dramatically increases when students learn young.

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[59] Julie Ann Ballard, "Music Study and the Brain," *Clavier Companion 10, no. 2 (2018): 9-9.* https://ezproxy.liberty.edu/login?url= https://search.ebscohost.com /login.aspx?direct=true&db=ehh&AN= 128507231&site=ehost-live&scope=site

[60] Ibid.

McIntire explains that students advance their literacy through music study and expands

upon the definition of literacy, including how people use language to communicate through

reading, writing, listening, and speaking.[61] Learning activities such as decoding, interpreting,

creating, expressing, and memorizing are a few skills linking Music to literacy. McIntire

provides sample lesson ideas and projects that enhance literacy, emphasizing the importance of

creating Music, singing, and playing these composed works.

Daryl W. Kinney examines students' test scores before and during enrollment in a

performing ensemble and how and if socio-economic status affects scores. Kinney's study

indicates:

> Sixth-grade band students scored significantly higher than choir students and
> nonparticipants on every subtest of 6th- and 4th-grade achievement tests. Eighth-grade
> band students scored significantly higher than nonparticipants on 4th-grade reading and
> Math and every subtest of the 8th-grade achievement test except Social Studies. Similar
> results for both cohorts suggest that band may attract higher-achieving students from the
> outset and that test score differences remain stable over time.[62]

Kinney's study only shows significant academic achievement for instrumental music students, as

the choir scores do not follow the same trends. There are cases within the study where non-music

students score higher in some subject areas than choir students. With Orff having vocal,

instrumental, movement, and creative opportunities in the general music classroom, it is curious

whether the approach improves language acquisition, mainly because it is not a typical

instrumental performing ensemble.

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[61] Jean M. McIntire, "Developing Literacy Through Music," *Teaching Music* 15, no. 1 (2007): 46, https://go.openathens.net/redirector/liberty.edu?url=https://www-proquest-com.ezproxy.liberty.edu/trade-journals/developing-literacy-through-music/docview/227157455/se-2?accountid=12085

[62] Daryl W. Kinney, "Selected Demographic Variables, School Music Participation, and Achievement Test Scores of Urban Middle School Students," Journal of Research in Music Education 56, no. 2 (2008): 145, https://journals-sagepub-com.ezproxy.liberty.edu/doi/10.1177/0022429408322530

Michelle Dana Cohn designs an experiment where participants speak in a sound-attenuated booth in the University of California Davis Phonetics Laboratory. This study proves that music training leads to higher accuracy in linguistic-based tasks. Musicians allegedly transfer the skills learned in Music to their speech perception abilities. She explains, "The logistic regression model revealed that musicians show higher accuracy in detecting the two vowels in each trial than non-musicians."[63] This research study is very balanced, providing theories of scholars that suspect music and speech perception have correlations and others that do not believe this theory. It provides applicable information and results to guide listening and speech assessments and may inform whether the Orff approach affects language proficiency.

Barbara Fritz Smolej and Cirila Peklaj examine the effects of music instruction via the E.Willems Method on music and language skills among students suffering from intellectual ability. They explain:

> The aim of this case study was to explore the effects of music instruction according to the E. Willems teaching method on the music abilities and language skills in students with intellectual disabilities (ID)...Results showed a significant improvement in the music abilities in rhythm between the first and the second measurements. The improvements between the first two measurements were also found in language skills in following instructions and in discrimination and repetition of phonemes in pairs.[64]

This article follows a similar format to the present study designed to assess the effectiveness of a method and its ability to improve language learning. Results indicate that this method enhances music and language proficiency and provides an overview of the neurological and technical

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[63] Michelle Dana Cohn, "Investigating the Effect of Musical Training on Speech-in-speech Perception: The Role of f0, Timing, and Spectral Cuest" (PhD diss., University of California, 2018), 49.

[64] Barbara Smolej Fritz and Cirila Peklaj, "A Case Study of Music Instruction According to E. Willems' Pedagogy in Children with Intellectual Disabilities: Its Impacts on Music Abilities and Language Skills," *International Journal of Music Education* 37, no. 2 (2019): 243, https://doi-org.ezproxy.liberty.edu/10.1177/0255761419833082

theories behind this result. Additionally, the article offers evidence of transfer learning between music and language concepts. It also provides information about how students with special needs process Music and language specifically, which teachers must consider when assessing students in the experimental groups.

Brain plasticity is more significant among younger children aged one to seven years. This age range is known as the "sensitivity period," in which children become remarkable learners. Some cognitive gains of musicians over non-musicians include memory, attention, spatial abilities, language, pitch perception, and equal application of hands among pianists. Julie Ann Ballard's study on the "Mozart Effect" shows that spatial activity increases for fifteen to twenty minutes when listening to works by Mozart. She adds, "Neuroscientists discovered that male musicians had 5% larger brains than male non-musicians!"[65] This study provides evidence that musicians are advantaged when learning languages. More importantly, it identifies the specific aspects of language application where musicians maintain an advantage, including cognitive development, memory, attention, concentration, language (in general), phonemic awareness, speech perception, pitch perception, reasoning, understanding of emotion in voices, and listening skills.

He discovers through his research that musical engagement can aid in language acquisition in terms of motivation, linguistic development, and cultural capacity. Salvatore Campisi explains that Music and language are connected since speech developed because humans access sounds to communicate and express emotion. When babies are born, they cannot differentiate between singing and speaking; therefore, they often learn to recognize and produce

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[65] Ballard, "Music Study and the Brain," *9.*

the sounds of the language before mastering the art of communication. These sounds eventually become more sophisticated as words, phrases, and facial expressions become new approaches to communication. Campisi elaborates, "Music and language share features such as pitch, intonation, and stress. There is, therefore, a good degree of overlapping and mutual cognitive support between abilities that pertain to Music and language."[66]

Campisi completes an experiment in which he seeks to enhance students' Italian language skills, including listening, speaking, reading, and writing, through studying the song *La ballata dell'amore cieco (o della vanità)*. Results indicate that students' interest, or lack thereof, highly affects their scores as those who enjoy the song experience more significant development in their language skills, whereas those who do not demonstrate reduced growth in their language skills as the unit progresses. This experiment does not examine whether foreign language acquisition skills can improve when the Music explored is not in the target language, which is the gap in the literature the current study proposes to fill.

Samantha Ontiveros claims that listening to and analyzing Music enhances language learning skills, as students can learn grammar, vocabulary, comprehension, speech, pronunciation, reading, writing, and culture.[67] Additionally, she suggests asking students to access Music as inspiration to create new arrangements and scripts to enhance the piece and advance their language applications on a more complex level. Furthermore, her research suggests that adding Music to language learning units makes students feel more joyful, relaxed, and

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[66] Salvatore Campisi, "La Ballata Dell'amore Cieco': A Case Study on the Use of Songs in Italian Language Learning." *In Literature in Language Learning: New Approaches*, edited by A. B. Almeida, U. Bavendiek & R. Biasini, 60. Research-publishing.net, 2020.

[67] Samantha Ontiveros, "Harmonizing Music And Language Acquisition: Learning Language With The Arts," Masters of Second Language Teaching, Utah State University, 2020, 72.

confident in their abilities as the focus shifts from completing an assignment or taking a test to enhance a song or listening to Music. This source raises questions for the current study because it suggests that music appreciation and active music-making through approaches such as Orff can aid in language learning; the mystery is determining which is more effective. When closely examining the research Ontiveros highlights, it seems the skills acquired during the listening activities are more foundational when compared to the more advanced and complex skills addressed during the music-making creative units.

Diane Larsen-Freeman overviews several language methods teachers can implement to accommodate diverse learners. She explains that studying these methods helps teachers understand the philosophy and science behind each method's effectiveness, develops teachers' philosophical understanding of why they chose the method and provides teachers with the knowledge and tools to implement more methodologies. The techniques mentioned in Larsen-Freeman's book are applied to prepare and deliver the Spanish assessment in the current study.[68] Some of the most suitable methods for this study include Total Physical Response, where students learn language through actions, Grammar Translation where students learn vocabulary through translating to and from their native language, Audio-Lingual Method where the teacher interviews the student; and The Silent Way, where the teacher asks the student to speak in the target language with limited prompts or assistance from the teacher.

Phil Murphy and Sheila Oliver outline Student Growth Objectives (SGOs) and how they can be applied to improve teaching effectiveness and student achievement. They explain, "SGOs are long-term academic goals for groups of students established by teachers in consultation with

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[68] Diane Larsen-Freeman, *Techniques and Principles in Language Teaching* (3rd ed. Oxford: Oxford University Press, 2012), 11-12.

their supervisors."[69] SGOs consist of a pre-assessment where students complete a test at the beginning of the year to assess their current skills. The teacher then writes a proposal of the initial data and achievement goals for the year and administers a posttest where students complete the same test at year-end to measure improvement throughout the year. The teacher then analyzes the new data to align with the goals they propose at the beginning of the year. Each teacher in New Jersey is required to create two SGOs each year.

Active Music-Making, Orff, and Language Acquisition

Elemental Music combines Music with movement, dance, and speech. Keetman provides an overview of the Orff approach and its encompassing components, stating, "The patterns in two-four times form the rhythmic foundation for the first stages of teaching. With them, the children accompany the teacher's melodies and their playing and singing, and they play and improvise with them in many different forms."[70] Keetman explains, "To preserve this unity [of Music, movement, dance, and speech] is one of the main tasks that Orff-Schulwerk has established itself. It requires, besides the development of music and language abilities, an elemental movement training of equal aim that can provide, via a strong emphasis on rhythmic elements, a reciprocal benefit to musical capacity."[71] It is separated into sections to review how music teachers can approach rhythmic-melodic exercises and elementary movement training. The book intends to provide processes and arrangements without excluding other protocols the

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[69] Phil Murphy and Sheila Oliver, "Achievenj: Student Growth Objectives (Sgos)," State.Nj.Us, Last modified 2019, https://www.state.nj.us/ education/AchieveNJ/teacher/objectives. shtml#:~:text=A%20Student% 20Growth%20Objective%2C%20or,in%20consultation% 20with%20their%20supervisors.&text =Based%20on%20available%20prior%20student, student%20growth%20and%2For%20achievement.

[70] Gunild Keetman, *Elementaria: First Acquaintance with Orff-Schulwerk* (Germany: Schott Musik Intl Mainz, 1984), 17.

[71] Ibid*.,* 17.

teacher may wish to try. It includes background information, principles, and processes of the Orff approach. Lastly, it informs lesson units for the current study as it contains many examples of short instrumental arrangements and movement activities.

The American Orff-Schulwerk Association explains, "In Orff Schulwerk classrooms, children begin with what they do instinctively: play! Imitation, experimentation, and personal expression naturally occur as students become confident, life-long musicians and creative problem solvers."[72] The Orff approach seeks to teach the language and structure of Music in how children learn to speak. Students begin by immersing themselves in a musical environment and responding to it through movement and simple teacher commands. Sometimes, students can execute small and uncomplicated decisions, such as creating a pose or choosing a student with whom to shake hands. As the lesson progresses, students eventually learn to sing or play the song of study due to the various repetitions they heard throughout the unit. Then, students can expand upon the song, which may occur by adding rhythms via rhythm bricks, creating a new verse, or adding a repeating section with additional choreography. The units typically conclude with an informal performance and group reflection. Similarly, people learn language by listening and responding, mimicking phrases they hear, creating new phrases, and correcting or teaching new vocabulary and grammar when necessary. Music's connections to language learning stimulated a curiosity regarding whether studying music through this approach will affect Spanish language proficiency.

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[72] "What Is Orff Schulwerk? - American Orff-Schulwerk Association". American Orff-Schulwerk Association, Last modified 2022. https://aosa.org/about/what-is-orff-schulwerk/.

Classics For Kids explains Carl Orff's philosophy and approach. He is known for emphasizing involvement and hands-on learning within the vocal general music classroom.[73] This phrase suggests that active music-making is more memorable than consuming Music through passively listening or watching. Participation in Music also implies that students have some creative freedom over the musical endeavors in the classroom. Classics for Kids adds:

> Orff defined the ideal Music for children as 'never alone, but connected with movement, dance, and speech—not to be listened to, meaningful only in active participation.' Orff said, 'Experience first, then intellectualize.' Based on this idea, the Orff approach builds understanding of concepts and skills through connecting students with the music by experiencing it in multiple ways. These include speech/chants, movement, singing, drama, and playing pitched and unpitched instruments.

Orff claims that musical analysis must occur after experiencing Music through active music-making rather than merely listening and observing.

Daniel J. Levitin's book suggests that listening to and participating in Music engages more parts of the brain than "almost anything else."[74] He argues, "Music is fundamental to our species, perhaps even more so than language."[75] Specifically, Orff's movement-based curriculum resembles a foreign language's physical response approach, where students learn language physically through movement, play, and pointing.[76] Instrumental activities align with a foreign language's grammar translation as students translate sounds, notes, or melodic directions into

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[73] "Classics For Kids", Classicsforkids.Com, Last modified 2022, https://www.classicsforkids.com/teachers/resources.php?article=Orff_Approach.

[74] Daniel J. Levitin, *This Is Your Brain on Music: The Science of a Human Obsession.* (New York: Plume/Penguin, 2007), 334.

[75] Ibid.

[76] Larsen-Freeman, *Techniques and Principles in Language Teaching,* 3.

keys or fingering, and foreign language students translate words into their native language.[77]

Therefore, it is likely that such connections between Orff and foreign languages will surface

during the research study.

Johanna Kawasaki elaborates on the meaning of Total Physical Response (TPR) and how

teachers typically apply it in the language learning classroom. This approach favors teaching

language similarly to how students acquire their first languages. Students hear the teacher speak

in the target language and learn how to respond to the language through actions. The teacher

often begins with simple commands such as "Touch your desk. Open the door. Pick up your

pencil." rather than questions such as "Where is your pencil? Who is at the door?" that would

demand a verbal answer. Students convey their understanding of the language by completing the

command's associated action. Kawasaki adds, "By acting out language, it is thought that students

interpret meaning through different parts of the brain, pairing physical and intellectual

analysis."[78] Benefits of TPR include helping students connect language, and movement increases

memory retention of that language. Kawasaki explains that the physical and repetitive drill

present in this language approach is what makes it most memorable. Furthermore, since

kinesthetic learning occurs, students are likely engaged throughout the lesson. The Orff approach

mentioned in the current study resembles TPR, as the processing involves experiencing the

Music and responding to it by rote before being introduced to the complexities of the notation.

Levitin explains how the human brain learns, processes, and remembers the music. He

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[77] Larsen-Freeman, *Techniques and Principles in Language Teaching,* 3.

