THE EFFECTS OF GROWTH MINDSET STRATEGIES ON THE RHYTHMIC NOTATION COMPREHENSION AND PERSONAL MUSICAL SELF-EFFICACY PERCEPTIONS OF HIGH SCHOOL INSTRUMENTALISTS

by

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Abstract

Despite the depth of research in general education and music education teaching methods as well as an implied overlap in these concepts, there is little research directly linking methodology and strategies across these content areas. More specifically, the benefit and implementation of growth-mindset instruction is considered best practice in the general education classroom but is rarely discussed in the context of the performing ensemble. Consistency in educational methods between content areas is critical because it unifies each into a single education process and promotes lifelong learning that will extend into other areas and beyond the classroom. This study will explore the educational and self-reported socio-emotional benefits related to implementing growth mindset tools as a core paradigm in the instrumental music performing ensemble. Guided by common principles of growth mindset education such as goal setting, personal reflection, educational ownership, and musical self-esteem in addition to existing music education research regarding rehearsal techniques and best practices, this qualitative study will attempt to define the parallel themes and connections. The compiled data will demonstrate effects in response to growth mindset education that connect the parallel research and methods between general and music education. This research will intersect general education with music education to assist music educators and administrators with a greater mutual understanding of research-based teaching methods. This will benefit cross-curricular consistency and explore the legitimacy of growth mindset strategies for music students.

Glossary of Terms

Music Self-Efficacy – An individual's belief about their own ability to complete a task or challenge within the context of music. For this study, this concept refers to a music student's reaction to new musical challenges within the classroom.

Rhythmic Comprehension – An individual's effectiveness to understanding and perform rhythmic ideas written in standard musical notation. For this study, this concept refers to a music student's ability to annotate the counts of written rhythms and perform them with as little preparation as possible.

Growth Mindset – The belief that intelligence, skills, and abilities are developed through effort and hard work. This concept was explored and promoted by Dr. Carol Dweck and is further explained in Chapter Two. For this study, this concept refers to a student's beliefs about their own acquisition of musical ability and the internal/external responses to challenges, failure, and critique.

Fixed Mindset – The belief that intelligence is assigned at birth and natural talent determines success with skills and abilities. For this study, this concept refers to a student who believes that their musical abilities come from natural talent rather than effort and responds negatively or with a lack of perseverance to challenges and failures.

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Chapter One - Introduction

Background

Educational philosophy has expanded significantly in the last century to emphasize and encourage a greater priority on individual discovery and educational accountability, placing the students in educational scenarios that test their own ability to find answers, create tools, and face challenges through hands-on interaction. Until the 1970s, most curriculum guides were based in the traditionalist philosophy, which systematically teaches facts, concepts, skills, and the ability to reason. In this orientation, teachers decide what to teach based on societal significance and prioritizes carefully structured content.[1] Developed by Jean Piaget and Lev Vygotsky and used in opposition to the traditionalist orientation, constructivism is an experiential orientation that prioritizes active involvement in meaningful experiences that are created by the teacher for students to make their own discoveries.[2] Constructivism is one of the most influential movements today, opposing rigidity and passive acquisition of knowledge.[3] This shift from traditionalism to constructivism in education has minimized the simple memorization of facts and acquisition of skills as the foundation of curriculum in favor of the application of knowledge to new circumstances, challenging students to make their own discoveries. By participating in redesigned curriculum that encourages critical thinking and problem solving, students are held accountable for their own education.

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[1] Harro Van Brummelen, *Steppingstones to Curriculum: A Biblical Path,* Second Edition, (Colorado Springs, CO: Purposeful Designs Publications, 2002), 26-27.

[2] Ibid., 31.

[3] Ibid., 32.

Allowing the students to make their own discoveries through hands-on participation rather than accumulating information from an instructor will result in a greater and more comprehensive learning experience.[4] In 1956, Benjamin Bloom published an instructional framework that organized the different levels of cognitive process called the "Bloom's Taxonomy," which separated educational activities by the way in which the information must be retrieved by the student.[5] This framework is now one of the most widely recognized methods for ensuring education transcends fact retrieval and students are responsible for actively solving problem using collected information.

This expansion of educational philosophy also includes music education instructional strategies and paradigms. While music education was once centralized on performance skills and aesthetic experience, new philosophies such as David J. Elliot's Praxial philosophy highlight the multidimensionality and importance of holistic development through music education.[6] This perspective outlines the importance of music education, but also states that "students are infinitely more important than the subject matter."[7] This opinion redirects the goal of music education solely from the development of performers and advanced consumers of sound to a critical element of human development and life.

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[4] Kiera Chase and Dor Abrahamson, "Searching for Buried Treasure: Uncovering Discovery in Discovery-Based Learning," *Instructional Science* 46, no. 1 (2018): 26, http://www.jstor.org/stable/45213816.

[5] Mary Forehand, "Bloom's Taxonomy," In M. Orey (Ed.), *Emerging Perspectives on Learning, Teaching, and Technology*, (2010): 41, https://textbookequity.org/Textbooks/Orey_Emergin_Perspectives_Learning.pdf

[6] David J. Elliott and Marissa Silverman, *Music Matters: A Philosophy of Music Education* (New York, NY: Oxford University Press, 2015), 17.

[7] Ibid, 18.

Despite these developments, general education and music education philosophy have largely expanded independently rather than simultaneously until recently. Music education is often considered to be a specialty that develops separately from the general education field although music and general education have many similarities.[8] Though limited, some research exists that explores the connection between music education and foundational general education principles and paradigms.

Based on existing research and best-practice teaching methods, a commonly stated goal of education is to make one's own job obsolete – to foster a student who can apply tools and educational mindset beyond the classroom and into life without assistance. According to Scott Shuler, "Independence…is necessary to lead a life enriched by music."[9] Unfortunately, many children become fearful of challenges once they become able to evaluate themselves.[10] This "fixed mindset" creates an educational barrier that limits critical thinking, self-esteem, and the willingness to apply tools and strategies to new contexts rather than a "growth mindset," which represents a more optimistic educational process.

The greatest contributor to the growth mindset paradigm is Carol Dweck, who published her popular book "Mindset: The New Psychology of Success" to share her personal beliefs about the relationship between mindset and success. A central theme of her work is the idea that artistic ability is often a learned skill rather than a natural gift and defines the process and positive

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[8] Burt Johnson, "Music: A Must in General Education," *Music Educators Journal* 37, no. 6 (1951): 14–15, https://doi.org/10.2307/3387391.

[9] Scott C. Schuler, "Music Education for Life: Five Guiding Principles for Music Education." *Music Educators Journal 97,* no. 3 (2011): 8. http://www.jstor.org/stable/23012573.

[10] Carol S. Dweck, *Mindset: The New Psychology of Success,* (New York, NY: Ballantine Books, 2016), 16.

results that come from the implementation of a growth mindset.[11] Students with a growth mindset are willing to "embrace challenges, persist in the face of setbacks, see effort as the path to mastery, learn from criticism, and find lessons and inspiration in the success of others" while students with a fixed mindset are more likely to "avoid challenges, get defensive or give up easily, see effort as fruitless or worse, ignore useful negative feedback, and feel threatened by the success of others."[12]

Many additional studies and theories support Dweck's beliefs, demonstrating the usefulness of teaching mindset and problem solving in addition to course content, including some examples in music educational contexts. In 1990, a study conducted by James R. Austin explored the connections between musical self-esteem and the participation of upper-elementary students in music activities, concluding that students in these activities demonstrate greater levels of musical self-esteem.[13] In 2008, Margaret Berg published an article describing the benefits of a "minds-on" rehearsal, placing reflection, critique, and personal ownership at the forefront of the chamber music rehearsal, which has some parallels to the growth mindset paradigm.[14] In 2015, Michael P. Hewitt conducted a study in which he demonstrated the connection between self-

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[11] Dweck, 67-68, 223-264.

[12] Ibid., 263.

[13] James R. Austin, "The Relationship of Music Self-Esteem to Degree of Participation in School and Out-of-School Music Activities Among Upper-Elementary Students," *Contributions to Music Education,* no. 17 (1990): 20–31.