[78] Johanna Kawasaki, "What Is TPR For Teaching English And How Can I Use It? - Bridgeuniverse - TEFL Blog, News, Tips & Resources". Bridgeuniverse - TEFL Blog, News, Tips & Resources, Last modified 2020. https://bridge.edu/tefl/blog/what-is-tpr-for-teaching-english-and-how-can-i-use-it/.

supports this notion by explaining, "Musical activity involves every region of the brain that we know about and nearly every neural subsystem."[79] His claims involve the theory that people become experts in Music through time and effort rather than talent. Additionally, he asserts that a human's enjoyment of Music contributes to their ability to improve upon making Music stating, "If I really like a piece of music, I'm going to want to practice it more, and because I care about it, I'm going to attach neurochemical tags to each aspect of the memory that labels it as important."[80] Finally, he argues that Music is foundational to all human beings, even more than language. Levitin adds:

> The ten thousand hours theory is consistent with what we know about how the brain learns…The more experiences we have with something, the stronger the memory/learning trace for that experience becomes. Although people differ in how long it takes them to consolidate information neurally, it remains true that increased practice leads to more neural traces, which can combine to create a stronger memory representation.[81]

Levitin's context on brain activity helps readers understand how people learn and connect with the music and other academic subjects, which can inform how music teachers can structure their teaching to further connect with their students. His claim that Music stimulates every brain region supports the theory that music education can aid language learning. While Levitin proposes that listening stimulates the brain, he claims that playing Music and actively making Music stimulates the brain even further, which helps support how the Orff approach may produce a more significant influence on language learning than a more passive music-analyzing course such as music appreciation.

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[79] Daniel J. Levitin, *This Is Your Brain on Music: The Science of a Human Obsession.* (New York: Plume/Penguin, 2007), 85-86.

[80] Ibid., 198.

[81] Ibid.*,* 197.

Lawson Carroll advocates for instrumental instruction in fourth grade instead of fifth grade. Lawson Carroll states,

> The current study provides an opportunity to look critically and empirically at how band teachers may deliver more effective instruction and how that delivery runs parallel to concurrent instruction in ELA[English Language Arts]. This opportunity is offered not only to help students become better readers in the isolation of an ELA classroom but also to help them become better musicians in an overwhelmingly language-based beginning band environment.[82]

This aspiration results in a quantitative study that assesses the correlation between text literacy and music literacy among beginning band students. Findings show that music students benefit from holistic, student-centered instruction and that music instruction parallels ELA instruction. Lawson Carroll adds, "The content area literacy texts and influential music pedagogues such as Kodaly, Orff, and Suzuki deliver the same message: simply reading and rereading material doesn't work. Students need steps, strategies, and skills. They need time to interact with each other, process the content, apply the content, and reflect on the content."[83] Although this study focuses on beginning band students specifically, Lawson Carroll advocates for music classes to mirror experiential approaches such as Orff to provide students with a well-rounded musical experience that will improve students' musicianship and language skills.

Crawford interviews Jack, who explains that music class is applicable for increasing confidence and discovering new skills. Singing and playing instruments has also resulted in higher academic engagement and achievement in other subjects. The article also informs readers that music classes can provide an environment for healthy and meaningful interaction among

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[82] David Lawson Carroll, "The Reciprocal Relationship Between Text Literacy and Music Literacy Among Beginning Band Students" (Ed.D diss., Northern Illinois University, 2017), 113.

[83] Ibid., 152.

students and teachers. Crawford explains:

> Transculturation occurred in a number of ways in this study; it was discovered to be more than just cultural exchange, but the co-learning from peer to peers, teacher to students, and school to the community. Not only were refugee background students provided with the chance to broaden their own culture and knowledge by being introduced to and becoming skilled at new Music, but teachers and the wider community also learnt new things from refugee background students and their families about cultural traditions, values, knowledge, and capital.[84]

This article has improved awareness of cross-content connections in music class, the higher self-esteem that results from a sense of belonging in Music, the multiple opportunities for interaction, and the natural cognitive connections between music-making and language communication. All these factors increase the likelihood that general music classes improve language learning and that making Music engages these various skills and experiences.

Courtney Rieb and James Cohen argue that language arts, foreign language, and ESL instruction (to name a few) would be more effective with more cross-content connections to Music. They explain, "Music is a prelinguistic strategy for communication…Since musical intelligence develops even before linguistic-verbal intelligence, these musical skills should be capitalized on in order to facilitate the development of language and the language acquisition process."[85] To promote cross-content music-making, Rieb and Cohen explain that Music has linguistic, cognitive, and social benefits, all of which contribute to language learning. Music also creates an environment for expressive musicianship, often translating to students finding it easier to communicate their feelings through language. This article provides an in-depth analysis of the brain and how auditory processing is crucial to music and language learning. It explains that

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[84] Renée Crawford, "Socially Inclusive Practices in the Music Classroom: The Impact of Music Education Used as a Vehicle to Engage Refugee Background Students," Research Studies in Music Education 42, no. 2 (2020): 249-250. http://dx.doi.org.ezproxy.liberty.edu/10.1177/1321103X19843001

[85] Rieb and Cohen, "The Impact of Music on Language Acquisition," 66.

active music-making improves students' processing ability in the brain's temporal region. These claims help to justify that active music-making potentially enhances language learning.

Pan explains that learning about other cultures helps students feel validated that their culture and the diversity of cultures within the class are essential. She explains, "Implementing multicultural teaching strategies can honor children as unique human beings who are members of diverse communities and families…Teachers are making efforts to provide various experiences to expand students' knowledge of their own cultures as well as others."[86] She presents numerous multicultural music lessons with cross-content connections to language-based coursework. Furthermore, she explains that collaborating with teachers across disciplines makes multicultural studies more organic and, in some instances, authentic, depending on the diversity of the staff. Pan's application of nursery rhymes connects with how Orff-Schulwerk's musical process is elemental. Concepts such as rhythm, melody, and beat are often taught through nursery rhymes because of their simplistic nature, allowing teachers to advance quickly to the creative and layering process. This resource can inform lesson plans for the current study (students can sing cultural songs in English) and provide evidence for how studying nursery rhymes aids in language learning and practice.

Keith Mason's interdisciplinary approach suggests that music instruction can enhance the learning of other subject areas. It helps students understand complex issues from disciplinary perspectives and improve the quality of the discipline-based curriculum. He explains, "Interdisciplinary curricular planning involves two or more subjects that allow students to make connections and learn at a deeper level…It can and should be implemented when feasible

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[86] Yingying Pan, "Integrating Cantonese Nursery Rhymes Into Early Childhood Music Classrooms: A Lesson for Learning Music, Language, and Culture," *Journal of General Music Education* 35, no. 1 (2021): 34. https://doi.org/10.1177/10483713211026293

because it helps students understand complex issues from disciplinary perspectives, but

interdisciplinary work should enhance, not supplant, a quality discipline-based curriculum."[87]

The approach allows students to acquire more profound levels of learning in other subjects such

as ESL, language arts, mathematics, social studies, and world languages. This article inspires

how Music can connect with ESL and foreign languages in interdisciplinary learning. With Orff

sharing much in common with musical theater due to its dramatic elements, many

interdisciplinary ideas and musical objectives exist in the Orff classroom.

According to Barbara Schultz, Barbara Milne explores using bedtime melodies as a

learning tool to teach young children. Milne sings the phonetic song "Apple, Apple" to her

daughter and observes how much Music she absorbs during bedtime. She composes and records

songs to teach her daughter preschool fundamentals. This practice influences early childhood

development and allows Milne to create products and applications for parents to implement.

Barbara Shultz provides an overview of the benefits of Milne's musical resources. Schultz

discovers, "There's a correlation between music and memory."[88] This resource provides teachers

with an overview of how Music teaches language concepts such as phonics and pronunciation. It

also offers instructional ideas for how to incorporate technology in music instruction. Since

many of the instructional strategies Milne implements share similarities with Orff (explorative,

playful, language-based), the ideas addressed in the article can influence instructional approaches

for this treatment group.

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[87] Keith Mason, "Hello Dolly! An Interdisciplinary Approach," *Choral Director* 16, no. 1 (2019): 8-9. http://ezproxy.liberty.edu/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fmagazines%2Fhello-dolly-interdisciplinary-approach%2Fdocview%2F2189563809%2Fse-2%3Faccountid%3D12085

[88] Barbara Schultz, "Learning Though Relaxing Music," *School Band & Orchestra* 22, no. 5 (2019): 12. http://ezproxy.liberty.edu/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fmagazines%2Flearning- though-relaxing-music%2Fdocview%2F2247533070%2Fse-2%3Faccountid%3D12085.

People can perceive learning music as learning a new language; the more one speaks, and

practices, the more proficient one will be. Sam Evian explains how artists in the 20th century

were not afraid to assume risks and experiment with different methods of making Music. He

references Marvin Gaye and how his songs seem lighthearted and casual on the surface, but the

true meaning is much more potent (i.e., racism and violence). He adds, "How I work with people

in my world is similar to how jazz musicians communicate. When I have a band in, and we're

talking about a certain drum part, everybody's just scatting rhythms at one another, like jazz

musicians talk. Music is a language; the more you listen to it and speak it, the better you are at

it."[89] This article compares Music to language and addresses music-making aspects resembling

conversations. Such comparisons resonate with music education and foreign language classes

because, in the general music class, students practice improvising through scat-singing and

instrumentation. Similarly, foreign language classes require students to interact with one another

and improvise spoken conversations. Such improvisational activities are often lacking in the

music appreciation classroom.

       This article aims to draw attention to the importance of soft skills and demands that

schools value these skills more, adding greater prestige to the field of education. Sean Slade and

Philip Lambert explain that schools teach students hard and soft skills necessary for developing

intellectually and socially advanced skills. Currently, the definition of hard skills entails tangible

and objective skills students learn, whereas soft skills consist of life skills that are more open-

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[89] Sam Evian, "Music Is a Language," *Relix 48, no. 7 (2021): 12-12.*. https://ezproxy.liberty.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=153611299 &site=ehost-live &scope=site

ended and less measurable.[90] Soft skills also increase students' creativity, problem-solving, and interpersonal skills. Even though soft skills are less tangible, they are essential to a well-rounded and exemplary education because they help students be more innovative and creative in a technologically advanced and competitive world. Slade and Lamber support this notion stating, "The way we use information in the future, as well as the way we create new meanings and new ideas, will be critical. Information is still important, but in this century, the role of utilizing it and adapting it to new and varied situations will be paramount."

Similarly, music education primarily develops students' soft skills. Specifically, the Orff approach creates a learning environment that prioritizes creativity as students create or expand upon the repertoire they study in class. Students problem-solve when they have to make artistic compromises as students collaborate with others and develop interpersonal skills as they strengthen their ability to perform for others, give feedback to their peers, and collaborate on group projects.

With musicians demonstrating a discerning ear for speech and a keen understanding of language structure, students involved in Orff may likely demonstrate similar skill sets. Dana Cohn provides research support for this hypothesis through the experiment she conducted in analyzing the effects of music training on speech development and perception. Results show that musicians, also known as active music makers, demonstrate more significant multi-vowel detection, higher amounts of syllables stored in the brain stem, and higher accuracy in linguistic-based tasks than students not actively involved in music-making.[91]

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[90] Sean Slade and Philip Lambert, "Reclaiming Soft Skills," Ascd.Org, Last modified 2019. https://www.ascd.org/blogs/reclaiming-soft-skills.

[91] Michelle Dana Cohn, "Investigating the Effect of Musical Training on Speech-in-speech Perception: The Role of f0, Timing, and Spectral Cuest" (PhD diss., University of California, 2018), 60.

Although all forms of music-making likely stimulate the brain to some extent to aid in language development, the more the student engages in the music-making process, the more neurological activity occurs.[92] With such plentiful research linking active music-making to language fluency, the Orff approach will likely positively affect students' language scores over music classes that do not utilize this approach. Since music appreciation focuses on learning about Music, listening, and examining various types of Music, this class prioritizes making students more well-versed in partaking in intellectual musical discussions and analyzing the qualities and characteristics of Music over acquiring the skills and musicianship necessary to make and create Music.

Music Listening, Music Appreciation, and Language Acquisition

Honing explains that listening to music and playing/singing by ear ignites the imagination and relates music exploration to playing a game. There are also various intellectual benefits to music listening which Honing clarifies; "In music, our cognitive functions, such as observation, memory, attention, and expectation, are stimulated, as in a mating ritual with the listener but without need and danger and in a way that we find pleasurable, instructive, and exciting."[93] Even though Music is cognitively stimulating, participants do not realize the extent to which their minds are working. Honing adds,

> The primary question is the extent to which Music and language can be said to involve identical brain functions, and whether language and music capabilities can be situated at the same location in the brain…one thing is clear: the popular notion that Music can be localized in the right half of the brain, and language in the left is utter nonsense. When we listen to Music, numerous locations throughout the brain are involved.[94]

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[92] Daniel J. Levitin, *This Is Your Brain on Music*, 334.

[93] Henkjan Honing, *Musical Cognition: A Science of Listening* (New York: Routledge, 2014), 20.

[94] Ibid., 41.

Furthermore, Honing considers Music listening a form of play where listeners explore various genres and moods and respond to them uniquely. Listeners have become well versed in regulating their emotions through Music as they can select songs that match, intensify, or heal their moods. Most relevantly, the book researches the relationship between musicality and language. Honing's statement about Music engaging numerous locations throughout the brain suggests that listening and making Music engage the same aspects of the brain as language. There is also literature supporting Music's ability to develop perception, memory, and attention, all of which aid in language acquisition and the ability to remain engaged in class.

Martins da Silva acknowledges that ESOL students learn differently and have different developmental skills from native speakers. After selecting random ESOL participants to assess their language proficiency, she found that students with music exposure demonstrate higher language proficiency than those without such exposure. She relies on scholarly research in psychology, linguistics, and neuroscience to support her argument and inform her experiment. She explains, "Specifically, the results suggest that when the participants listen to music, their capacity to reach their vocabulary in development increases through music relaxation."[95] This study champions the effects of passive Music listening on ESOL achievement. It brings some balance to the literature and piques curiosity as to whether there exists a significant difference in language acquisition since students in music appreciation spend a great deal of time listening to and analyzing Music.

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[95] Katia Martins da Silva, "Language and Music: The Influences on ESOL Proficiency Achievement" (M.S Thesis., Regent University, 2018), 12.

Summary

While a wealth of research supports music education's connection to higher performance in language acquisition, it is unclear whether the curriculum's listening and reflecting or the active music-making aspects most contribute to such successes. The following chapters seek to address such questions by documenting the quantitative quasi-experimental study, analyzing the results, and posing further questions in need of research. The goal is to assess the practicality of accessing music education to improve communications and language development.

Chapter 3

Introduction

Although there is qualitative research concerning connections between music and language and analysis of the potential benefits of implementing both Orff and music appreciation approaches within the general music curriculum, there is limited quantitative evidence addressing which approaches affects foreign language learning. There is scarce research thoroughly conducted to determine the effectiveness of the Orff approach on increasing foreign language proficiency compared to more theoretical curricula such as music appreciation. This quantitative research explores Spanish assessment data from elementary students in Northern New Jersey to alleviate this research gap. This study aims to discover whether Orff instruction affects language acquisition among Spanish foreign language students. The data determine which type of music education improves music and language abilities in students.

Design

This study employs a quasi-experimental research study, assessing whether the Orff approach, known for its interactive and creative qualities, would significantly affect foreign language acquisition rather than a curriculum emphasizing music appreciation which showcases the historical context and elements of music through listening. During quasi-experimental research studies, the researcher does not control group assignments . Researchers compare Orff and Music Appreciation's thematic approaches to ascertain differences in Spanish foreign language learning. The independent variable is the musical approaches implemented to teach music to elementary students. In contrast, the dependent variable is the Spanish scores determining the language acquisition level resulting from the musical instruction. The study's quantitative nature allows for concrete evidence of Orff's effect on language acquisition by

analyzing data from Spanish assessment scores. The experiment's design entails teaching one class for two months utilizing the Orff approach and active music-making and teaching the other for two months using the music appreciation curriculum. All these students are enrolled in Spanish foreign language classes utilizing the same curriculum and approach for all study participants. Students attend music and Spanish once per week.

The researcher chose a quantitative method because the study calls for objective, concrete numerical evidence of whether the Orff approach can improve language acquisition. Since qualitative methods have open-ended perceptual tendencies and focus on themes rather than results, the quantitative method is more appropriate for this study. Quantitative methods are predetermined, comprise instrument-based questions, rely on performance, attitude, observational, and census data, and rely on statistical analysis and interpretation.[96] John W. Creswell and J. David Creswell adds, "The researcher tests a theory by specifying narrow hypotheses and collecting data to support or refute the hypotheses. An experimental design assesses attitudes before and after experimental treatment. The data are collected on an instrument that measures attitudes, and the information is analyzed using statistical procedures and hypothesis testing."[97] This study is quantitative because the researcher draws evidence from pre and post-test scores in foreign languages, relies on classroom observation and performance, and demands results rather than feedback. Furthermore, the researcher scans evidence to see whether a correlation exists between higher musicianship and more significant foreign language acquisition.

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[96] Creswell and Creswell, *Research Design*, 16.

[97] Ibid., 17.

As stated, the quantitative method comprises an experimental design because the experiment draws results. Creswell and Creswell explain, "Experimental research seeks to determine if a specific treatment influences an outcome. The researcher assesses this by providing specific treatment to one group and withholding it from another and then determining how both groups scored in an outcome"[98] In this study, the experiment seeks to determine if the Orff approach influences foreign language acquisition. Assessment includes providing Orff instruction to one group, withholding it from another, and determining how both groups score on their foreign language SGO. While the music teacher withheld instruction from the other group, those students still received music appreciation to minimize active music-making, movement, and creativity, which are core qualities of the Orff approach. Instead, the music appreciation group focuses on listening, analyzing, interpreting, and reflecting on the music students hear.

More specifically, this study implants a quasi-experiment. According to Creswell, "In quasi-experiments, the investigator uses control and experimental groups, but the design may have partial or total lack of random assignment to groups."[99] When determining which students should receive Orff instruction and which should receive music appreciation instruction, there is limited ability to assign because the school already arranges students into classes randomly. Therefore, the closest to random that the researcher can achieve is by making sure there is a representation of classes in both School A and School B and using a random number generator to assign classes Orff of music appreciation as demonstrated below randomly.

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[98] Creswell and Creswell, *Research Design*, 12.

[99] Ibid., 166.

- Four sections of 4th grade. 4W, 4X, 4Y, 4Z.

- Classes 4Z and 4Y are in School A, and 4X and 4W are in School B.

- Assign numbers.
  School A: 4Y (1), 4Z (2)
  School B: 4W (1), 4X (2)

- Use a Random Number Generator to determine approaches.
  Set numbers to limit 1 and 2.
  Whichever number pops up will be the classes receiving the Orff approach.

Figure 5: Quasi-Experimental Process

The actual assessment occurs both inside and outside the class period to allow students one on one time to communicate in the target language. The evaluation has performance and written components to gauge the ability to comprehend, speak, read, and write in the target language. The researcher also collects demographic information to determine whether environmental factors affect the results, in addition to the specific type of music class they received, as hypothesized. The individual performance assessments also remove the stage fright students may experience when expected to act out and speak to an audience. John W. and J. David Creswell defines a quasi-experiment as "a form of experimental research in which individuals are not randomly assigned to groups."[100] This research methodology is quantitative as it tested objective theories by analyzing the connection among variables.

Creswell and Creswell's book is a resource for planning and completing qualitative, quantitative, or mixed-methods research. They compare these approaches to help researchers choose which best suits their inquiry. Step by step, Creswell and Creswell provides insight on the foundations of designing, conducting, and analyzing research adding, "The researcher draws conclusions from the results for the research questions, hypotheses, and the larger meaning of the

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[100] Creswell and Creswell, *Research Design*, 250.

results."[101] Reports on statistical findings and evidence should be determined as causal, not coincidental. Practical evidence includes the study's effect size and confidence interval and what researchers can achieve with the information collected. In the case of this quasi-experimental research study, the researcher will implement practical evidence to determine the type of curriculum that will aid in language learning. Teachers that share these objectives may adopt the approaches and methodologies suggested by the findings. The study applied Creswell and Creswell's work to provide the research-based definition of terms in chapter one and to provide structure for the rest of the thesis.

<div align="center">Research Questions and Hypotheses</div>

The following research questions and null hypotheses guide this quantitative study:

RQ1: Is there a difference in the foreign language (Spanish) proficiency in terms of pronunciation, conversation, and literacy (as measured by the Spanish Student Growth Objective and Benchmark Assessments inspired by WIDA) between elementary students that learn music via the Orff approach and those who do not?

H_1 There is a significant difference in foreign language (Spanish) proficiency in terms of pronunciation, conversation, and literacy (as measured by the Spanish Student Growth Objective and Benchmark Assessments inspired by WIDA) among students that learn music via the Orff approach (as measured by tiered rubric benchmark assessments which readers can find in Chapter Three).

RQ2: Is there a relationship between foreign language (Spanish) proficiency in terms of pronunciation, conversation, and literacy (as measured by the Spanish Student Growth Objective

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[101] John W. Creswell and J. David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed. (Los Angeles: Sage Publications, Inc., 2018), 158.

and Benchmark Assessments inspired by WIDA) and advanced music literacy acquisition (as measured by tiered rubric benchmark assessments)?

H_2: There is a significant relationship between foreign language (Spanish) fluency in terms of cognition, memory, and pedagogy (as measured by the Spanish Student Growth Objective and Benchmark Assessments inspired by WIDA and found in Chapter Three) and advanced music literacy acquisition (as measured by tiered rubric benchmark assessments).

Participants

The State of New Jersey recognizes Public Schools as one of the most diverse school districts in New Jersey, with its population 40% White, 10% African American, 29% Hispanic or Latino, 9% Asian, and 3% two or more races. The figure below shows the population of the district's town:[102]

Race and Hispanic Origin	Percent
White	40%
Black	10%
Hispanic or Latino	29%
Asian	9%
American Indian/ Alaskan Native	0%
Hawaiian and Other Pacific Islanders	0%
Some Other Race Alone	0%
Two or more races	3%

Figure 6: Race and Hispanic Origin
Source: Official Site of the State of New Jersey, NJ School Performance Report: Public Township School District (13-0410), 2022, https://nces.ed.gov/Programs/Edge/ACSDashboard/3401830

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[102] Official Site of the State of New Jersey, NJ School Performance Report: Public Township School District (13-0410), 2022, https://nces.ed.gov/Programs/Edge/ACSDashboard/3401830

Of note is that Public School has 6,012 total students.[103] Approximately 15% of students have disabilities, 4.9% are English Language Learners, and 32% are economically disadvantaged.[104] Additionally, 5.8% of students are considered at risk, which means they have missed over 10% of school days.[105]

The researcher implemented cluster sampling as the Orff and music appreciation groups reflect even representation at both schools. There is one School A and one School B school learning through the Orff approach and one School A and one School B school learning through music appreciation. The researcher chose grade four because it is the first-year students who learn Spanish and the only year where Spanish students would have no variances in the type of music instruction they can receive. For example, grades five and six can enroll in an ensemble. Therefore, even if students are part of the music appreciation group, they can still gain experience making and creating music within those ensembles.

The researcher sampled 74 participants. Shawn Loewen and Bronson Hui's language acquisition article references Norouzian's advice on participation sample sizes stating, "Norouzian, for example, showed that SLA researchers can reduce the width of the confidence intervals for Cohen's d by 30% (from current levels as informed by Plonsky, 2014) when they increase sample sizes to between 44 to 49 participants for between-subject designs and 49 to 62 participants for within-subject designs."[106] Thus, this study exceeded the required minimum of 62 participants. The treatment group comprises one class of 21 students from School A and one

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[103] Official Site of the State of New Jersey, NJ School Performance Report.

[104] Ibid.

[105] Ibid.

[106] Shawn Loewen, "Small Samples in Instructed Second Language Acquisition Research," Modern Language Journal 105, no. 1 (2021): 187, https://doi-org.ezproxy.liberty.edu/10.1111/modl.12700

class of 16 from School B. The control group also includes one class of 20 students from School A and one class of 17 students from School B.

The demographics of School A (4Y and 4Z) are 19 white, 9 Hispanic, 6 Asian, 1 American Indian/Alaskan Native, 3 Multiracial, and 3 Black, and the genders are 16 male and 25 female. The demographics of School B (4W and 4X) are five white, 12 Hispanic, 1 Asian, 1 Native Hawaiian Pacific Islander, 2 Multiracial, and 12 black, and the genders are eight male and nine female. The researcher introduced the study to the district superintendent, assistant superintendent, principals of School A and School B, the Fine and Performing Arts supervisors, and the supervisor of ESL, Social Studies, and World Language. The study began with a class discussion where students learned about the research and ensured it did not comprise extra work aside from their typical school requirements, i.e., their annual SGO. The district granted preliminary approval (Appendix A, Figure 7), and Liberty University's IRB granted official approval (Appendix B, Figure 8). Parents also received a notification regarding their child's participation in the study (Appendix C, Figure 9).

This study examined the language acquisition pre- and post-assessment scores of 74 elementary English-speaking students in Spanish Foreign Language and Music classes, reflecting each participant's listening, speaking, reading, writing skills, and proficiency. This study's potential participants are students attending a K-6 elementary school in northern New Jersey, where grades four through six take Spanish as a foreign language. The school could extend foreign language instruction to start in grade three, which would broaden the pool of students to four potential grade levels depending on scheduling for the 2022-2023 school year. The study took place in the music and Spanish classrooms. Students attend these classes as they have traditionally. The only difference is whether the students receive Orff or Music Appreciation

instruction. Results benefit elementary music and language educators, as the data can enhance future professional learning communities by broadening participating teachers and subject areas to include music educators.

<div align="center">Setting</div>

Public Township has approximately 52,829 residents.[107] 23.9% of residents are foreign-born persons.[108] 35.8% of residents five and older speak a language other than English at home.[109] While 92.3% of adults have successfully graduated high school, only 45.2% of residents have earned a bachelor's degree or higher.[110] The median household income is $81,978.[111]

Ethnicity	Percent
White alone, a percent	58.5%
Black or African American alone, percent	20.7%
American Indian and Alaskan Native alone, percent	0.0%
Asian alone, a percent	8.8%
Native Hawaiian and Other Pacific Islanders alone, a percent	0.0%

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[107] United States Census, QuickFacts: Public township, Essex County, New Jersey, 2022 https://www.census.gov/quickfacts/fact/table/Publictownshipessexcountynewjersey/HCN010217

[108] Ibid.

[109] Ibid.

[110] Ibid.

[111] Ibid.

Ethnicity	Percent
Two or more races, percent	7.0%
Hispanic or Latino percent	28.5%
White alone, not Hispanic or Latino, percent	40.1%

Figure 10: Public Township Demographics
Source: United States Census, QuickFacts: Public township, Essex County, New Jersey, 2022
https://www.census.gov/quickfacts/fact/table/Publictownshipessexcountynewjersey/
HCN010217

Instrumentation

The researcher developed unit and lesson plans and designed assessments (Appendix D,

Figure 11, and Appendix E, Figure 12). Objectives for Orff music students consist of imitating,

exploring, improvising, and composing music. Goals for music appreciation consist of

explaining, describing, analyzing, and comparing repertoire, musical styles, and instrumentation.

Lastly, objectives for Spanish include speaking, listening, reading, and writing in Spanish.

There is no data reliability evidence for the Orff and Music Appreciation assessment

rubrics (Appendix F, Figures 13 and Appendix G, 14), as the teachers created tasks and scoring

that resembled the district's scoring guide. However, the Spanish SGO test/benchmark rubric

resembles the WIDA assessment framework, measuring students' pronunciation, literacy, and

comprehension on a scale ranging from (1) entering, which is the beginning level, to (5)

bridging/reaching, which assumes fluency in the target language (Appendix H, Figure 15). The

WIDA assessment assesses student performance in their target language regarding social

language and the terminologies and phrases in their English language arts, mathematics, science,

and social studies classes.[112] When analyzing the reliability of WIDA for grades three through

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[112] David MacGregor, "Using WIDA MODEL as an Interim Assessment with ACCESS for ELLs," *Wisconsin Center for Education Research,* No. TR-2020-2 (2020): 7.

six, the stratified Cronbach's alpha score ranges between 0.85 and 0.94.[113] The researcher reviewed all content components of WIDA, along with conducting an international perspectives review and a bias and sensitivity review before field testing.[114] Daniella Molle and Jennifer Wilfrid verify that WIDA is a national consortium of states "as part of its system of language standards, assessments, and professional learning.."[115] Additionally, WIDA comprised its English language development standards and developed the "Framework for Equitable Instruction," informing language use across disciplines.[116]

Music and the WIDA assessments comprise both written and performance/activity components. Orff students imitate, explore, and improvise through singing, instrumental, and movement-based tasks and compose using written notation and arranging rhythm bricks. The Music appreciation teacher expects students to define music terminology, identify voicing and instrumentation within a song, sort instruments by family, and recall and elaborate on music history events achieved through written exams, interviews, and smartboard-based activities. Finally, the foreign language assessments require listening and reacting when completing Total Physical Response activities, reading and writing during the Grammar Translation segment, and speaking during the interview and speaking prompts led by the Audio-Lingual Method and The Silent Way. These question types evaluate students' pronunciation, comprehension, and literacy capabilities. The Spanish teacher conducts the SGO test in Spanish class, and the music teacher

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[113] MacGregor, "Using WIDA MODEL as an Interim Assessment with ACCESS for ELLs," 7.

[114] Ibid.