[14] Margaret H. Berg, "Promoting 'Minds-On' Chamber Music Rehearsals," *Music Educators Journal 95*, no. 2 (2008): 48–55.

efficacy and performance level based in self-evaluation.[15] In 2012, Cathy Benedict published an article describing an unmistakable connection between literacies and notation, both in the music setting and otherwise.[16] While these studies have related themes, research directly connecting the growth mindset paradigm to music education are minimal.

Problem Statement

The majority of current music education philosophy and rehearsal techniques guide the instructional process itself rather than establishing the underlying mindset and foundational paradigm upon which the teaching method is constructed. However, according to the 2014 National Music Standards, the goal of music education should be much greater than skill-accumulation and should develop life-long learners, capable of taking the tools and strategies they have learned and applying them to new concepts beyond the classroom.[17] Students are required to create, revise, and share new musical ideas based on previous knowledge and established criteria.[18] They should use reflection and evaluation to develop and refine their own performances with a varied repertoire of new music, including the ability to apply technical skills

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[15] Michael P. Hewitt, "Self-Efficacy, Self-Evaluation, and Music Performance of Secondary-Level Band Students," *Journal of Research in Music Education 63*, no. 3 (2015): 298–313.

[16] Cathy L. Benedict, "Critical and Transformative Literacies: Music and General Education," *Theory into Practice 51,* no. 3 (2012): 152–58, http://www.jstor.org/stable/23263356.

[17] "2014 Music Standards (Ensemble) – NafME," National Association for Music Education, last modified 2014, https://nafme.org/wp-content/uploads/2014/11/2014-Music-Standards-Ensemble-Strand.pdf.

[18] Ibid., 1-2.

to new contexts.[19] Students should be able to justify their own opinions and decisions when selecting music or evaluating a work of music based on personally-developed criteria.[20] Finally, students should be able to demonstrate their ability to form personally relevant connections between musical works and other areas of life.[21]

Many of these standards of education require higher-order thinking and reasoning that does not exist within a skill-accumulation curriculum and requires educational activities that transcend natural talent. To successfully achieve these goals and develop skills that can be applied to new contexts outside the classroom, students must develop an educational process and mindset that allows them to make mistakes, detect errors, and strategize solutions. Although these concepts are not included in the traditional music ensemble curriculum, they can be borrowed from general education methods that have been extensively studied in recent years.

Bennett Reimer and David J. Elliot have both contributed significantly to the field of music education philosophy with their Aesthetic[22] and Praxial[23] philosophies, but the general education field has also significantly contributed in ways that are often overlooked by music educators. The education system is often characterized by specialization, which unnecessarily

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[19] "2014 Music Standards (Ensemble) – NafME," National Association for Music Education, last modified 2014, 3-4, https://nafme.org/wp-content/uploads/2014/11/2014-Music-Standards-Ensemble-Strand.pdf.

[20]Ibid., 5-6.

[21] Ibid., 7-8.

[22] Bennett Reimer, *Seeking the Significance of Music Education: Essays and Reflections* (Plymouth, UK: MENC: The National Association for Music Education, 2009).

[23] David J. Elliot and Marissa Silverman, *Music Matters: A Philosophy of Music Education* (New York, NY: Oxford University Press, 2015).

separates fields rather than balancing these fields with fundamental areas of human knowledge.[24]

This specialization often results in music educators who spend their careers pursuing music

specific pedagogy rather than exploring the ever-growing collection of educational methods and

theories that increase the productivity and longevity of the music instruction as well as the

holistic education of the child.

In 1953, the *Music Educators Journal* published an article by Hobart H. Sommers

describing the "coordination" between a "well-rounded" music program and general education,

stating that "their objectives are coordinate."[25] While the connection and importance is

understood by many music education advocates, the partnership continues to evade many

schools and music educators are left to advocate through persuasive argument that music

education is a worthwhile part of a student's education.[26] Sommer's statement about the

coordination between music education and general education can also be applied to the

educational paradigms and application of socio-emotional instructional strategies across content

areas.

A significant portion of literature which has been presented by the *Music Educator's*

Journal between 1950-1965 encourages the implementation of music education in the general

education classroom, but few encourage the use of general education principles in the music

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[24] James E. Koontz, "Music and General Education," *Music Educators Journal* 42, no. 3 (1956): 20–21, https://doi.org/10.2307/3388103.

[25] Hobart H. Sommers, "General Education and the Music Teacher," *Music Educators Journal* 39, no. 6 (1953): 19–42, https://doi.org/10.2307/3387700.

[26] Kevin Shorner-Johnson, "Building Evidence for Music Education Advocacy," *Music Educators Journal* 99, no. 4 (2013): 51–55, http://www.jstor.org/stable/43289017.

classroom. Burt Johnson, a high school principal published in a 1951 issue, asserts that music should not be considered a lesson for a specialist to teach, but it should be included in every classroom because it is a basic skill and vital to our culture.[27] In 1965, Glenn Frederick Heinlen discussed the unique University School at Florida State University, for which he served as Associate Professor, that built its curriculum and schedule around instrumental music at the core, again representing the attempt to bring music back into the general education field.[28] Francis Horn, a self-proclaimed "musical illiterate" president of Pratt Institute, highlights the importance of a musically literate audience, rather than apathetic, and explains that this must begin in the general education classroom.[29] While music has been proven to greatly benefit the general education classroom, the benefit of general education principles on the music classroom are less explored.

Conceived by Dweck and further studied by many others, the growth mindset paradigm has been identified as an important foundation for education, directly improving student participation, self-esteem, and educational success.[30] Students who approach education from a growth mindset and address mistakes demonstrate a higher level of perseverance and recovery

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[27] Burt Johnson, "Music: A Must in General Education," *Music Educators Journal* 37, no. 6 (1951): 14–15, https://doi.org/10.2307/3387391.

[28] Glenn Frederick Heinlen, "Instrumental Music in General Education," *Music Educators Journal* 51, no. 5 (1965): 54–56, https://doi.org/10.2307/3390494.

[29] Francis Horn, "Music in General Education," *Music Educators Journal* 40, no. 1 (1953): 25–26, https://doi.org/10.2307/3387886.

[30] Carol S. Dweck, "The Secret to Raising Smart Kids," *Scientific American Mind 18, no. 6* (2007): 36–43, http://www.jstor.org/stable/24939762.

than those who passively make mistakes.[31] The problem is that the research regarding the application of a growth mindset instructional paradigm to the music education field specifically is limited. This study will investigate whether similar trends exist within the high school instrumental music education field, specifically regarding improving rhythmic notation comprehension and musical self-efficacy.

Statement of Purpose

The purpose of this study is to identify educational and motivational effects related to the introduction of a Growth Mindset educational paradigm within the urban high school concert band classroom, attempting to connect the field of general education to music education by assessing the effect of general education methods on music education students. Socioeconomic background is one of the greatest academic achievement predictors, however, the introduction of a growth mindset has been proven to dramatically improve academic achievement within a comparable socioeconomic demographic.[32]

The independent variables will be the key elements of growth mindset instruction, such as short-term goal setting, regular personal reflection and self-evaluation, the modeling of problem-solving techniques, and the active ownership of failures. Many of the students have completed independent exercises in these areas, but they have never experienced a curriculum

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[31] Jason S. Moser, Hans S. Schroder, Carrie Heeter, Tim P. Moran, and Yu-Hao Lee, "Mind Your Errors: Evidence for a Neural Mechanism Linking Growth Mind-Set to Adaptive Posterror Adjustments," *Psychological Science 22*, no. 12 (2011): 1484–89.

[32] Susana Claro, David Paunesku, and Carol S. Dweck. "Growth Mindset Tempers the Effects of Poverty on Academic Achievement." *Proceedings of the National Academy of Sciences of the United States of America 113,* no. 31 (2016): 8664–68. https://www.jstor.org/stable/26471021.

that places a priority on growth mindset within the context of the course content. These methods will be newly introduced into the existing curriculum.

The dependent variables will be rhythmic notation comprehension and musical self-efficacy and will be measured by quantitative data collection as well as a final qualitative interview to assist with data analysis. Changes in rhythmic notation comprehension ability will potentially demonstrate any correlation resulting from the introduction of the independent variables. Changes in the musical self-efficacy will demonstrate individual progress toward a growth mindset and away from a fixed mindset. This study will sample urban high school instrumentalists from grades nine through twelve enrolled in a small, school-based concert band program.