[115] Daniella Molle and Jennifer Wilfrid, "Promoting Multilingual Students' Disciplinary and Language Learning Through the WIDA Framework for Equitable Instruction," Educational Researcher 50, no. 9 (2021): 585 https://doi-org.ezproxy.liberty.edu/10.3102/0013189X211024592

[116] Ibid.

works the Spanish performance assessment pieces within the test. The grade-level teacher sends students to the music room individually while the other students remain in their classroom, completing independent work. Students remain anonymous because students enter the room standing behind the music teacher. Teachers may pull students from their flex period to complete the work when necessary.

The teachers formatted the Orff, Music Appreciation, and Spanish benchmark assessments as rubrics, which assist in determining the level of proficiency students achieved at the end of the unit. The music rubrics utilized the same grading scale: exceeds expectations, meets expectations, approaches expectations, needs improvement, and does not participate. However, the Orff and Music Appreciation lessons have different performance tasks and learning goals; thus, the criteria within the rubrics were different. The Orff assessment evaluated students' ability to imitate, explore elements of music, improvise, and compose (Appendix I, Figure 16). Contrastingly, the Music Appreciation assessment evaluated students' ability to define music terminology, identify voicing and instrumentation, sort instruments by family, and recall and elaborate on events in music history (Appendix I, Figure 16). Since Spanish is a different academic subject, the SGO had its unique grading scale and criteria derived from WIDA (Appendix J, Figure 17). The scoring categories include (1) entering, (2) emerging, (3) developing, (4) expanding, and (5) bridging/reaching. Finally, the Spanish pre and post-assessment techniques consist of responding to Spanish commands, translating words from English to Spanish, interviewing, and speaking without prompts (Appendix K, Figure 18).

Holistically, this experiment ascertains how Orff may affect language acquisition among Spanish foreign language students by comparing the Spanish foreign language assessment scores of students enrolled in an Orff general music class and students enrolled in a music appreciation

general music class. Information from students was also collected, including school, grade, homeroom class, and Spanish class. The researcher maintained data via Google Docs, which is password protected.

The researcher discussed the instrument's development and a short history of the instrument's origin. SGOs are an annual assessment system in New Jersey in which the educator designs an assessment and test that represents the big ideas and enduring understandings for the specific subject and grade level of study (Spanish and Music). The New Jersey Department of Education designed SGOs because the government wanted to hold teachers of non-tested subjects accountable for ensuring students achieve academic growth throughout the year. Teachers are responsible for developing a pre and post-test, filling out a form on T-Eval that structures the assessment process, and reporting the results. The SGO poses a limitation of this study since no studies can be found or cited in formal research settings where teachers conducted SGOs. However, the lack of prior research studies is likely because the assessment is New Jersey-specific and typically intended for K-12 only. With this quasi-experiment in a New Jersey public school district, it is fitting to use a New Jersey Specific public school-intended assessment instrument. Furthermore, the SGO assessment gains prestige through its state mandate and district approval.

The researcher reported the total number of questions and any reverse questions regarding the instrument. Regarding the Spanish assessment, students answered questions from four categories: Total Physical Response, Grammar Translation, Audio-Lingual Method, and The Silent Way. Readers can find the exam in Appendix J, Figure 17. Teachers administer the assessment rubric to determine the pronunciation, literacy, and comprehension benchmark scores. The number of correct questions and the quality of the Spanish language application

determines the score. While SGO test scores are by percentage (0-100%), Spanish teachers can also associate these test scores with 5=bridging/reaching (A), 4=expanding (B), 3=developing (C), 2=emerging (D), and 1=entering (F).

Specifically, the researcher and teachers calculated the pronunciation, comprehension, and literacy benchmark scores separately. Students received a score between 1-3 for each benchmark. With pronunciation having three questions, students received a one if they could pronounce one word correctly, a two for two correct words, and a three for three correct words. Since the SGO test contained nine literacy questions, students received a one if they answered 1-3 questions correctly, a two if they answered 4-6 questions correctly, and a three if they answered 7-9 questions correctly. Lastly, with the test containing 27 comprehension questions, students received a one if they answered 1-9 questions correctly, a two if they answered 10-18 questions correctly, and a three if they answered 19-27 questions correctly. Because all students are in their first year of Spanish foreign language, the ideal and highest score students can realistically achieve according to the WIDA rubric would be a 3 (developing) because students typically do not achieve fluency in a language in merely one Spanish class per week over the course of one school year.

The study's scoring rubric used the WIDA grading categories, an assessment tool implemented nationwide, especially for English-based assessments. The researcher provided a brief overview of how teachers should administer the instrument. The music and Spanish teachers play a role in administering the instrument. The music teacher conducts the performance-based questions during their prep to have time to visit students outside of Spanish and music instructional time and to provide students with the individualized attention necessary

for proper assessment. If necessary, performance-based questions can occur during music class. Spanish teachers addressed the writing questions in Spanish class.

The researcher discussed the scoring procedures for the instrument and all sub-sections. As previously discussed, the combined possible score on the Spanish SGO ranges from 0-100 points, which can be translated to WIDA rubric scores 1-5 (entering-bridging/reaching). A score of 0 is the lowest possible, meaning that the student needs help understanding the Spanish prompts, questions, and language structure. Contrastingly, a score of 100 is the highest possible, meaning that the student has an intricate understanding of the Spanish prompts, questions, and language structure and can show the highest levels of fluency through crafting new sentences. The approximate time to complete the instrument is 45 minutes. The school district superintendent, the principals, and the music and foreign language department supervisors in each school obtained permission.

To provide further context on the study's evaluation tools, the SGO was created in 2013 to serve as an evaluation tool for all teachers, especially those that teach subjects not evaluated through state testing. The teachers themselves design SGOs, and building administrators and department supervisors provide support and foresee the process. Ultimately teachers are expected to set specific goals for their students' needs.[117] Teachers are also responsible for setting scoring goals such as "75% of students will pass the exam" and predetermining which percentages are considered distinguished and which are insufficient. Teachers divide students into tiers and create differentiated goals based on students' academic proficiency. Educational professionals sometimes interchange the terms Student Growth Objectives (SGOs) and Student Learning

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[117] John Mooney, Student Growth Objectives: The Other Teacher Evaluation, NJ Spotlight News, 2013, Toolhttps://www.njspotlightnews.org/2013/07/13-07-11-student-growth-objectives-the-other-teacher-evaluation-tool

Objectives (SLOs). Brian C. Wesolowski adds that teachers use SLOs to inform teaching and learning. Instructional objectives should be specific, measurable, appropriate, realistic, and time-limited.[118]

The researcher reported the total number of questions and any reverse questions regarding the instrument. Appendix J, Figure 17, details the Spanish SGO rubric and questions. The four tasks students interact through are pointing and responding, translating Spanish text to English and vice versa, answering questions in Spanish, and briefly speaking about a topic independently without prompts. The categories assigned to these tasks are Total Physical Response, which contains one matching exercise of 4 questions; Grammar Translation, which includes ten queries and matching activities; Audio-Lingual Method, which has ten questions; and The Silent Way, which requires students to deliver a sentence or two regarding the topic teachers prompt them with.

<div align="center">Procedures</div>

Guided by Gardner's theory of multiple intelligences, the researcher implemented a quasi-experimental research study to measure the language fluency of 74 elementary students participating in general music and concurrently learning Spanish as a foreign language. Specifically, this experimental research determined the effects of the Orff Approach on students' foreign language acquisition. The researcher assigned half of the students to the treatment group, exploring the Orff Approach in general music, and a half to the control group in music appreciation (Figure 5). The Orff classroom is more creative and performance-based, as students

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[118] Brian C. Wesolowski, "Tracking Student Achievement in Music Performance: Developing Student Learning Objectives for Growth Model Assessments," Music Educators Journal 102, no. 1 (2015): 39, https://www.jstor.org/stable/24755629

sing, say, dance, and play, experiencing music and enhancing it themselves.[119] Contrastingly, music appreciation prioritizes learning about music to gain a deeper understanding and appreciation for the art form. Activities include describing music, learning music history, identifying instruments and their families, and studying the repertoire's theoretical structure.[120]

Students complete a Spanish pre-test with the Spanish and music teacher (Appendix G, Figure 17). The music teacher pulls students out of class during their prep period to administer performance aspects of the Spanish test. It includes pronunciation, comprehension, and literacy questions through Total Physical Response, Grammar Translation, Audio-Lingual Method, and Silent Way. Teachers record final scores for the pre-test, which is when instruction begins (Table 19). As stated, half of the students receive Orff instruction, and half receive music appreciation instruction. The music teacher monitors progress through observation and student work (Appendix I, Figure 16).

Table 19: Spanish SGO Pre-test Scores

90-100	5
80-89	12
70-79	24
60-69	14
59 and below	19
TOTAL	**74 students' scores**

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[119] Keetman, *Elementaria: First Acquaintance with Orff-Schulwerk* (Germany: Schott Musik Intl Mainz, 1984), 11.

[120] Henkjan Honing, *Musical Cognition: A Science of Listening* (New York: Routledge, 2014), 3.

After completing a Spanish pre-test and participating in the two-month experiment, the Spanish teacher assessed both groups by the Spanish Student Growth Objective (SGO) post-test/benchmark. The Spanish Student Growth Objective post-test is the same test and procedures as the pre-test; only the SGOs reflect students' knowledge post-Spanish and Orff/music appreciation instruction. The SGO records students' acquired listening, speaking, reading, and writing abilities. This work provides statistical evidence of the effects of the Orff Approach on language acquisition. It allows readers to see the potential connections between the brain regions responsible for language learning and the areas accountable for developing musicianship.

To ensure outside factors do not compound data, the researcher and teachers formatted the SGO to assess via a tiered approach. The pre-test provides data for assembling the three tiers: high, middle, and low. These pre and post-test scores aim to determine students' level of growth over the trimester. Essentially, students compete against themselves as teachers assess and compare their scores to previous scores on the same test. Academically, all students began Spanish lessons at the same grade level and were enrolled in music from grades K through six.

To ensure students receive a distinguished and relevant Orff education, the researcher collected pedagogical inspiration from online Orff sharing sessions, department professional learning community meetings, materials, regional Orff workshops, notes, videos, and recordings of Orff in action. The researcher also updated lesson materials for the music appreciation control group since it is typically the researcher's responsibility to ensure all participants receive some type of benefit from the study, even if it is substandard to the treatment group. Readers can access examples of Orff and music appreciation sample lessons in Appendix D, Figure 11, and Appendix E, Figure 12. The researcher prepared a balanced representation of research for

presentation, advocating for the Orff and music appreciation general music platform. For example, Schultz's article contains evidence that when people listen to relaxing and informative music, it improves language proficiency.[121] This statement does not detract from Orff's effectiveness as a teaching method, but it can foreshadow a less significant increase in language proficiency through Orff compared to a music appreciation class. However, it is vital to collect all contextual information to make informative pedagogical decisions. In addition to scholarly sources, the researcher gathered pedagogical resources for music appreciation from school textbooks, department professional learning community meetings, materials, videos, and recordings of a music appreciation class in action. Overall, utilizing many scholarly sources, consulting with music and foreign language colleagues, and attending professional development workshops provided comprehensive insight that laid the foundation for the experimental procedures and analysis.

<div align="center">Data Analysis</div>

Research Question One research question is answered using a Multivariate analysis of variance (MANOVA), which accounts for multiple continuous dependent variables and combines them into a weighted linear combination.[122] Statistics Solutions explains, "In this way, the MANOVA essentially tests whether or not the independent grouping variable simultaneously explains a statistically significant amount of variance in the dependent variable."[123] Assumptions

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[121] Barbara Schultz, "Learning Though Relaxing Music," *School Band & Orchestra* 22, no. 5 (2019): 12. http://ezproxy.liberty.edu/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fmagazines%2Flearning- though-relaxing-music%2Fdocview%2F2247533070%2Fse-2%3Faccountid%3D12085.

[122] Complete Dissertation By Statistics Solutions, Manova, 2022, https://www.statisticssolutions.com/ free-resources/directory-of-statistical-analyses/manova/

[123] Ibid.

include measuring variables continuously, comprising two independent variable categories (Orff and Music Appreciation), and having an adequate sample size of approximately seventy-four participants.[124]

Research Question Two is addressed via Pearson product-moment correlation. According to Laerd, "The Pearson product-moment correlation coefficient (Pearson's correlation, for short) is a measure of the strength and direction of association that exists between two variables measured on at least an interval scale."[125] This experiment determines whether there is an association between learning music through the Orff approach and obtaining higher Spanish Foreign Language acquisition. Assumptions include a linear relationship between musical approaches and their ability to improve language acquisition, using a rubric to determine the relationship, the absence of outliers, and normally distributed variables.[126]

This experiment determines whether there is a relevant difference between the control and treatment groups. T-tests have a normal distribution and unknown variances, such as the unique skill sets of the students in each class. This experiment compares the language assessment scores of students in Orff music class and music appreciation class to see if one music curriculum produces better language acquisition in elementary students. This experiment utilizes a pre-test to acquire a baseline score of each student's current music and language-based skills before implementing instructional techniques and distributing a post-test to see students'

[124] Laerd Statistics, One-Way MANOVA Using Minitab, 2022. https://statistics.laerd.com/ minitab-tutorials/one-way-manova-using-minitab.php

[125] Laerd Statistics, Pearson's Product-Moment Correlation using SPSS Statistics, 2022 https://statistics.laerd.com/spss-tutorials/pearsons-product-moment-correlation-using-spss-statistics.php#:~:text=The%20Pearson%20product%2Dmoment%20correlation,at%20least%20an%20interval%20scale.

[126] Laerd Statistics, Pearson's Product-Moment Correlation using SPSS Statistics, 2022.

progress. Testing assumptions are that all students participate in the same courses except for the style of music class the researcher assigns. Potential outliers are that some students may already speak fluent Spanish, in which case the development is measured rather than the score number itself. Box plots, scatter plots, and statistics are applied to convey the data and results, along with a literary analysis of the experiment. The experimental effects are reported through η_p^2 The

researcher must reject the null hypothesis at a 95% confidence level medium effect size α =.05 to suggest that Orff instruction does affect language acquisition. A checklist to measure listening, speaking, reading, and writing skills and a rubric help keep data and progress in check.

This experiment determines whether Orff instruction affects language acquisition and whether active music-making can strengthen communication skills. Language scores and music literacy scores are the dependent variables in this experiment. The researcher bases the outcome on analyzing the SGO scores and completing a Bonferroni correction 0.02 analysis. The Bonferroni correction test aims to determine the chance of discovering a false-positive result in the experiment. Regarding this study, P is the significance divided by the number of variables: pronunciation, literacy, and comprehension tests. Thus, P=0.05/3, which equals 0.02 or 2 percent.

Chapter 4: Results

Overview

This study aimed to ascertain whether Orff affects language acquisition among Spanish foreign language students. Chapter Four entails the two research questions, hypotheses, and the results of the data analysis related to this study. This chapter starts with an analysis of the descriptive statistics, followed by the statistical analysis results, including assumptions testing, MANOVA, and correlation testing.

Null Hypothesis One

H_01: There exists no significant difference in foreign language (Spanish) proficiency in terms of pronunciation, conversation, and literacy (as measured by the Spanish Student Growth Objective and Benchmark Assessments inspired by WIDA) among students that learn music through the Orff approach (as measured by tiered rubric benchmark assessments).

Null Hypothesis Two

H_02: There is no significant relationship between foreign language (Spanish) proficiency in terms of pronunciation, conversation, and literacy (as measured by the Spanish Student Growth Objective and Benchmark Assessments inspired by WIDA and found in Chapter Three) and advanced music literacy acquisition (as measured by tiered rubric benchmark assessments which readers can find in Chapter Three).

Descriptive Statistics

The sample of this study comprised seventy-four elementary students in Public, New Jersey, during the 2022-2023 school year. The sample size for this study exceeded the 66 participants, which indicated it is necessary for a medium effect size with a statistical power of .7

at an alpha level of $\alpha = 0.05$.[127] All participants participated in first-year Spanish and fourth-

grade general music. While all Spanish classes accessed the same curriculum, half of the music

classes participated in Orff general music, and half participated in music appreciation for the

duration of the study. Descriptive statistics compared the pronunciation, literacy, and

comprehension Spanish scores of students enrolled in Orff general music to those of students

enrolled in Music Appreciation. Descriptive Statistics in Table 20 show that Orff means were

higher for pronunciation, literacy, and comprehension.

Table 20 Descriptive Statistics

	Orff_v_MA	Mean	Std. Deviation	N
Pronunciation	1	2.62	.545	37
	2	2.14	.683	36
	Total	2.38	.659	73
Literacy	1	2.14	.631	37
	2	2.03	.736	36
	Total	2.08	.682	73
Comprehension	1	2.24	.683	37
	2	2.08	.692	36
	Total	2.16	.687	73

Null Hypothesis One

The researcher implemented the following assumptions tests for the first hypothesis:

H$_0$1: There exists no significant difference in foreign language (Spanish) proficiency in

terms of pronunciation, conversation, and literacy (as measured by the Spanish Student Growth

Objective Assessment inspired by WIDA) among students that learn music through the Orff

approach (as measured by rubric benchmark assessments).

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127 Walter R. Borg and Meredith D. Gall, *Educational research: An introduction*, 8th ed. (Boston: Allyn & Bacon, 2007), 55.

Assumptions Testing

First, the researcher identified outliers using a box and whisker plot for each group and variable. Upon examining extreme outliers, results determined no outliers in the pronunciation, literacy, comprehension, or SGO variables. However, case numbers 68, 71, 72, and 73 were considered outliers within the music literacy data, indicating that the study violated this assumption. It is likely outliers appeared in this study because some students take private lessons or have learned music from their family members. Therefore, they may have different musical experiences than the other participants. Ultimately, the researcher included these outliers in the data since they did not drastically affect the study's results.

Figure 21 Box and Whisker Plot: Outliers
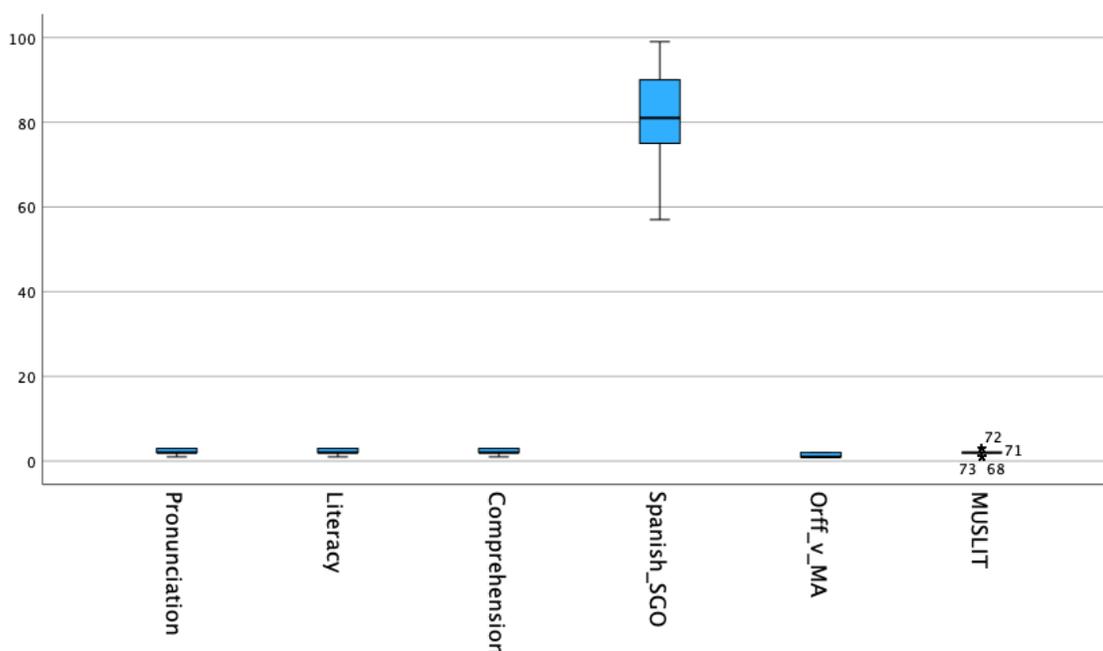
Figure 21: Box and Whisker Plot: Outliers

David L. Streiner offers some insight supporting that there are instances where outliers should be left in the data to ensure validity. He explains, "What are left are 'interesting outliers' – data points that are outlying but not confirmed as actual errors. The problem is that some may

be erroneous, but others may contain potentially useful and unexpected knowledge, and their removal from the data set may itself distort the results."[128] He references a crisis in Flint, where there were cases of lead in the water supply, resulting in a need for more frequent water samples. Streiner recalls, "Of these, two were removed, one because it came from a business rather than a home, and the other because of an extremely high value. Based on the remaining samples, the water was deemed safe, which later proved to be a wrong call; the outlier was a valid reading, pointing to a serious problem."[129] Because the outlier scores were not a result of human error, and the outcome of the study did not change with the outliers remaining in the data, the researcher left the outliers in the data.

Next, Kolmogorov-Smirnov assessed the assumption of normality. This researcher chose this test because the study comprised more than fifty participants. Because $p < .05$, this study violates the normality assumption for each variable. Thus, results are skewed and not normally distributed. It is probable that with the SGO window being flexible to accommodate when students are prepared and ready for the exam, it makes sense that the results skewed to mostly higher scores.

While the normality results appear concerning, Flora and Curran explain, "Normality assumption is merely a mathematical convenience that has little practical importance when the latent response variables are moderately nonnormal."[130] Continuing the analysis with these

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[128] David L. Streiner, "Statistics Commentary Series: Commentary No. 26: Dealing with Outliers," *Journal of Clinical Psychopharmacology* 38, no. 3 (2018): 171 https://pubmed.ncbi.nlm.nih.gov/15598100/

[129] Ibid.

[130] David B. Flora and Patrick Curran, "An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data," *Psychological Methods* 9, no. 4 (2004): 487 https://pubmed.ncbi.nlm.nih.gov/15598100/

participants and their test scores make sense. Since many assumption tests were considered

tenable, the participants' scores are valid for the study.

Table 22 Assumption of Normality

	Pron.	Lit.	Comp.	SGO	Orff vs.MA	MUS
Significance	<.001	<.001	<.001	.036	<.001	<.001

Due to the non-normal distribution present in the data, the researcher analyzed each

variable via histograms. Each histogram in Appendix L Figures 23-28 displays its results with

the standard curve.

In assumptions tests measuring normality, normality reveals if connections between pairs

of variables are linear. This assumption test searches for a linear relationship between each pair

of dependent variables. The graph displays the linear relation of each independent variable group

versus the dependent variable. The researcher plotted the music literacy and Spanish SGO scores

on top of each other. This assumption is considered tenable.
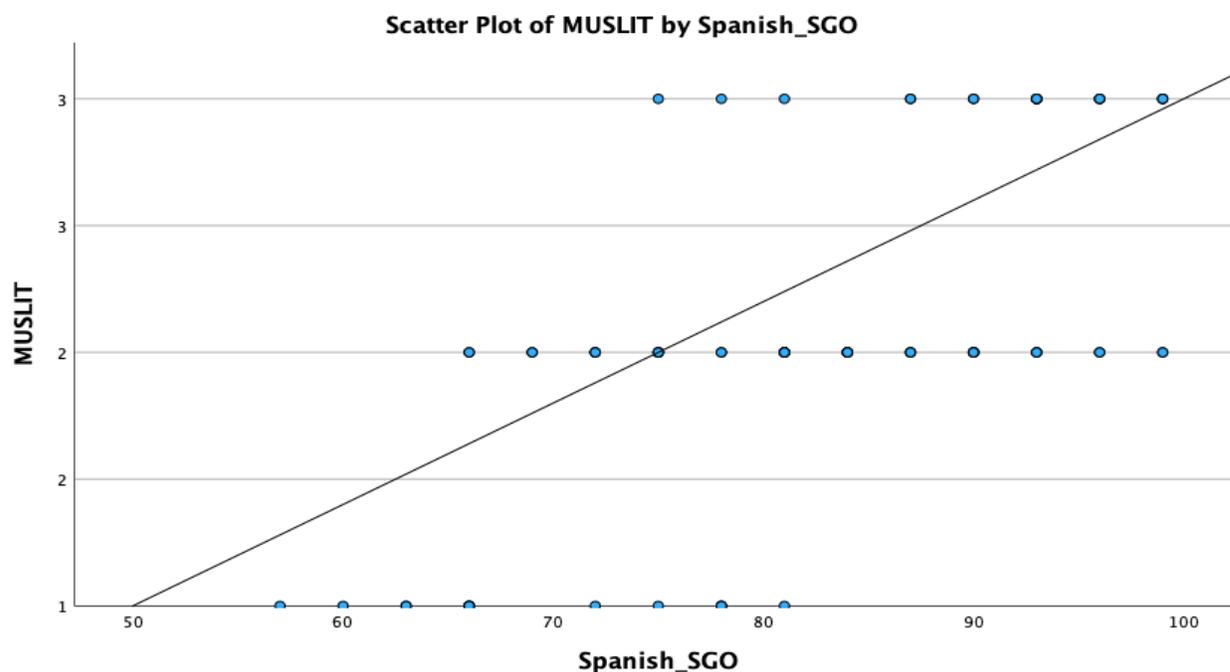
Figure 29: Multivariate Normal Distribution

The researcher evaluated the homogeneity assumption of variance-covariance matrices via Box's M test. The results indicate $p > .001$; therefore, this assumption is tenable, $p = .862$ (see Table 30).

Table 30: Box's Test of Equality of Covariance Matrices

Box's M	F	Df1	Df2	p
5.764	.541	10	24057.237	.862

Hotelling's T^2 multivariate test measures the potential presence of a significant difference between groups. In this case, the Spanish scores of the Orff versus the music appreciation students revealed $p < .001$; therefore, there is a significant difference between the groups (Table 18). Contrastingly, the effect size is small, as $\eta_\rho^2 = .174$. The Bonferroni indicates that P=0.05/3, which is 0.02, revealing a very low probability of discovering a false positive result in the experiment. Therefore, the results rejected the null hypothesis.

Table 31: Multivariate Test

Effect		F	Hypothesis df	Error df	p	η_ρ^2
Orff_v_ MA	Hotelling's Trace	4.839[b]	3.000	69.000	.004	.174

Null Hypothesis Two

H₀2: There is no significant relationship between foreign language (Spanish) proficiency in terms of pronunciation, conversation, and literacy (as measured by the Spanish Student Growth Objective and Benchmark Assessments inspired by WIDA and found in Chapter Three) and advanced music literacy acquisition (as measured by tiered rubric benchmark assessments which readers can find in Chapter Three).

The absence of multicollinearity assessment seeks to analyze whether there is a correlation between Spanish and Music Literacy fluency. The researcher conducted the Pearson product-moment correlation to test null hypothesis 2. The Pearson product-moment correlation results indicate that the correlations between the music and Spanish scores are significant but $p <$ .80; therefore, this MANOVA assumption is tenable. Case numbers 68, 71, 72, and 73 were considered outliers in the music literacy data, indicating the study violated the outliers assumptions test (see Figure 21). Additionally, because $p < .05$, this study violates the normality assumption for each variable. Thus, results are skewed and are not normally distributed. Furthermore, the music literacy scores and Spanish SGO bivariate scores are plotted, making the linearity assumption tenable.

Lastly, the Pearson Product Correlation results indicate significant correlations between the music and Spanish scores. Specifically, this test's results show a strong correlation between the music literacy scores and the literacy and Spanish SGO scores, $p < .001$. There is also a moderate correlation between the music literacy scores and the Spanish pronunciation and comprehension scores, $p < .001$. The results rejected Null Hypothesis 2.

Chapter 5: Summary

Overview

Chapter Five comprises an analysis of the study's results and an overview of how the results align with the research. It examines which prior literary sources support the results and which conflict. Furthermore, the chapter highlights the research limitations and suggests future research. The study examined pronunciation, literacy, comprehension scores, and the summative Spanish SGO and music literacy scores. Public elementary students at School A and School B participated in this study. Half of the students received Orff music instruction, and half received Music Appreciation instruction. All students followed the same Spanish curriculum.

Discussion

This quantitative quasi-experimental study sought to determine the difference between the Orff and music appreciation approaches regarding students' language acquisition, as measured by the schools' Spanish SGOs and curricular benchmarks. Additionally, the study aimed to discover whether a relationship exists between music literacy scores and Spanish proficiency. Since no previous studies focused on the Orff approach and its connections to improving students' Spanish foreign language proficiency specifically, this study sought to address the gaps. Gardner's theory of multiple intelligences provided a framework for the experiment, as Gardner believed there are parallels between musical and linguistic-verbal intelligence.

Hypothesis

The null hypothesis stated that there would be no difference in Spanish proficiency between elementary students that learn music via the Orff approach and those who do not. The researcher rejected the null hypothesis because of a significant difference in Spanish pronunciation, literacy, and comprehension measured by the Spanish SGO between Orff and music appreciation

students.

Orff and Spanish Language Proficiency

Many researchers support the significant effect of Orff on language proficiency. First, The

Orff-Schulwerk Association explains, "In Orff Schulwerk classrooms, children begin with what

they do instinctively: play! Imitation, experimentation, and personal expression naturally occur

as students become confident, life-long musicians and creative problem solvers."[131] The Orff

approach seeks to teach the language and structure of music, in the same way children learn to

speak. It is possible that because Orff's process mirrors the language learning process, language

acquisition becomes more accessible for students enrolled in Orff and Spanish foreign language.