Significance of the Study

This research will contribute to the existing body of knowledge by seeking common trends and correlation between music education strategies and current general education research. The prevailing research suggests that a correlation exists, but the supporting evidence is minimal due to a lack of research. This study will attempt to further explore the areas that have been investigated with a greater clarification about techniques and mindset, benefitting the students, music educators, administrators, and the existing body of research.

If a correlation is observed between the two variables, the application of this information to music education curriculum will directly impact the education of the students. Similarly, music educators will guide rehearsals and educational paradigms based on trends and correlations that are revealed through this research. Areas that demonstrate a significant correlation can be added to future instruction to directly improve the quality of instruction and roundedness of the education.

Outside the classroom, administrators who often struggle to find a connection between their own general education background and the music education field can use the results of this study as common ground. This will allow administrators to be more involved in the curriculum design and rehearsal process, despite a possible lack of content-specific pedagogy. While existing literature and research is ever growing, the background and problem statement of this proposal demonstrate that it remains incomplete. This study will add to the existing body of research to reunite the fields of music education and general education.

Research Questions

As the existing research and parallel educational concepts are considered, several guiding questions can be drafted to summarize the scope of this research. Primarily, how does the addition of a growth mindset paradigm in the high school instrumental performance classroom benefit the rhythmic notation comprehension and musical self-esteem of the students? To answer this question, some additional sub-questions must be addressed through quantitative means: What is the relationship between short-term goal setting, ownership of mistakes, and self-reflections to a student's perceived musical self-efficacy? How does the modeling of problem-solving techniques relate to rhythmic notation comprehension in students? These questions will be answered by collecting quantitative data through surveys, written assessments, and rubric-graded performance assessments administered throughout the study. To further analyze trends in the quantitative data, one additional sub question will be addressed through final qualitative interviews: How do changes in mindset relate to changes in rhythmic comprehension and perceived musical self-efficacy?

Chapter Two – Literature Review

General Education Literature

Exploration into the foundational paradigms and philosophies of curriculum have also occurred within the general education community. Many of the foundational beliefs and concepts have paralleled the advancements in music education and similarities can be identified regarding the purpose and approach to education. This area of research is vast and includes a variety of approaches, centrally focused on the development of the whole child and application of learned concepts to new circumstances. This section will summarize the important writings and research specifically related to mindset as the focus of the research.

Carol S. Dweck is the leading researcher in Educational and Developmental Psychology, specifically encouraging the pursuit of a growth mindset. In her 2007 article "The Secret to Raising Smart Kids," Dweck redefines intelligence through a differentiation of natural ability and effort – a key position of growth mindset instruction. This article includes examples of each educational style as well as research that demonstrates the success of students who are praised for their effort and growth rather than praised for natural abilities and talents, which can be directly linked to the effort and success of students in a rehearsal context. Students must be taught to confront their failures and deficiencies properly, which begins with adult responses to success. This encourages the idea of malleable intelligence – a key principle in the growth mindset model.

This mindset model is further explored and defined by Dweck's book, *Mindset: The New Psychology of Success.*[33] This book provides a detailed explanation of the difference between a

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[33] Carol S. Dweck, *Mindset: The New Psychology of Success,* (New York, NY: Ballantine Books, 2016).

growth mindset and a fixed mindset, as well as a variety of examples from different areas of life. The text provides a convincing body of research but is constructed using primarily anecdotal evidence and correspondence from readers of Dweck's prior writings. While this resource is primarily focused on general psychology, it lends itself toward the education field and highlights the importance of teachers, parents, and coaches promoting this mindset toward students in an educational setting.

The text begins by clearly contrasting the two proposed mindsets, fixed and growth. Individuals with a *fixed mindset* believe that they have the potential to learn new things but their intelligence cannot be changed, they can change certain behaviors but the underlying person cannot be changed, they expect ability to show up before learning has taken place, they believe that assessments measure intelligence rather than progress, and often give up when they reach a challenge or failure because they do not believe they can grow.[34] They believe that "effort is only for people with deficiencies," which can easily lead to negative self-image and feelings of depression.[35] In contrast, individuals with a growth mindset believe that intelligence is flexible and open to significant change, they can always change significant things about who they are, they are willing and eager to confront new challenges with greater effort, and they do not see failures as defining moments but as teachable experiences.[36]

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[34] Dweck, 12-13, 24, 26.

[35] Ibid., 38, 42.

[36] Ibid., 12-13, 16, 33.

Testing is common in the American education system for measuring achievement and filtering applicants for educational institutions and careers, but this often creates the idea that a test "measures you forever" and creates a sense of urgency.[37] Many seemly-harmless interactions or events can shock individuals into a fixed mindset.[38] For example, the current belief of the IQ test is that it reveals the innate intelligence and potential of an individual, but Dweck claims that the original intention of the IQ test was to identify struggling students in the Paris public schools so that programs could be designed to get these students back on track with their education.[39]

Dweck continues by analyzing several areas of life for examples of growth mindset and fixed mindset, drawing attention to the common themes and benefits of growth mindset. Through anecdotal evidence, she explains the difference between an athlete who is "a natural" but does not have the hard work or "mindset of a champion" and the successes of an athlete who valued "mindset above the talent."[40] Specifically, Dweck identifies the importance of the character and "mindset of a champion," which are consistent with the growth mindset model.[41] Athletes with a growth mindset find their success in learning and improving rather than achievement, they find

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[37] Dweck, 29.

[38] Ibid., 256.

[39] Ibid., 5.

[40] Ibid., 82-83.

[41] Ibid., 91-95.

their setbacks to be motivational tools, and they are more likely to "take charge of the processes that bring success."[42]

The next chapter applies the mindset paradigm to examples of successes and failures within the business world, using examples of companies that succeeded and failed based on the mindset that characterized those making decisions. Dweck claims that fixed mindset leadership believes that some people are superior and some are inferior, often contributing to the failure or lack of reached potential within the company.[43] Following several real-life examples of fixed mindset failures, she turns her attention to growth mindset success stories, stating that true leaders are developed within an organization that prizes the development of ability and growth potential.[44] A growth mindset environment is present when skills are presented as learnable, learning and perseverance are valued more than "ready-made genius or talent," feedback is presented in a manner that promotes learning and future success, and managers are a resource for learning and improvement.[45]

Dweck continues by applying these concepts more individually and personally to relationships. She claims that a person who was wronged in a relationship who has a fixed mindset often develops a negative self-image or lashes out because they feel as if they were

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[42] Dweck, 98-101.

[43] Ibid., 112.

[44] Ibid., 142.

[45] Ibid., 141.

innocent and wronged or "unlovable."[46] A person with a growth mindset will likely respond by reflecting and applying changes to future relationships and will quickly find themselves ready to offer forgiveness.[47] Mindset within a relationship does not only impact your view of yourself, but it will also dictate your view of the other person and their ability to change.[48] A fixed mindset believes that "if you have to work at it, it wasn't meant to be" and "problems indicate character flaws," both of which create conflicts and competitions.[49] Dweck does not only explain the relevance to romantic relationships, but also to friendships and experiences of bullying. She claims that the judgement and superiority complex evident in bullying cases originates from a fixed mindset.[50] Individuals can do very little to stop bullies, but schools can make a difference by promoting a growth mindset in which feelings of superiority or inferiority are diminished and bullies are less able to attract an audience for their actions.[51]

Dweck continues by explaining the interactions and experiences that influence the development of mindset. One of the greatest contributions is the phrasing of praise offered to students by parents, coaches, and teachers. Individuals who are consistently praised on the quality of their work rather than the growth that they exhibit and effort they contribute are more

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[46] Dweck, 147-149.

[47] Ibid., 149.

[48] Ibid., 151.

[49] Ibid., 151-158.

[50] Ibid., 169.