Additionally, Orff's emphasis on creativity promotes higher-level thinking and open-ended

thinking, which are necessary for composing new sentences in Spanish, answering questions, and

reading new words.

During the Orff classes in Public, students began by imitating phrases the teacher produced on

the recorder. Once students could see the recorder and repeat the phrase they saw and heard, they

experimented with their recorders by trying to reproduce the notes but could no longer see them

on the recorder. Experimentation was necessary for students to explore their instrument until

they could find the right note. Next, students answered the teacher in a call-and-response

activity, as the teacher played B-A-G, and the students had to improvise a phrase that

complimented what they heard. Finally, upon examining the repertoire for their Spring Concert,

students were asked to analyze the musical form and recreate a song that demonstrates the form

of the piece. The compositional activity shows the creative aspects of Orff, as students now

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[131] "What Is Orff Schulwerk? - American Orff-Schulwerk Association". American Orff-Schulwerk Association, Last modified 2022. https://aosa.org/about/what-is-orff-schulwerk/.

enjoy an open-ended opportunity to create music and express themselves with minor musical parameters. Through this series of lessons, students learned music the same way they learned a new language, as they transitioned from repetition to producing and creating language. Imitating resembles the listening and speaking aspects of language learning (pronunciation). Playing by ear represents grammar-translation (comprehension). Call-and-response represents communicating in the language (comprehension and literacy). Composing represents writing in the language (advanced literacy). With the Spanish SGO comprising various questions assessing students' ability to interpret and produce language, it makes sense that Orff students achieved higher scores on this exam when compared to students in Music Appreciation.

Conversely, with music appreciation students lacking active involvement, consuming music rather than producing it, they lack the necessary skills to develop literacy from a performance standpoint. Instead of reading, improvising, and creating music, music appreciation students learn about music through listening, watching, and discussing. Such activities would be the language equivalent of talking about Spanish culture but not interacting in the Spanish language, therefore, not reinforcing Spanish literacy. Hence, Orff students are likelier to transfer their learning from interacting with the musical language to the foreign language classroom. In contrast, music appreciation students mostly learn a separate skill set that does not directly transfer to the Spanish foreign language classroom. The descriptive statistics indicate that the student test means for Orff were higher than those enrolled in music appreciation, respectively, for pronunciation ($M = 2.62$; 2.14), literacy ($M = 2.14$; 2.03), comprehension ($M = 2.24$; 2.08) and the Spanish SGO ($M = 83.68$; 80.58).

Orff and Spanish Language Pronunciation

Dana Cohn's research indicates that musicians, also known as active music makers,

demonstrate more significant multi-vowel detection, higher numbers of syllables stored in the brain stem, and greater accuracy in linguistic-based tasks than students not actively involved in music-making.[132] Her research supports the study's results, as Orff students primarily focused on music making in music class scored higher on their pronunciation scores than music appreciation peers ($M = 2.62$; 2.14). In Public Schools, Orff students played recorder and learned pronunciation through speech and movement. The lessons focused more on the pronunciation of the English lyrics, emphasizing pure vowels, fast initial consonants, and discernable final consonants. The lessons incorporated speech to teach rhythm and facilitate composition via rhythm bricks (rhythms connected to thematic words). With the prominence of active music-making via language and speech in Orff instruction, the results of the present study align with previous research on pronunciation.

Orff and Spanish Language Comprehension

Carl Orff's philosophy emphasizes involvement and hands-on learning within the vocal general music classroom.[133] He believes musical experiences are more memorable when students create music than merely listening to or watching a musical performance. Orff also explains that in an Orff class, students are constantly translating music to singing, movement, body percussion, and instrumentation, all of which are effective practices for when students translate Spanish from physical response to speaking, reading, writing, and creating language.

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[132] Michelle Dana Cohn, "Investigating the Effect of Musical Training on Speech-in-speech Perception: The Role of f0, Timing, and Spectral Cuest" (PhD diss., University of California, 2018), 60.

[133] "Classics For Kids", Classicsforkids.Com, Last modified 2022, https://www.classicsforkids.com/teachers/resources.php?article=Orff_Approach.

Johanna Kawasaki, an expert on Total Physical Response, supports Orff's notion explaining, "By acting out language, it is thought that students interpret meaning through different parts of the brain, pairing physical and intellectual analysis."[134] Kawasaki supports kinesthetic learning, associating movement with memory retention and increased comprehension. In Public Schools, acting was integrated to connect the Orff students to the lyrics of their repertoire. Students also had to report how their performance persona felt during various music sections and what context clues within the music and lyrics led to their chosen emotion(s). Physical response was also frequently implemented in the Orff classes when teaching new music and concepts, as students learned to walk on the beat, stop walking when the song ends, clap on the tee-tees, and trace phrases with scarves, to name a few. Due to Orff's emphasis on movement, dance, and speech, the results of the present study aligning with previous research further characterize the importance of this training method.

Orff and Literacy

Sam Evian explains how artists in the 20th century were unafraid to take creative risks and experiment with different approaches to making music. He references Marvin Gaye and how his songs initially seem simple and pleasant but contain a more resounding theme, such as racism or violence. He adds, "How I work with people in my world is similar to how jazz musicians communicate. When I have a band in, and we're talking about a certain drum part, everybody's just scatting rhythms at one another, like jazz musicians talk. Music is a language; the more you

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[134] Johanna Kawasaki, "What Is TPR For Teaching English And How Can I Use It? - Bridgeuniverse - TEFL Blog, News, Tips & Resources". Bridgeuniverse - TEFL Blog, News, Tips & Resources, Last modified 2020. https://bridge.edu/tefl/blog/what-is-tpr-for-teaching-english-and-how-can-i-use-it/.

listen to it and speak it, the better you are at it."[135] He compares music to language and compares music-making to communicating. Regarding this study, Orff general music students in Public practice improvising through scat-singing, nonsense syllables, devising simple lyrics, and instrumentation.

Similarly, foreign language classes require students to interact and improvise spoken conversations. Such creativity represents critical thinking and literary practice as students learn to produce new bits of language with minimal time to plan and prepare. Conversely, improvisation activities are often lacking in the music appreciation classroom. Hence, the research supports the results of this study.

While studies directly refuting the results of the present study are limited, Martins da Silva advocated for music appreciation, suggesting, "When the participants listen to music, their capacity to reach their vocabulary in development increases through music relaxation."[136] While Martins da Silva did not dismiss the idea of music-making improving vocabulary, her research suggests that music appreciation could significantly affect language acquisition, supporting the null hypotheses. However, this research determined that Orff students scored higher in literacy than the music appreciation students. While listening to music may improve vocabulary when learning a language, it is less effective than making and creating music.

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[135] Sam Evian, "Music Is a Language," *Relix 48, no. 7 (2021): 12-12.*. https://ezproxy.liberty.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=153611299 &site=ehost-live &scope=site

[136] Katia Martins da Silva, "Language and Music: The Influences on ESOL Proficiency Achievement" (M.S Thesis., Regent University, 2018), 12.

Null Hypothesis 2

The null hypothesis included that there would be no significant relationship between Spanish proficiency and music literacy. Overall, the correlations between the Music Literacy and Spanish scores are substantial, resulting in a rejection of the null hypothesis because the results for the pronunciation, literacy, comprehension, and SGOs indicate pronunciation ($r = .586$), comprehension ($r = .497$), literacy ($r = .756$), and SGO ($r = .655$) scores produced a significant relationship with music literacy scores.

Correlations between Spanish Proficiency and Music Literacy

Lawson Carroll's study supports a correlation between music-making and language learning as her results indicate that music students benefit from holistic, student-centered instruction and that music instruction parallels ELA instruction. Lawson Carroll states, "The content area literacy texts and influential music pedagogues such as Kodaly, Orff, and Suzuki deliver the same message: simply reading and rereading material doesn't work. Students need steps, strategies, and skills. They need time to interact with each other, process the content, apply the content, and reflect on the content."[137] Although this study focuses on ELA and beginning band students specifically, Lawson Carroll advocates for music classes to mirror experiential approaches such as Orff to provide students with a well-rounded musical experience that will improve students' musicianship and language skills. Regarding this study, Lawson Carrol's claims align with this study's results. Pronunciation and comprehension were moderately related to the music literacy scores, while literacy and SGO scores were strongly correlated.

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[137] Lawson Carroll, "The Reciprocal Relationship Between Text Literacy and Music Literacy Among Beginning Band Students," 152.

Implications

Data from this study can be applied to inspire more collaboration between the music and foreign language departments. It may also influence music educators to explore a different teaching approach. Additionally, music educators can implement these results to demonstrate how musical approaches can influence language acquisition and thus equip themselves with proactive advocacy statistics. Gardner's theory of multiple intelligences, the theoretical framework of this study, supports the notion that there are parallels between music and linguistic-verbal intelligence. He considers intelligence to be both a form and learning method, suggesting students can demonstrate musical intelligence both as a performer and as a student that learns best when incorporating music into the subject of study. Thus, Spanish teachers can model the philosophy of the Orff approach when designing lessons for pronunciation, literacy, and comprehension, including more active, hands-on activities rather than passive activities where students merely consume information.

The results of this study benefit more than just the music and foreign language educators and their students. Teachers of all subjects can learn from Carl Orff's philosophy that students learn most effectively when participating rather than passively listening. Orff also enlightens educators that creativity is the ultimate demonstration of higher-level thinking. Similarly, David Elliot favors a paraxial approach to music education, claiming that students repress their individuality when they solely consume music. He explains that through aesthetic music education, a primary component of music appreciation, "Students are quickly taught that learning is something schools and teachers do to you, not something in which you participate for your own sake."[138] Teachers of all subjects should consider how they can structure their instruction to allow

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[138] David James Elliott, *Praxial Music Education: Reflections and Dialogues* (New York: Oxford University Press, 2005), 64.

individualism and personal connections to the curricula.

Limitations

Readers must consider results from the perspective of skewed data distributions from non-normality and outlier effects. Statistically, as seen in the box and whisker plot in Chapter Four, case numbers 68, 71, 72, and 73 were all identified as outliers. Therefore, the study violated this assumption. Additionally, the Kolmogorov-Smirnov determined that this study comprised non-normal distributions, thus, skewing the results.

Regarding pedagogical limitations, a different teacher taught one section of fourth-grade music appreciation at School A due to unforeseen scheduling conflicts. Public Schools experienced a significant turnover of students transitioning in and out of the school this trimester, making the sample size inconsistent, likely eliciting the outliers in music literacy.

Regarding the two music groups, the Orff classes occurred on Monday and Friday; thus, the Orff groups accessed the least number of music classes since most holidays and vacations typically happen at the beginning and end of the week. Also, with fourth grade considered a "recorder year" concerning curriculum, Orff students spent more time playing recorders than singing, playing Orff instruments, and moving. More time to focus on rhythm alone and to connect language to rhythmic structures through speech and signing could have increased the overall effect of the Orff approach. Lastly, since the study occurred with limited implementation time, the score increases were not as pronounced as perhaps a longitudinal study would produce.

Regarding research instruments and logistics, since most previous studies focused on music's ability to improve language acquisition and involved students participating in ensembles or general music students in higher grades, there is a lack of prior research studies and instruments. Furthermore, although New Jersey mandates Student Growth Objectives statewide,

the lack of validated and reliable assessments, such as WIDA, is a limitation. Lastly, since each school employs a different Spanish teacher, minor inconsistencies with instruction and formative assessments are always possible.

Recommendations

Researching previous studies regarding music and language connections revealed numerous gaps in the research, not limited to the topic of this thesis. As with many previous studies focusing on ensembles rather than general music and students in older grades/academic levels rather than upper elementary, there are numerous opportunities to explore the effectiveness of other approaches regarding their ability to improve language acquisition. Some examples include comparing Orff to different methodologies/approaches, such as Kodaly or Dalcroze, and discovering which approach improves Spanish language acquisition. To broaden the scope of topics, the researcher can choose two general music approaches and their ability to enhance language acquisition among any language students. Furthermore, researchers can evaluate how specific elementary methodologies/approaches affect language acquisition regarding English as a Second Language (ESL) and English for Speakers of Other Languages (ESOL).

While research connects ensemble participation to language learning, researchers can investigate how using specific methods/approaches in the ensemble setting potentially affect language learning. Researchers can also compare students' language acquisition progress among those participating in an ensemble with those not participating. Since there is more research connecting ensemble participation to language learning than general music-based research, researchers may want to specify research parameters in terms of age group, the number of years

the students participated in the ensemble, the instrument they play, or the chair they maintain within that ensemble when examining the interconnectivity of scores and language proficiency.

Logistically, expanding the study's time frame may yield superior results when comparing methods/approaches and their potential to improve language proficiency. Changing the location can also affect the results, whether the location change regards geographic location or adjusting the environment from a public school setting to a private or homeschooled setting. Finally, the shift in place likely influences the type of summative assessment implemented, especially since the SGO assessment, among others, is state-specific. Lastly, since this research study applied a quantitative approach, future researchers may decide to implement a qualitative approach to investigate whether students, grade-level teachers, and language teachers notice the connection between specific musical methods/approaches and language proficiency overall. Essentially, music teachers would teach one method/approach to one class and a different method/approach to the other and then interview the teachers and students to measure progression. Music teachers could interview students on their perceptions of whether music class facilitated language learning or if they noticed any content connections.

<div align="center">**Summary**</div>

This quantitative quasi-experimental study aims to ascertain the effects of Orff pedagogy affects language acquisition among Spanish foreign language students versus a broader music appreciation pedagogy. The theoretical connection between music and language stems from Gardner's theory of multiple intelligences, which suggested parallels between musical and linguistic-verbal intelligence. Previous research acknowledged that a relationship existed between music-making and language acquisition. The literature also indicated that listening to and analyzing music can increase vocabulary. Conflicting findings, besides the lack of research

with Orff, Spanish foreign language, and elementary students' participation, inspired this research study.

The study employed data from the 2022-2023 Public elementary students in Schools A and B to determine whether Orff or music appreciation produced higher Spanish proficiency in pronunciation, literacy, and comprehension. The study was limited to fourth-grade students since first-year Spanish begins at this grade level, and students in general music are not yet offered other performing opportunities outside of general music, thus controlling for variations in results. The study results indicated that the Orff approach produced statistically significant higher mean Spanish SGO scores, specifically among pronunciation, literacy, and comprehension scores. The study also revealed a statistically significant correlation between music literacy and Spanish proficiency scores.

The study's findings suggest that teachers of all subjects can learn from Carl Orff's philosophy that students learn most effectively when participating rather than passively listening. Orff also enlightens educators that creativity is the ultimate demonstration of higher-level thinking. Furthermore, results indicate that students would benefit from cross-curricular instruction. Music and language collaborations can help students to express themselves and communicate more effectively. Future research should consider the effectiveness of other general music approaches, such as Dalcroze, Kodaly, or Conversational Solfege, regarding improving language proficiency. Researchers can also discover how different music approaches improve English proficiency or proficiency in other school-based foreign language offerings.