[51] Ibid., 172.

likely to develop a fixed mindset because they are trained to recognize praise as related to successful results.[52] This does not mean that praise for success should be avoided, but that the central theme of praise is directed toward efforts and choices rather than intelligence or talent.[53] Our society encourages a boost of self-esteem and encourages adults to protect children from failure, but this can be harmful in the long run. Students must be presented with constructive feedback, which addresses areas that need growth and encourages students to view failures as learning tools.[54]

The text concludes by exploring methods for altering mindset, beginning by "changing the internal monologue from a judging one to a growth-oriented one."[55] This process can be very difficult and unsettling for some, because it requires the abandonment of an established mindset and embrace ideas that many with a fixed mindset consider to be threatening.[56] Dweck presents a series of scenarios where some form of setback or failure is presented, a primary fixed-mindset reaction is predicted, then a growth-mindset step forward is proposed. The central theme in all growth mindset steps is to reframe the scenario as an opportunity to explore alternatives, revise plans or methods, and to seek growth through the trial.[57]

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[52] Dweck, 177-178.

[53] Ibid., 180.

[54] Ibid., 183-185.

[55] Ibid., 226.

[56] Ibid., 234-235.

[57] Ibid., 236-248.

Dweck encourages the individual to reflect and identify certain triggers that cause the "fixed-mindset persona" to reappear.[58] When a person is conscious of moments that can cause a regression in mindset, it is easier to avoid the distraction and effectively plan for growth. Finally, the individual should establish short term goals for mindset growth by evaluating opportunities each day to display a growth mindset.[59] Dweck concludes by stating: "Did changing toward a growth mindset solve all my problems? No. But I know that I have a different life because of it – a richer one. And that I'm a more alive, courageous, and open person because of it."[60]

Cheska Robinson elaborates further on Dweck's perspective in a short article from 2017, which provides an overview of basic concepts within the growth mindset framework, such as normalizing mistakes, adjusting language when giving feedback, encouraging positive self-talk, and involving students in the process of establishing growth-oriented goals.[61] Students should be encouraged through positive self-talk and the normalization of mistakes and failure. Involving students in their own education and helping them to see their own growth as they master new challenges is a critical part of the growth mindset model. While music is not mentioned in this

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[58] Dweck, 255.

[59] Ibid., 262-263.

[60] Ibid., 264.

[61] Cheska Robinson, "*Growth Mindset in the Classroom*," Science Scope 41, no. 2 (2017): 18–21, http://www.jstor.org/stable/26387192.

specific writing, this article demonstrates existing research in growth mindset within the general education setting.

An article published in *Educational Horizons* in 2012 explores the difference between growth mindset and fixed mindset in the classroom while also exploring the importance for other educational stakeholders (parents, teachers, administrators) to adjust their own mindset to benefit students.[62] When growth mindset is a foundation, education becomes a community activity that welcomes feedback and student ownership of education. This article provides additional explanations about growth mindset in the general education classroom and how the teacher can impact students with their own mindset. While the article provides individual perspective through a transcribed interview rather than specific data, it presents a compelling defense for the importance of growth mindset as a motivational tool for all involved.

Additional social and emotional learning research has been published by Mark T. Greenberg, who states that Social and Emotional Learning (SEL) programs place a priority on improving of student confidence and engagement with the goal to impact intrinsic motivation and improve academic performance.[63] This can occur in many ways, but it begins with the understanding that education is about far more than content – students must learn basic behaviors and habits as well through supportive feedback. Growth mindset and goal setting fall under this category because students must be taught how to respond to their own failures positively and

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[62] *"Mindsets: How To Motivate Students (And Yourself),"* *Educational Horizons* 91, no. 2 (2012): 16–21, http://www.jstor.org/stable/42927161.

[63] Mark T. Greenberg, Celene E. Domitrovich, Roger P. Weissberg, and Joseph A. Durlak. *"Social and Emotional Learning as a Public Health Approach to Education,"* *The Future of Children* 27, no. 1 (2017): 13–32, http://www.jstor.org/stable/44219019.

encouraged to view their ability and intelligence as malleable rather than fixed. This existing

research provides an important framework of existing research with emotional and motivational

impact within the general education setting.

Similarly, a study by Jason S. Moser summarizes the perseverance and recovery of

individuals who make mistakes passively with a fixed mindset versus those who give attention to

mistakes through growth mindset.[64] Growth mindset participants demonstrated intentional and

flexible attention to errors, which resulted in a greater level of recovery. Attention to errors

rather than passive progression demonstrates an understanding that intelligence is malleable and

can improve throughout an educational experience. This is a concept that is directly related to the

use of growth mindset and goal setting within the rehearsal setting because students must

identify and confront errors – setting measurable goals and working to improve personal

abilities.

<div align="center">Music Education Philosophy and Commentary</div>

As the importance of a comprehensive music education has evolved in educational

curriculum, music educators have explored the methods and paradigms for the curriculum that

they present to students. Initially, American music education was a privilege only accessible to

the upper class and was specifically focused on the performance of religious music.[65] The

Western Classical tradition encouraged an emphasis on excellent performance within a set of

prescribed guidelines, which limited the student's ability to think critically and apply knowledge

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[64] Moser, 1484–89.

[65] Michael L. Mark and Charles L. Gary, *A History of American Music Education,* 3rd Edition, (Plymouth, UK: MENC: The National Association for Music Education, 2007), 60-61, 68.

and experiences to new contexts. This process began to change in the 20th century following the introduction of the postmodern and constructivist movements, which value meaningful activities, personally developed truths, and a departure from the adherence to universal standards.[66] While the fundamental problems with this approach are equal, the dramatic perspective change created an opportunity for more exploratory curriculums and philosophies to be investigated.

In the late 1950s, the Music Education as Aesthetic Education (MEAE) philosophy began to emerge from a variety of sources, namely through the work of Bennett Reimer. His book *Seeking the Significance of Music Education: Essays and Reflections* contains a collection of writings that outline the basic concepts of this aesthetic music education philosophy.[67] This paradigm is founded upon the pursuit of "profound musical experiences," discovered primarily through listening.[68] Reimer asserts that too much emphasis is placed on the practical skills and performance rather than the experience itself, claiming that experiencing these profound moments is in fact the ultimate goal of music education.[69] He also claims that "passive or active [listening] are not in themselves determined by the role being played, but on characteristics associated with the way it is being played," explaining that active "hands-on" performance can also be a passive experience, lacking in profundity.[70] While this perspective demonstrates

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[66] Brummelen, 32-34.

[67] Bennett Reimer, *Seeking the Significance of Music Education: Essays and Reflections,* (Plymouth, UK: MENC: The National Association for Music Education, 2009).

[68] Ibid., 48.

[69] Ibid., 58-59.

[70] Reimer, 230-231.

validity and has influenced many music educators since its conception, it has been replaced by alternative philosophies in the last 30 years.

David J. Elliott is one of the current leaders in music education philosophy as the pioneer of the praxial music education philosophy, which began in the 1990s as a response to the aesthetic philosophy. His work and perspectives are outlined in his book *Music Matters: A Philosophy of Music Education,* coauthored by Marissa Silverman. This book systematically outlines the principles and concepts supporting his Praxial music education philosophy, which prioritizes hands-on participation and multiculturalism over aestheticism and Western-Classical tradition. Elliott explains the multidimensionality of music and argues that this demands an immersive "musicking" experience. He claims that "the innumerable ways people conceive, produce, listen to, and experience music make[s] it impossible to formulate a universal definition."[71]

This philosophy encourages active music-making rather than reflective listening exercises, which provides motivational benefits and prioritizes positive musical experience to refinement of skills and confrontation of errors. Elliott states that "Praxis is a multidimensional concept. It includes active reflection and critically reflective action…Central to our concept of praxis is careful and caring thinking-and-doing for people's holistic development."[72] This emphasis on life-long educational impact is further developed in the fourth chapter, where Elliott

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[71] David J. Elliott and Marissa Silverman, *Music Matters: A Philosophy of Music Education* (New York, NY: Oxford University Press, 2015), 64.

[72] Ibid., 17.

demonstrates a clear distinction between "making a living" and "making a life", which is the difference between accumulation of content knowledge and the development of wisdom.[73]

While this book demonstrates an educational philosophy that has been comprehensively analyzed and refined from many perspectives, Elliott himself states that "a philosophy can never say all there is to say about something" and "a single philosophy…can never be completely objective."[74] Philosophy provides an educational viewpoint, upon which the individual can develop a curriculum. While Elliott's viewpoint provides an excellent basis for general music education, it does not provide examples and methods for specific skill-oriented instruction. The Praxial philosophy opens the door to holistic and immersive education and could easily be complemented by the growth mindset model.