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Appendix A: Chapter 3

Figure 7: Preliminary Approval from Public Schools

Requesting Preliminary Approval for Thesis Research

Wed, Sep 28, 2022 at 12:59 PM

Hi Kim,
You are approved for the research required for your doctorate.

Good Luck!

2 at 8:00 AM Chimento, Kimberly

[Quoted text hidden]

Recognized as a **"High Performing District"** by the NJDOE

--

Confidential Secretary to the Superintendent

Appendix B: Chapter 3

Figure 8: IRB Approval

FY22-23-664 Review

IRB, IRB <IRB@liberty.edu>
Tue 1/17/2023 3:07 PM
To: Chimento, Kimberly Jean Clare <kchimento@liberty.edu>
Cc: IRB, IRB <IRB@liberty.edu>;Street, Nathan (Dept. of Music and Worship) <nstreet4@liberty.edu>

📎 2 attachments (52 KB)
Chimento-Tichacek_664RecruitmentPreliminaryReview.docx; Chimento-
Tichacek_664Lessons(Experimental)PreliminaryReview.docx;

Good Afternoon Kimberly,

The IRB has completed its review of your research application, and you will receive your exemption notification shortly. Some minor edits were identified on the attached documents, and we wanted to make you aware of the edits, but you do not need to return the documents to the IRB. Feel free to contact the IRB if you have any questions.

Thank you,

Matt Martin
Research Coordinator
Research Ethics Office

Liberty University | Training Champions for Christ since 1971

Appendix C: Chapter 3

Figure 9: Letter to Fourth Grade Parents

Kimberly Chimento-Tichacek
Vocal Music Teacher at

Dear Fourth Grade Parents:

As a doctoral student in the School of Music at Liberty University, I am conducting research as part of the requirements for a Doctor of Music Education degree. The purpose of my research is to determine whether the Orff music teaching approach has an effect on language acquisition, and I am writing to inform you about my study and about your child's participation.

Participants must be elementary students enrolled both general music and their first year of Spanish Foreign Language class.
- All students complete the Spanish SGO pretest (30-45 mins).
- All participants from group A receive instruction in Orff, 45 mins per class (1 per week), from January-March.
- All participants from group B receive instruction in Music Appreciation, 45 mins per class (1 per week), from January-March.
- All participants take the Spanish SGO posttest (30-45 mins).

I will ask a colleague to de-identify data by matching the name code to the data. Someone will assign a number to the name, removes the name, but match all data associated to that name to the number. The pre-test, lessons, and post-test are all a part of participants' regularly schedule classroom procedures. After the experiment is complete, students will be exposed to the lessons the opposite class received.

Sincerely,

Kimberly Chimento-Tichacek
Vocal Music Teacher at

Appendix D: Chapter 3

Figure 11 Orff Unit Plan

Established Goals:
Anchor Standard #1. Generate and conceptualize artistic ideas.
Anchor Standard #2. Organize and develop artistic ideas and work.
Anchor Standard #3. Refine and complete artistic work.
Anchor Standard #4. Analyze, interpret and select artistic work for presentation.
Anchor Standard #5. Develop and refine artistic work for presentation.
Anchor Standard #6. Convey meaning through the presentation of artistic work.
Anchor Standard #7. Perceive and analyze Artistic work.
Anchor Standard #8. Interpret intent and meaning in artistic work.
Anchor Standard #9. Apply criteria to evaluate artistic work.
Anchor Standard #10. Synthesize and relate knowledge and personal experiences to make art.
Anchor Standard #11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.
Standard 1.1 The Creative Process: All students will demonstrate an understanding of the elements and principles that govern the creation of works of art in dance, music, theatre, and visual arts.
Standard 1.2 History of the Arts and Culture: All students will understand the role, development, an influence of the arts throughout history and across cultures.
Standard 1.3 Performing: All students will synthesize skills, media, methods and technologies that are appropriate to creating, performing, and/or presenting works of art in dance, music, theatre, and visual art
Standard 1.4 Aesthetic Responses & Critique Methodologies: All students will demonstrate and apply an understanding of arts philosophies, judgments, and analysis to works of art in dance, music, theatre, and visual art.
Standard 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.
Standard 8.1 Technology Education, Engineering and Design: All students will develop an understanding of the nature and impact of technology, engineering technological design, and the designed world, as they relate to the individual, global society and the environment.
Standard 9.1 21st Century Life Skills: All students will demonstrate creative, critical thinking, collaboration, and problem-solving skills to function successfully as global citizens and workers in diverse ethnic and organizational structure.
Standard 9.2 Personal Financial Literacy: All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment and charitable giving in the global economy.
Standard 9.3 Career Awareness, Exploration and Preparation: All students will apply knowledge about and engage in the process of career awareness, exploration and preparation in order to navigate the globally competitive work environment of the information age.
Standard 9.4 Career and Technical Education: All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, licenses and/or degrees.

Enduring Understandings (EU):	**Essential Questions (EQ):**
Students will understand…..	Students will keep considering…
-Rules and procedures. -how to make music with appropriate technique -the purpose of notating music in learning and teaching repertoire. -that some music is taught, recorded, and processed by ear alone or by rote in order to maintain authenticity of the style or culture. -that musicians can create, compose, and improvise in many different ways (vocal, instrumental, movement, and more).	-How to challenge their creativity and musicianship in vocal, instrumental, and movement based activities. -How to show artistry in an ensemble setting (participating as a member of a group/class) -How to use music as an outlet for self expression. -How to develop: music literacy, creativity, performance skills. -How to contribute to and maintain a sense of community amongst classmates and the teacher.
In reference to the curriculum… Music is a form of communication. Music is a means of personal expression, style, and taste. Music making involves a set of behaviors that ensure quality of preparation and presentation.	**In reference to the curriculum…** How do people/I use music to communicate with others? How does my individual effort become a group effort? How do artists make decisions?
Students will know…	**Students will be able to…**
-What behaviors and habits are neccesary for being an active member of a class ensemble. -How to process and/or create a new song. -The melody and/or lyrics to the songs they have studied in the past. -How to keep a steady beat.	-Follow teacher cues for sitting, standing, moving, gathering materials, setting up the room for music activities, etc. -Sing/Play a song, follow the steps, and insert their improvisations/compositions at the appropriate time within the song. -Read music notation (at the student's level of development)

Performance Tasks:	Other Evidence:
Level 1 ● Recorder Be Funky: echo imitation, echo ear listening, call and response ● "Ode to Joy" - discover "Ode to Joy" through creative movement (suitable for classroom environment) representing the phrasing, melodic contour, and form of the music. **Level 2** ● Recorder Be Funky: recorder conducting (each table group is assigned a note and a student conductor points to each table to create a song). ● "Ode to Joy" -sing lyrics, sing notes, sing while modeling fingerings. **Level 3** ● Recorder Be Funky: call and response, improvisation (full class, small group, and individual participation). ● "Ode to Joy" -level 2+ play on recorder **Level 4** ● "Ode to Joy" - play on recorder ● Create our own "Ode to Joy" (see Examples of Student Work: Final Projects) **Level 5** ● Present "Ode to Joy" compositions ● Reflect on project, process, and experience as a creator, performer, and audience member.	**Formative** Lecture Modeling/ Demonstration Class Discussion Co-operative Learning & Group Projects Video Critique Field Trip Kinesthetic Exercises Individual Conferencing during studio time **Summative** Quizzes/Tests Journal Oral Presentations Writing Assignments Peer Evaluations Teacher observation of group activity. Homework In-Class Participation Self-evaluations Critiques **Additionally** Concerts and performances **Strategies for Differentiation** **Singing** ● Listen to the music and look at the board. ● Keep a steady beat on your lap. ● Pat the rhythm of the words. ● Hum the melody ● Whisper the words ● Sing as a class, small groups, solo ● Sing what you know, listen when unsure ● Sing solfege, letter name, text, du ● Unison, melody, harmony, round, partner song, call and response, echo. ● Flexibility during warm-ups and breathing exercises ● Read, improvise, compose

	Recorders ● Breathing exercises, and focus on tone ● Listen, focus on fingers, play ● Play as a class, small groups, solo ● Use text, rhythm syllables, counting, solfege, or letter name. ● Read, improvise, compose **Movement** ● Copy, echo, answer ● Creative movement, body percussion, choreography, folk ● Movement from seat, standing, locomotor ● Steady beat on your lap, shoulders, etc.

Appendix E: Chapter 3

Figure 12 Music Appreciation Unit and Lesson Plans

Established Goals:
Anchor Standard #1. Generate and conceptualize artistic ideas.
Anchor Standard #2. Organize and develop artistic ideas and work.
Anchor Standard #3. Refine and complete artistic work.
Anchor Standard #4. Analyze, interpret and select artistic work for presentation.
Anchor Standard #5. Develop and refine artistic work for presentation.
Anchor Standard #6. Convey meaning through the presentation of artistic work.
Anchor Standard #7. Perceive and analyze Artistic work.
Anchor Standard #8. Interpret intent and meaning in artistic work.
Anchor Standard #9. Apply criteria to evaluate artistic work.
Anchor Standard #10. Synthesize and relate knowledge and personal experiences to make art.
Anchor Standard #11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.
Standard 1.1 The Creative Process: All students will demonstrate an understanding of the elements and principles that govern the creation of works of art in dance, music, theatre, and visual arts.
Standard 1.2 History of the Arts and Culture: All students will understand the role, development, an influence of the arts throughout history and across cultures.
Standard 1.3 Performing: All students will synthesize skills, media, methods and technologies that are appropriate to creating, performing, and/or presenting works of art in dance, music, theatre, and visual art
Standard 1.4 Aesthetic Responses & Critique Methodologies: All students will demonstrate and apply an understanding of arts philosophies, judgments, and analysis to works of art in dance, music, theatre, and visual art.
Standard 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.
Standard 8.1 Technology Education, Engineering and Design: All students will develop an understanding of the nature and impact of technology, engineering technological design, and the designed world, as they relate to the individual, global society and the environment.
Standard 9.1 21st Century Life Skills: All students will demonstrate creative, critical thinking, collaboration, and problem-solving skills to function successfully as global citizens and workers in diverse ethnic and organizational structure.
Standard 9.2 Personal Financial Literacy: All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment and charitable giving in the global economy.
Standard 9.3 Career Awareness, Exploration and Preparation: All students will apply knowledge about and engage in the process of career awareness, exploration and preparation in order to navigate the globally competitive work environment of the information age.
Standard 9.4 Career and Technical Education: All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, licenses and/or degrees.

Enduring Understandings (EU):
Students will understand…..

-Rules and procedures.
-Instrument families and each family's unique qualities.
-How music can create and/or enhance a story.

In reference to the curriculum…
Music is a form of communication.
Music is a means of personal expression, style, and taste.
The orchestra is made up of various instruments of different timbres, and ranges.

Students will know…

- The orchestra consists of numerous instruments with distinct sounds.
- Vocal and instrumental music have potential to convey expression and meaning.

Performance Tasks:
(The lessons below are inspiration lessons. Since there are two music teachers teaching music appreciation in this study, there may be minor adjustments/modifications.)

Level 1
● Introduce Instrument Families
● Students will play games such as Instrument 4 corners, instrument bingo, and/or instrument trivia.
● Explain to students that next year they have the option to sign up for instrumental and circle the instruments students will have the choice to play next year.

Level 2
● Draw what you hear and write 3 describing words (instrumentation, expression, dynamics, etc.): Students will listen to 4 pieces by Sergei Prokofiev: Symphony no.1 op.25, Dance of the Knights (Romeo and Juliet), Midnight (Cinderella Suite), and Peter and the Wolf march. Conclude activity with a class discussion on what they drew, what words they chose, etc.
● Introduction to Sergei Prokofiev and Peter and the Wolf, which students will watch the following week.

Level 3
● Watch "Peter and the Wolf"
● Students identify the main characters in the story and describe the sound each character made.

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- Students reflected on how different instruments helped tell the narrative in the story and how as more characters were introduced, the instruments layered on top of each other

Level 4
- Final Project: See Examples of Student Work (Final Projects) in Orff and Music Appreciation.
  Students identify which instrument and melody represents each character by circling the character that matcheds the instrument and melody their hear.
- Students write the name of the instrument that represents each character and what instrument family that instrument belongs to

Level 5
- Sortify: Students determine which family the instruments on the board belong to.
- Sortify: Students identify the instrument families of unfamiliar world instruments based on prior knowledge of the characteristics of each instrument family.

Appendix F: Chapter 3

Figure 13: Orff Rubric

Task	Exceeds Expectations	Meets Expectations	Approaching Expectations	Needs Improvement	Did not participate
Imitate rhythm patterns and short melodic phrases.					
Explores musical elements through speech/singing moving and playing.					
Improvises short rhythmic and pentatonic phrases					
Composes original music and/or extensions to pre-existing music.					

Appendix G: Chapter 3

Figure 14: Music Appreciation Rubric

Task	Exceeds Expectations	Meets Expectations	Approaching Expectations	Needs Improvement	Did not participate
Define music terminology					
Identify voicing and instrumentation when listening to a song.					
Sort instruments by family					
Recall and elaborate on events in music history.					

Appendix H: Chapter 3

Figure 15: Spanish SGO Benchmark Assessment Rubric

Task	Bridging/ Reaching	Expanding	Developing	Emerging	Entering
Pronunciation	5	4	3	2	1
Comprehension	5	4	3	2	1
Literacy	5	4	3	2	1

Appendix I: Chapter 3

Figure 16 Examples of Student Work (Final Projects) in Orff and Music Appreciation

- Orff students have been practicing Ode to Joy for their Spring Concert on the recorder. As a final project in the Orff class, each student received a post-it note to compose one measure they could play on the recorder. Students were placed into groups. Group A had to choose 5 unique measures from the group for their composition. Although the A section has 8 measures, measures 1-3 and 5-7 are the same, and measures 4 and 8 differ. Group B had to choose 4, and all 4 measures were unique. Both groups also had the responsibility of selecting the order of the measures. The Noteflight project below is an example of one final project composed by two groups. The unit concluded with students performing their versions of Ode to Joy for the class and reflecting on their experience.

"Our Ode To Joy"

- In the music appreciation classes, students watched Peter and the Wolf and learned about the orchestra's instruments. The class also reflected on how different instruments helped tell the narrative in the story, and they could discern that as more characters were introduced, the instruments layered on top of each other. For their final project, students had to identify which instrument and melody represented each character by circling the character that matched the instrument and melody their heard.[139] On the back of their sheet, students also had to write the name of the instrument representing that character and what instrument family it belonged to. The unit concluded with playing Sortify, where students had to determine which family the instruments on the board belonged to.[140] The critical thinking aspect of this assessment was that students had to identify the instrument families of world instruments they had not previously learned about before.