Elliott's model is the most widely accepted, however it has met some criticism, which Elliott published in his reflective publication, *Praxial Music Education: Reflections and Dialogues.*[75] This collection of letters and critiques supports, questions, and critiques the Praxial music education philosophy, which provides a comprehensive review and supplement to the initial work. While most educational philosophies favor the general concept of growth mindset and malleable intelligence, there are differing perspectives on the specific process and methods used: the actions and priorities within the classroom that guide students toward growth. While

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[73] Elliott, 120.

[74] Ibid., 57.

[75] David J. Elliott, *Praxial Music Education: Reflections and Dialogues* (New York, NY: Oxford University Press, 2005).

many current music educators prefer the Praxial model, others believe there are certain deficiencies that should be addressed.

In the collection of writings, Wayne D. Bowman criticizes Elliott's "imperative of performance" in music education by stating that language is divided into reading, writing, and speaking "without claiming that one is more authentic," likening this concept to the multidimensionality of music.[76] Bowman also argues that Elliott's "multicultural imperative" can be counterproductive because this voluminous collection of lessons reduces the available time for quality and meaningful experiences within one's own sound culture.[77] He concludes by explaining that Praxialism shows promise as a single tool in the "toolbox" of music education, but it would be unwise to use a single tool for all purposes rather than to "bring along a toolbox when the task at hand looks complex and involved."[78]

In a second commentary, Bowman evaluates the pros and cons of performance and listening to further explore the limitations of the praxial philosophy. While performance does inform the student and expand their musical knowledge through hands-on activity, it can also teach conformity and a "do-it-this-way" mode of instruction.[79] He also explains that all humans are "hard-wired" for listening, and that active listening is a musical skill in itself.[80] Bowman

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[76] Elliot, 65-66.

[77] Ibid., 67.

[78] Ibid., 73.

[79] Ibid., 150-151.

[80] Ibid., 160.

provides support for many of Elliott's claims, but rejects the concept that performance is of greater importance than listenership.[81]

Constantijn Koopman provides a supportive commentary, specifically outlining the difference between the "acquisition of knowledge" and the "development of a broad cognitive perspective" as it relates to music education.[82] He also criticizes the listening-focused aesthetic method, claiming that this can easily lead to "passive consumption of musical works."[83] However, he does offer some criticism to Elliott's views, specifically regarding the use of listening exercises and the priority on multiculturalism. He claims that Western society is so dominated by technology and media that excluding listenership will harm the student's ability to evaluate and discriminate between musical works in daily life.[84] He also claims that multicultural musical experiences are often inauthentic because the value of the cultural experience is lost in translation to Western culture.[85] While Koopman is largely in support of Elliott's views, he offers some of the same criticisms as Bowman.

Wilfred Gruhn demonstrates explains the neurobiological features of understanding and acquisition of meaning in relation to cultural context and cognition development, then explains

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[81] Elliott, 161.

[82] Ibid., 82-83.

[83] Ibid., 87.

[84] Ibid., 89-90.

[85] Ibid., 95.

the parallels between this concept and the praxial philosophy.[86] He continues to compare the praxial method to the acquisition of language; developing an understanding through immersion, then participating in conversations within the individual's own skill level.[87] While he does admit that daily use of language and musical conversation are significant differences, he concludes by stating that this philosophy returns music education to a big-picture process, rather than breaking it down into multiple separate actions.[88]

While Robert A. Cutietta and Sandra L. Stauffer state that the praxial model is "robust enough" to incorporate other ideas and that their own questions and critiques may be answered in the future,[89] their commentary entitled *Listening Reconsidered* confronts their concerns with Elliott's redirection away from pure listenership. They challenge the western idea of "audience" and the implied "superiority" of the listener with a high musical participation but a low cultural understanding within the performance.[90] Additionally, they cite research that supports the claim that understanding and listenership evolve with repeated listening, independent from active participation.[91] While they do not discredit the claims of Praxialism, Cutietta and Stauffer provide compelling commentary to retain elements of intentional listenership in music education.

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[86] Elliott, 100-101.

[87] Ibid., 105.

[88] Ibid., 110.

[89] Ibid., 140.

[90] Ibid., 126, 131.

[91] Ibid., 133.

In two separate commentaries, the individual concepts of composing/improvising and creativity within the praxial model are explored and mostly affirmed. Jeffrey Martin endorses the praxial view, but with reservations regarding the infrequency of compositional instruction and the focus on the individual in improvisation rather than collective improvisation.[92] Margaret Barrett evaluates the development of creativity through the Praxial model, and claims that Elliott's view -

> "…departs from earlier views of creativity because it recognizes the influences of historical and sociocultural dimensions of creativity, it emphasizes the development of individual skills and understandings from novice to competent and proficient levels of music listening and making, and it views the processes through which the individual works in contexts of real musical practices."[93]

Barrett also clarifies the importance of understanding the diverse experiences in which creativity thrives within a student's sound culture, both in and outside of school.[94]

Szego specifically addresses culture when commenting on the authenticity and ethnocentrism of many music education models. He claims that Elliott is "rightfully critical of the Western elitist position that restricts musical participation to a select few," but he also claims that it would be equally harmful to create a paradigm in which listenership is reduced to only those who perform.[95] Szego concludes that the Praxial model with an emphasis on performance

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[92] Elliott, 168, 170.

[93] Ibid., 182.

[94] Ibid., 191.

[95] Ibid., 208.

is "almost completely supportable," but cautions against the assumption that listenership is dependent upon performance experience, especially within a variety of cultural contexts.[96]

The final relevant commentary in *Praxial Music Education: Reflections and Dialogues* is a comprehensive analysis of the aesthetic and praxial philosophies by Thomas Regelski. He begins by stating the importance of an educator being "philosophically informed" because this reduces education down from "methods and materials" to "clarify value" and the purpose of music education.[97] The aesthetic perspective often encourages a western ethnocentric hierarchy of musical works, attempting to expose students who "lack the technical skills" to properly recognize "good music."[98] In support of the praxial model, he states that students participate in "holistic immersion…learning by authentically doing",[99] however, Elliott's model has many practical limitations because instructing hands-on and specialized musical experiences that authentically represent culture cannot fit into a typical music classroom schedule.[100] He concludes by stating that music listening is its own praxis and should not be discredited.[101]

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[96] Elliott, 214-215.

[97] Ibid., 199-200.

[98] Ibid., 223-226.

[99] Ibid., 236.

[100] Ibid., 237.

[101] Ibid., 239.

Through careful study and consideration of the aesthetic and praxial philosophies as well as the professional commentaries, music education is undergoing continued revision. While many experts agree that the Praxial method is an encouraging step toward a more holistic and culturally responsive curriculum paradigm, there are still many missing pieces in need of evaluation. It is therefore possible that the growth mindset model could provide some additional solutions to this debate by borrowing from the general education paradigm for additional instructional strategies.

<div align="center">Cross-Content Literature</div>

The advancements in educational philosophy and expansion in curriculum paradigms detailed in the previous two sections have been developed using the same foundational concepts and beliefs, but they have largely developed independently. In the last 30 years, researchers and educators have begun to explore the relationship between these two fields. While this area of study remains underdeveloped (to which this research will contribute), several cross-content studies and articles have been published that explore this relationship. These will be considered in the development and implementation of this study.

Growth mindset is much more than a simple educational tool, but a paradigm through which and individual's education is viewed and guides other areas of learnership and life beyond the classroom. Similarly, arts participation such as within the music classroom has been linked to social-emotional development in many areas.[102] Several of these benefits were compiled into a

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[102] Melissa Menzer, *The Arts in Early Childhood: Social and Emotional Benefits of Arts Participation,* (Washington, DC: National Endowment for the Arts, 2015), 7

2015 literature review and gap-analysis written by Melissa Menzer and published through the National Endowment for the Arts, specifically exploring the effect of the arts on young children.

Firstly, participating in arts education has been shown to positively impact social skills such as helping others, sharing, and demonstrating care and empathy.[103] A few examples from documented research include a higher likelihood of "sophisticated" childhood social skills with children who listened to their parent sing at least three times per week, greater cooperation, interaction, and independence among toddlers who participate in a classroom-based music education program, and other social benefits connected to other forms of arts participation.[104]

Arts education participation has also been linked to an increased level of emotional regulation among young children, such as the ability to control and regulate emotions, and the ability to control emotional affect and expression.[105] For example, better outcomes for emotional regulation were discovered in infants that participate in active music experiences, and children were discovered to have a greater use of expressive emotion when involved with musical activities as opposed to free play activities.[106] Emotional self-regulation is a life skill that follows an individual into other areas of life beyond education, and directly impacts their view of self. Although this literature review prioritizes research involving children, these correlations have been identified in many stages of life.

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[103] Menzer, 8.

[104] Ibid., 8-9.

[105] Ibid., 9.

[106] Ibid., 9.

According to a study conducted by Suvi Saarikallio in 2011, music is correlated to mood regulation and is often used as a coping mechanism by adult listeners who have an understanding and appreciation for music.[107] Saarikallio states that "during the adulthood years, the strengthening link between musical experiences and personal life history as well as the growing understanding of music's power increase the likelihood of the musical material to serve as a tool for emotional work related to self-identity."[108] This would suggest that music education can directly influence the self-identity of an individual, which is closely tied to mindset, self-efficacy, and the individual's view of self.

Literature also suggests that mindset directly impacts the quality of the music education being administered, proposing that a positive mindset and music education are mutually beneficial. In 2008, Margaret Berg authored an article in the *Music Educators Journal* that discusses the importance of, and strategies associated with a "Minds-On" rehearsal style. The author suggests encouraging students to listen, reflect, and critique one another that encourages ownership, student leadership, and the acceptance of conflicting opinions.[109] This method is parallel to the growth mindset paradigm because it encourages the students to take ownership of their progress and education by implementing shared leadership and the use of weekly goal logs. While it does not specifically demonstrate the effectiveness of the growth mindset model within

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[107] Suvi Saarikallio, "Music as Emotional Self-Regulation Throughout Adulthood," *Psychology of Music*, *39*, (2011) 307–327. https://doi.org/10.1177/0305735610374894

[108] Ibid., 322.

[109] Margaret H. Berg, "Promoting 'Minds-On' Chamber Music Rehearsals," *Music Educators Journal* 95, no. 2 (2008): 48–55, http://www.jstor.org/stable/30219664.

a rehearsal context, there are many similar activities presented in this model that can be implemented by a growth mindset classroom.

An article published by Virginia Wayman Davis and published in *General Music Today* in 2017 explored the role of error detection in the learning process, specifically through "reflective, deliberate practice" that celebrates student struggle as an experience that can be "celebrated for its connection to true musical growth."[110] Davis explains that one of the most common method for assessment and feedback within the music classroom is the "TST feedback loop," where the teacher gives the instruction, the student responds to the instruction, then the teacher provides an evaluation of this response.[111] This typically revolves around the acquisition of basic musical skills and abilities, such as pitch, rhythm, intonation, articulation, expression, and other fundamental elements. Error detection is an important part of music education, but the way that these errors are addressed by the instructor can directly relate to the student attitudes toward their own abilities to learn and perform skills.[112]

Davis defines growth mindset by asking the questions, "…how do we "accept" error while still working to eliminate it? And how can failure – our, our students' – ever be preferable to perfection?"[113] She answers by defining growth mindset as "the ability to acknowledge error, reflect on it, and use it as a tool for improvement," which "is marked by a willingness to expend

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[110] Virginia W. Davis, "Error Reflection: Embracing Growth Mindset in the General Music Classroom." *General Music Today*, 30 (2017): 11, https://doi.org/10.1177/1048371316667160

[111] Ibid., 11.

[112] Ibid., 11.

[113] Ibid., 12.

effort and learn from mistakes."[114] She also clarifies the common misconception that praise is the pathway to a growth mindset, claiming that truthfulness about achievement and reflection is a "cornerstone in the process of profiting from mistakes."[115]

Davis concludes by offering several suggestions to change error detection into a reflective practice using growth mindset related speech in the classroom. Firstly, focus on the process rather than the final product. Classes should prioritize the journey of music making rather than the final destination. Listening examples and conversations about famous composers should avoid discussing natural talent and prioritize the role of diligence, practice, and perseverance. This will reveal the truth about "music genius" as being a long journey from failure to success.[116]

Students should have opportunities to try new things through fun and low-stress activities. Davis encourages teachers to design instruction that allows students access to all instruments and provides the opportunity to perform based on preference rather than assignment. According to Susan A. O'Neill and paraphrased by Davis, young instrumentalists are more likely to identify success over the course of many small successes when compared to non-

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[114] Davis, 12.

[115] Ibid., 13.

[116] Ibid., 14.

instrumentalists.[117] Practice of an instrument and slow gradual progress demonstrates that music ability can be improved through effort, referred to as an "incremental" theory of learning.[118]

Teachers should design instruction that intentionally meets a "desirable difficulty." Davis recommends carefully scaffolding instruction to ensure that students are challenged adequately and encouraged to deeply store information through required effort. Conditions should be changed, or novelty should be introduced to encourage active participation and retention in repetitive instruction to encourage memory retention, and students should be given regular opportunities to test themselves to ensure information has been stored in long-term memory.[119]

Teachers should refrain from fixing and addressing every problem, students must be allowed to struggle. Students need to work through problems and find success through their own efforts. According to Davis, it is better to let students spend time trying to work out answers and fix problems than it is to give them the answer and move on. It also shows respect for the learning process and demonstrates to students that you truly believe they can find the solution and succeed.[120]

Teachers should model reflection and allow students to hear their own questioning, allowing them to strategize participate in evaluation and strategizing. Invite them into the error detection and evaluation process, before demonstrating your own analysis and providing

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[117] Susan A. O'Neill, "Developing a Young Musician's Growth Mindset: The Role of Motivation, Self-Theories, and Resiliency," in *Music and the Mind: Essays in honour of John Sloboda*, (New York, NY: Oxford University Press, 2011), 31-46

[118] Davis, 14.

[119] Ibid., 14

[120] Ibid., 14-15.

feedback. Attention should also be drawn to the most common mistakes or errors, which will help the students to realize that they are not alone in their errors and can work together for a solution.[121]

Emphasize participating in the discovery process through active and hands-on activities. Simply explaining or demonstrating a skill or concept is only the first step, and students will only learn and retain information when they attempt to do it themselves. As they learn, the teacher should be mindful of common "praise language," prioritizing compliments relating to effort rather than ability. Praise should be genuine and reinforce growth mindset in the students.[122]

Finally, the teacher should be aware of their own fixed mindset tendencies and should find opportunities to empathize with students over failures. These are great learning opportunities and can help model problem-solving skills to the students. Davis claims that big problems are often caused by the misunderstanding of a single concept or careless mistake, which can be much easier to fix than many students anticipate.[123]

Davis's article echoes many of the same principles and concepts proposed by Dweck and attempts to apply them to the music classroom. While these suggestions attempt to merge the field of general education and music education, they provide general educational paradigms rather than specific examples and data. The concepts of error detection through reflection, modeling responses to failure, and invitation for students to join the evaluation process are

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[121] Davis, 15.

[122] Ibid., 15.

[123] Ibid., 15.

applicable to the instrumental classroom and have natural connections to music education pedagogy.

An article centered on growth mindset within the choral ensemble explains that most choral ensembles are amateur, whether educational or cultural, which requires a growth mindset perspective.[124] The author, Sarah Morrison, states that musicians of any age must be instructed and educated to grow, even within an auditioned ensemble, and techniques "supporting neuroplasticity" should be incorporated within the rehearsals.[125] To begin, the director must believe and convey to the ensemble in and age and contextually appropriate way the idea that mindset can be chosen and can change over time, even though everyone will continue to have a combination of fixed and growth mindsets.[126] Morrison claims that some of the most important pieces of growth mindset instruction are positive self-talk, establishing goals and action steps, valuing the process over the final result, and carefully balance feedback to include "process praise" with constructive criticism rather than "ability praise."[127] Morrison concludes by stating that "by intentionally fostering growth mindsets within our choirs, choral leaders can make an impact beyond the choral ensemble in the lives of our singers," establishing a connection between growth mindset in the classroom and life-long learnership beyond the choral context.[128]

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[124] Sarah Morrison, "The Choral Mindset: Supporting Growth Mindset in Choral Ensembles." *The Canadian Music Educator* 60, no. 4 (Summer, 2019): 37, https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/scholarly-journals/choral-mindset-supporting-growth-ensembles/docview/2345533119/se-2.