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[139] TrinityMusic, "Peter & the Wolf Listening Quiz," TPT, accessed March 26, 2023, https://www.teacherspayteachers.com/Product/Peter-the-Wolf-Listening-Quiz-1515381?st=bab0fcceeda96c35b69475714ac5f5e4.

[140] "Sortify: Musical Instruments - GameUp," BrainPOP., accessed March 26, 2023, https://www.brainpop.com/games/sortifymusicalinstruments/.

Peter & the Wolf Listening

Listen to the music. Circle the *Peter & the Wolf* character that matches the instruments and theme you hear.

Name_____ Class_____

TrinityMusic

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Sortify Game

Appendix J: Chapter 3

Figure 17 Spanish SGO Pre/Post Test

What is your first and last name? _____

Date _____

School _____

Homeroom _____

Match the correct English greeting for each Spanish greeting (matching).

Buenos días	nice to meet you
Mucho gusto	good afternoon
Buenas noches	hi
Hola	good morning
Buenas tardes	good night

Como te llamas? _____

Como te llamas? means...

    A. How old are you?

    B. Where do you live?

    C. What is your name?

"Me llamo..." means...

    A. I am ... years old.

    B. My name is...

    C. I live at ....

Como estas? _____

Como estas? means...

    A. How old are you?

    B. How are you?

    C. What's your name?

When is Hispanic Heritage Month celebrated?

    A. January 15th - February 15th

    B. September 15th - October 15th

    C. March 15th - April 15th

Choose the correct English emotion for each Spanish emotion (+TPR).

	Furious	Sad	Happy	Sick
Feliz				
Triste				
Enfermo				
Furioso				

Match the number to the Spanish word.

	treinta	veinte	diez	veinticinco
10				
20				
25				
30				

Match the correct English color to the Spanish color (matching).

Rojo	Green
Azul	Orange
Verde	Purple
Naranja	Red
Amarillo	Yellow
Morado	Blue
Rosado	Pink

¿Qué fecha es hoy? _____

¿Qué fecha es hoy? Means ….

    A. What day of the week is it?

    B. What is today's date?

¿Qué día es hoy?_____

¿Qué día es hoy? Means….

    A. What month is it?

    B. What week is it?

    C. What day is it?

Hoy es sábado el trece de diciembre means...

    A. Saturday December 3

    B. Sunday December 13

    C. Saturday December 13

The days of the weekend are…

      A. martes y jueves

      B. domingo y lunes

      C. sábado y domingo

School starts on what month?

      A. Diciembre

      B. Enero

      C. Septiembre

School ends on what month?

      A. Febrero

      B. Mayo

      C. Junio

Would you use tú or usted in the following people…

      Your friend: _____

      The principal: _____

      A Stranger: _____

Read the following words/phrases out loud:

   1. Buenos Dias

   2. Como te llamas?

   3. Naranja

Write one complete sentence in Spanish about yourself.

_____.

Appendix K: Chapter 3

Figure 18: Examples of Spanish Assessment Techniques

Total Physical Response
1. Can you put your hands on your <u>head</u>?
2. Can you put your hands on your <u>shoulders</u>?
3. Can you put your hands on your <u>knees</u>?
4. Can you put your hands on your <u>hips</u>?
5. Can you put your hands on your <u>feet</u>?

Grammar Translation
Translate the following sentences:

6. My name is Jessie.
7. I live in New Jersey.
8. I am nine years old.
9. What time is it?
10. May I go to the bathroom?

Audio-Lingual Method
Interviewing the student

11. Tell me about yourself
12. What do you like to eat?
13. What is your favorite subject?
14. What are you wearing?
15. What is the weather like today?

The Silent Way
Speaking about a subject with no prompts
(1 point per accurate sentence. Five Sentences total)
Topic: I want you to imagine you are in a restaurant. Place an order and comment on your experience.

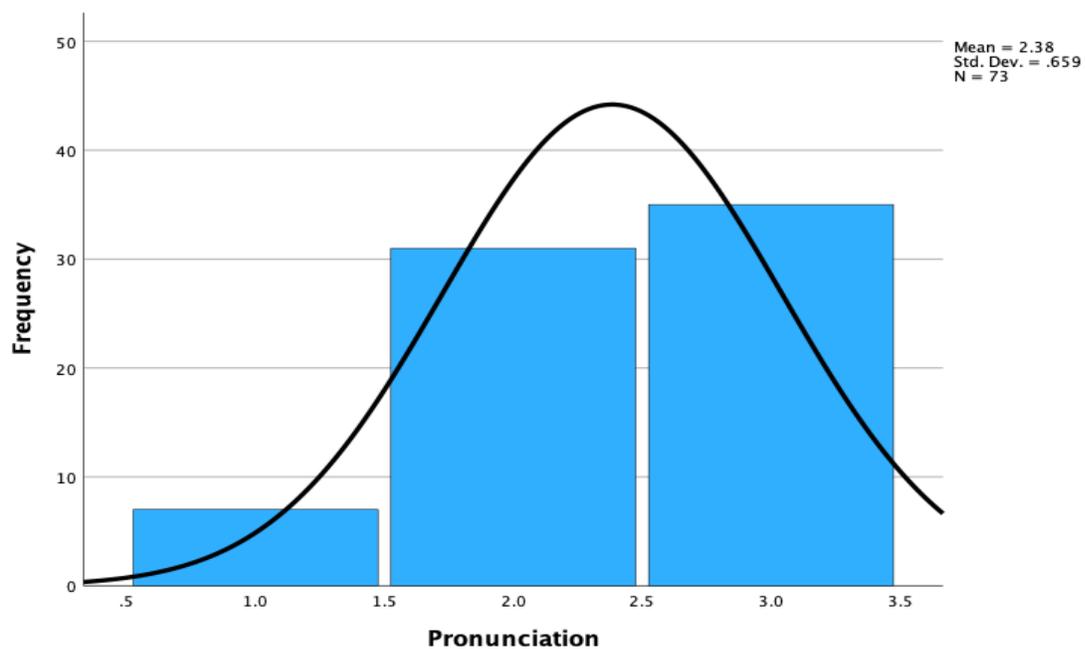**Appendix L: Chapter 4**

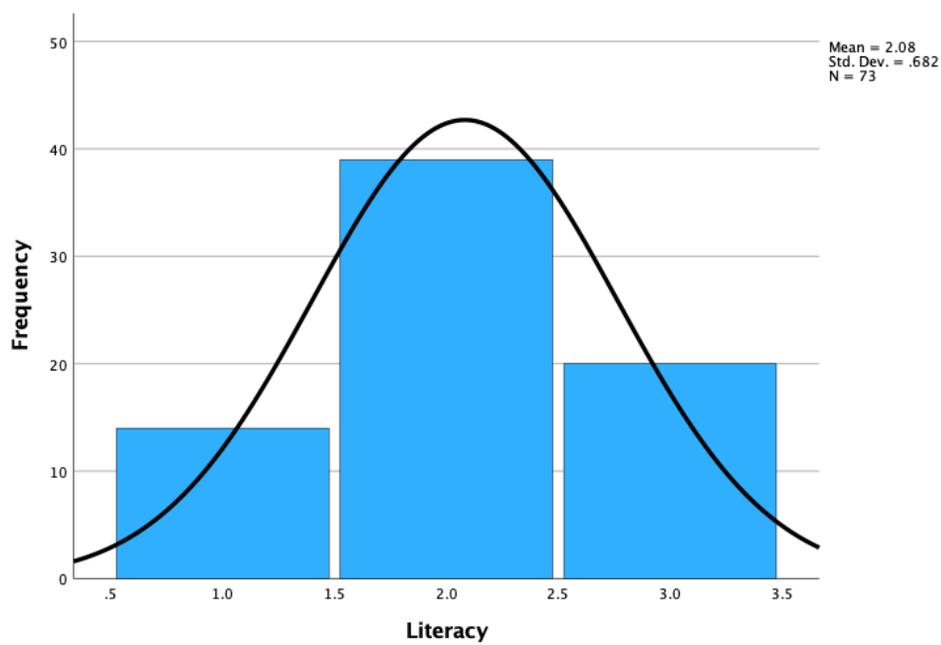**Figure 23: Pronunciation Histogram**

Figure 24: Literacy Histogram

Figure 25: Comprehension Histogram

Figure 26: Spanish SGO Histogram

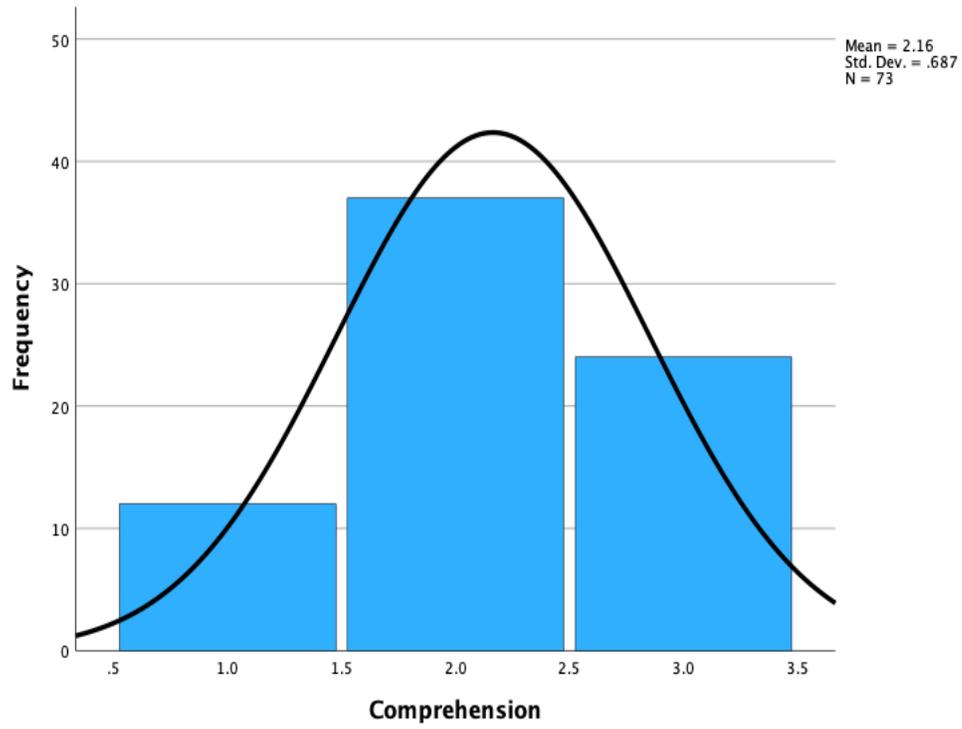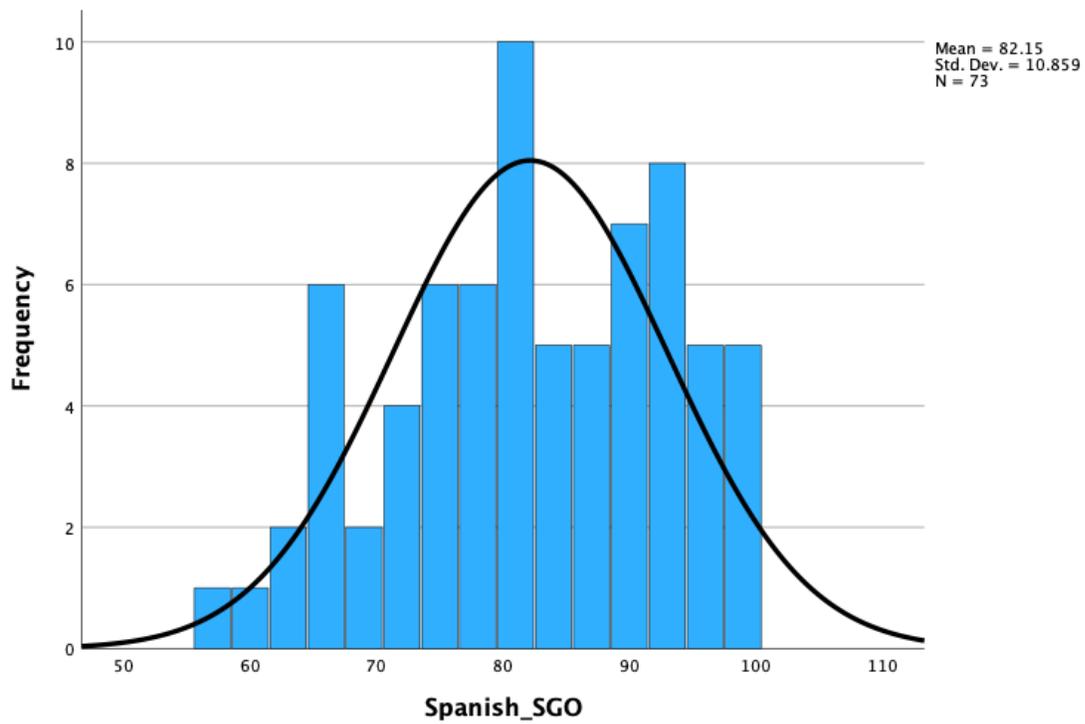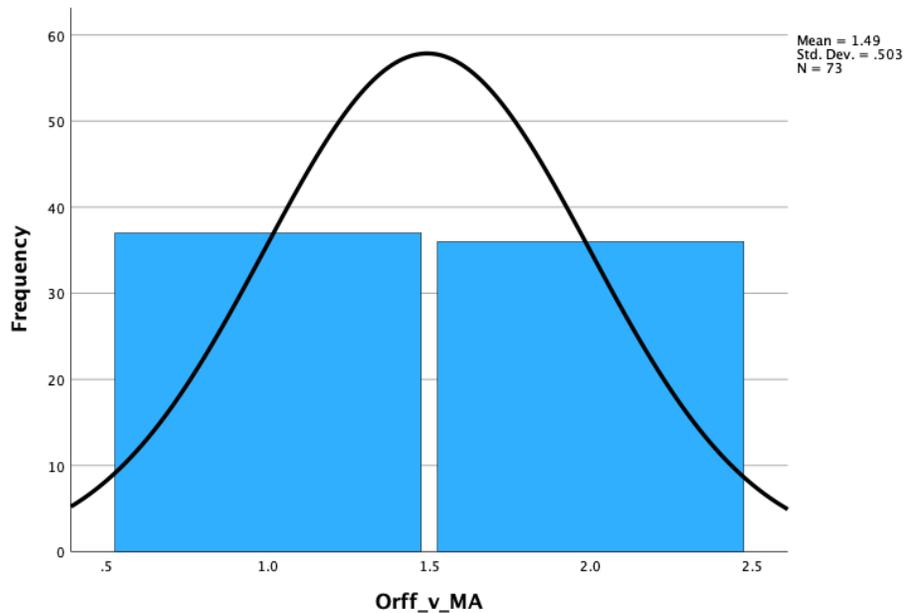**Figure 27: Orff vs. Music Appreciation Histogram**

Figure 28: Music Literacy Histogram