[125] Ibid., 37.

[126] Ibid., 38.

[127] Ibid., 38-39.

[128] Ibid., 40.

A study by Paul Broomhead, Jon B Skidmore, and Dennis L. Eggett evaluated the language of praise, exploring the effect that "positive mindset trigger words" have on performance expression in a 2010 study.[129] This introduction of the study explains that performance expression is a complicated field with many attempts at analysis and development of instructional strategies. Performance expression is an individual communication method, affected by musical, personal, and situational factors, and perceived by changes in cues, such as tempo, dynamics, timing, and other fundamental elements of music.[130]

While focusing primarily on short-term gains rather than long-term implications, this study demonstrates the importance of positive mindset in a rehearsal and error-correction context. Through a carefully developed research model, the researcher discovered that non-professional musicians who were asked to meditate on specific positive trigger words such as "bold, confident, and dynamic" rather than participating in additional rehearsal demonstrated a significant and measurable increase in musicianship. Interestingly, this psychological intervention resulted in a significant growth in musical expression when compared to the control group.[131] This demonstrates the importance of mindset and psychological state in music rehearsals to impact ability. The addition of a third assessment that also displayed growth indicates that the positive effect of this psychological intervention lasted for at least a two-week

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[129] Paul Broomhead, Jon B. Skidmore, and Dennis L. Eggett, "*The Effect of Positive Mindset Trigger Words on the Performance Expression of Non-Expert Adult Singers,*" Contributions to Music Education 37, no. 2 (2010): 65–86, http://www.jstor.org/stable/24127227.

[130] Ibid., 66.

[131] Broomhead, 74.

period.[132] The importance of language when addressing errors and this introduction of positive language and mindset clearly impacts the success of students, which connects music education and the basic principles of growth mindset.

Similarly, Kevin Droe authored a study in 2012 titled "Effect of Verbal Praise and Achievement Goal Orientation, Motivation, and Performance Attribution" that explored the difference between multiple methods of praise within a music classroom.[133] Droe bases his study on the mindset concepts proposed by Carol Dweck, but narrows his focus to the results of certain methods of praise, stating that "students praised for their intelligence tend to adopt a fixed mindset and attribute their success to their smartness, whereas students praised for their effort tend to adopt a growth mindset and attribute their successes to effort."[134] The study evaluated the relevance of this claim within a musical context by assessing students with a simple rhythm performance test, and responding in one of three ways: with verbal praise for effort, verbal praise for talent, or no praise at all.[135]

The results of the study showed that students who were praised for their effort were more likely to choose a learning goal and demonstrated a higher level of persistence and task enjoyment as opposed to those who were praised for their talent. These students were more likely to choose a performance goal and demonstrate less persistence and enjoyment in the task.

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[132] Broomhead, 75

[133] Kevin L. Droe, "Effect of Verbal Praise on Achievement Goal Orientation, Motivation, and Performance Attribution." *Journal of Music Teacher Education*, *23*, (2013): 63–78, https://doi.org/10.1177/1057083712458592

[134] Ibid., 64.

[135] Ibid., 63.

Students that did not receive any verbal praise were evenly split between the two goals and demonstrated a steady decline in persistence and task enjoyment.[136] This study demonstrates consistent results to previous studies regarding praise language and represents a parallel transfer of applicability to the music education context.

Droe concludes with a warning to avoid praising students based on personal talent rather than effort due to the growing body of literature that demonstrates its danger.[137] He states that music education programs need to evaluate their language and use of praise to ensure that there is no overemphasis on success based on talent or natural ability.[138] Praise should be honest and appropriately administered based on effort since general attitude toward a task can influence the success and experience toward that outcome.[139]

A 2009 publication authored by Lucille M. Foran provides evidence and useful perspective supporting the use of music for regulation of emotions and improvement of learning within the classroom.[140] Students with emotional challenges caused by neglect and trauma often have negatively impacted brain development and communication, which impacts the productivity of education. Music can be used as a tool to "rewire" the brain into a more productive state. Emotional state directly impacts a student's ability to learn and self-esteem.

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[136] Droe, 73.

[137] Ibid., 74.

[138] Ibid., 74.

[139] Ibid., 74.

[140] Lucille M. Foran, "Listening to Music: Helping Children Regulate Their Emotions and Improve Learning in the Classroom," *Educational Horizons* 88, no. 1 (2009): 51–58, http://www.jstor.org/stable/42923786.

Although this article does not directly involve music education, it does demonstrate a natural correlation between mindset and listenership. The improved learning that resulted from increased emotional regulation demonstrates the importance for positivity and mindset within an educational experience. Interestingly, the use of music as a listening tool was the catalyst for change rather than the mindset being used to increase the musical comprehension. The concept of emotional alteration due to positive musical experiences is relevant to the implementation of growth mindset in the performing ensemble.

Similarly and more recently, a 2021 study published in the *Frontiers in Psychology* journal attempted to evaluate whether participation in an orchestral music education program resulted in an increased level of growth mindset.[141] In the introduction of the writing, it is explained that poverty and race-related challenges create gaps in a student's ability to be successful in school and acquire necessary life skills. The authors of the study claim that this can cause instability that is "linked to learned helplessness and a lack of persistence in the face of challenge."[142] Growth mindset could one of the keys in addressing this instability and preparing students for success, and one of the best example of "fertile ground for fostering children's growth mindset is orchestral music education."[143]

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[141] Steven J. Holochwost, Judith H. Bose, Elizabeth Stuk, Eleanor D. Brown, Kate E. Anderson, & Dennie P. Wolf, "Planting the Seeds: Orchestral Music Education as a Context for Fostering Growth Mindsets." *Frontiers in Psychology*, *11*, 586749. (2021) https://doi.org/10.3389/fpsyg.2020.586749

[142] Ibid., 1-2.

[143] Ibid., 2.

The study admits that this is an underdeveloped area of study, but it also claims that the process of learning an instrument requires steady growth as a structural feature.[144] Students must make an initial attempt, which identifies specific challenges that must be overcome. After identifying the challenge, students must apply effort and strategy to overcome and master the skill.[145] Since challenges are scaffolded, sequential, open-ended, and often collaborative, progress can also be collaborative and easily monitored, and successes can be celebrated.[146] Despite the potential for significant socio-emotional growth, accessibility to a music education program in low socio-economic contexts can be one of the most significant barriers for students.[147]

The study did discover an observable increase in growth mindset among the participants, however it concluded that there is a central step: the growth of musical growth mindset. The research suggests that as students continue their participation in an orchestral music education program, musical growth mindset increases quickly and general growth mindset increases at a delay due to the increased distance of transfer:

> "Whereas, the literature on the extra-musical benefits of music education has often distinguished between the reasonable possibility of near-transfer and more unlikely possibility of far transfer, the present findings suggest that this distinction may be at least, in part, an artifact of dose. The fact that students in the program for 1 year demonstrated increases in musical growth mindset but those in the program for 2 or 3 years demonstrated higher levels of overall growth mindset suggests that near-transfer may precede far transfer and that the latter may indeed be attainable upon sufficient dose."[148]

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[144] Holochwost, 2.

[145] Ibid., 2.

[146] Ibid., 2.

[147] Ibid., 3.

[148] Ibid., 7.

This intriguing possibility defends the usefulness of music education as a "fertile context" for the development of educational skills and life skills that transcend the music classroom over a period of time. While this study seeks a correlation between the introduction of orchestral education and increased growth mindset as opposed to the mindset-first approach of the current study, it raises many questions that can be investigated through further research, including the results of the current study.

In 1990, James R. Austin conducted a study that investigated the level of music self-esteem among students based on their participation in musical activities. The results of the study revealed a slightly higher level of musical self-esteem among female students and a significantly higher level between students who participate in musical education (both in and out of school) and those who did not. This research demonstrates the importance of active participation in musical activity to support musical self-esteem as well as the diversity of musical self-esteem within a single classroom.[149]

Kari Adams authored an article in 2021 titled "Mindset, Self-Concept, and Long-Term Musical Engagement" that introduces growth mindset concepts within the music classroom as a motivational tool.[150] The beliefs that students hold about their own abilities influence their motivation and can be impacted by interactions with others, which musical directors can help

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[149] James R. Austin, "The Relationship of Music Self-Esteem to Degree of Participation in School and Out-of-School Music Activities Among Upper-Elementary Students," *Contributions to Music Education*, no. 17 (1990): 20–31, http://www.jstor.org/stable/24127467.

[150] Kari Adams, "Mindset, Self-Concept, and Long-Term Musical Engagement." *The Choral Journal* 61, no. 7 (02, 2021): 63-70. https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/scholarly-journals/mindset-self-concept-long-term-musical-engagement/docview/2622299373/se-2.

influence.[151] Students with a fixed mindset are more likely to develop performance goals (focused on achievement) and ignore corrective feedback, while students with a growth mindset are more likely to develop learning goals (focused on growth) and apply feedback for improvement.[152] Adams explains that self-concept (or self-esteem) is developed largely during adolescence and is directly impacted by competition and negative social interactions with others. Relationships have been identified between a student's self-concept and their participation in a musical activity, indicating the importance of fostering a positive self-concept.[153]

In addition to several commonly stated growth mindset instructional strategies, Adams suggests that grouping students based on their ability level may negatively impact the self-concept and mindset of students.[154] Although this practice often exists in the best interest of the students and attempts to encourage performance excellence, separation based on current ability encourages the idea that success is based on ability and limits the collaborative opportunities within the ensemble. If grouping based on ability level must occur, Adams suggests that culture, student relationships, and movement between ensembles is carefully considered and encouraged for the sake of mindset and self-concept.[155]

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[151] Adams, 63.

[152] Ibid., 63.

[153] Ibid., 64-65.

[154] Ibid., 68.

[155] Ibid., 68.

Another article by Kari Adams titled "Developing Growth Mindset in the Ensemble

Rehearsal" was published in the *Music Educator's Journal* and attempts to apply growth mindset

concepts as proposed by Carol Dweck to the performing ensemble classroom.[156] She begins with

a short anecdote about a student who was struggling to match pitch, but was able to turn her

performance around due to the focus on effort rather than talent.[157] She continues to describe the

concept of growth mindset as according to Dweck, but clarifies that its implementation is often

incomplete due to a lack of understanding. Growth mindset does not occur through effort praise

alone, but it must also include "identifying mistakes, making plans for growth, and leading

students toward self-sufficiency."[158]

Adams continues by describing the relevance of growth mindset to the musicality by

citing a series of studies that imply many music educators unknowingly contribute to a fixed

mindset in those who attend their classes. It is not uncommon for students struggling to match

pitch to be asked to mouth the words or to be placed in a context that will cover their

inaccuracies with the goal of a perfect performance.[159] Many view practice as necessary, but

futile if the individual does not possess a certain amount of natural talent. There is also a

misunderstanding regarding the purpose of practice – whether this is repetitive performance of

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[156] Kari Adams, "Developing Growth Mindset in the Ensemble Rehearsal," *Music Educators Journal, 105*, (2019): 21–27, https://doi.org/10.1177/0027432119849473

[157] Ibid., 21-22.

[158] Ibid., 22.

[159] Ibid., 22.

music that is already known or "targeting the areas at the edge of their abilities in a methodical way."[160]

Adams claims that the teacher must begin with themselves through modeling and cannot expect students to adopt a growth mindset unless the teacher demonstrates a growth mindset themselves.[161] Modeling growth mindset shows students the steps toward success and a willingness to take risks, make mistakes, and continue to improve as the expert in the room, demonstrating that growth is a life-long process.[162] Growth mindset thrives in a classroom culture that allows and encourages mistakes through safety and acceptance of errors, which the educator can foster by exposing the regularity of mistakes and providing feedback that guides them toward a solution.[163] Praise should be focused on effort, but needs to be corrective and requires a student response. Students with a fixed mindset will respond only to the praise, while students with a growth mindset will also respond to the corrective feedback.[164]

Adams concludes by listing several strategies to help music educators begin to implement growth mindset in the classroom. Firstly, the teacher needs to fully understand and believe in the usefulness of growth mindset in order to teach it. Teaching should be active and direct, giving

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[160] Adams, 22.

[161] Ibid., 23.

[162] Ibid., 23.

[163] Ibid., 23.

[164] Ibid., 23.

students opportunities to understand brain development, see that growth is possible, and witness their own successes. This can be done best through growth tracking through goal setting and the evaluation of before and after recordings.[165]

Mistakes must be regularly celebrated as opportunities for growth rather than a sign of failure. Adams provides an example by explaining that she will frequently ask students to raise their hands when they make a mistake, then instructs every student with a raised hand to receive a high-five from a neighbor to normalize and encourage accountability with error.[166] Students should then be given opportunities to solve their own problems and seek their own solutions. In the music classroom, students should be asked to evaluate their own performances and strategize solutions to the errors that they detect.

The teacher must always monitor feedback to ensure that praise is authentic and based on effort rather than talent, but gives specific areas in need of growth rather than providing empty compliments. Adams recommends the implementation of the word *yet* at the end of any statement that addresses the lack of an ability.[167] Performance time stress can damage progress made with growth mindset, so it is important for the teacher to remain patient and prioritize growth rather than perfection.[168] Finally, students who demonstrate regular success may be the

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[165] Adams, 24-25.

[166] Ibid., 25.

[167] Ibid., 25.

[168] Ibid., 26.

most prone to demonstrating a fixed mindset when they are faced with a challenge, but the

teacher must remember to teach that talent is not enough.[169]

While this final article includes many anecdotal points of application between music

education and growth mindset principles, it is written to establish a general culture of growth

mindset, echoing many of the general education literature and lacking specific examples and

data. The implementation steps do not explain specific applications to the music curriculum, and

the author does not provide adequate data to support the claims. This study will approach the

instrumental ensemble from the same perspective and paradigm as Adams' article, but it will use

collected data to investigate the presence or absence of a correlation between growth mindset and

rhythmic proficiency.

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[169] Adams, 26.

Chapter Three – Methodology

Research Design

By using a mixed methods experimental research design,[170] the study will evaluate

whether the dependent variables (rhythmic notation comprehension and music self-efficacy) are

influenced as a direct result of the independent variables (short-term goal setting, ownership of

mistakes, active problem-solving techniques, and regular self-reflection).[171] The independent

variables will be added to the established curriculum and instruction for a period of eight weeks,

and any changes within the dependent variables will be measured by multiple means throughout

the duration of the study. This research will employ an explanatory sequential mixed method

design to collect quantitative data through the instruments listed below before collecting

explanatory qualitative data through a final interview.[172]

Because the research will take place in the school environment and laboratory control is

not accessible, this research will qualify as quasi-experimental; meaning that all participants will

receive the intervention and no control group will be measured or established.[173] As a result, this

research will be conducted using a one-group pretest-posttest design to determine the effect of

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[170] John W. Creswell and J. David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Los Angeles, CA: SAGE Publications, 2018), 228.

[171] Ibid., 12.

[172] Ibid., 15.

[173] Margaret D. LeCompte and Jean J. Schensul, *Designing and Conducting Ethnographic Research: An Introduction,* (Plymouth, UK: AltaMira Press, 2010), 108.

the independent variables on the participants.[174] The participants will be assessed at the beginning and end of the study and the results will be analyzed for growth in the dependent variables. The addition of an explanatory qualitative conclusion will assist with quantitative data analysis and discovery of additional trends.[175]

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

This research sampled from a larger population of high school students of mixed ages and musical abilities who were enrolled in a concert band instrumental ensemble during the school day. The participants were drawn from a single urban high school program in Kentucky to analyze any changes in dependent variables without altering the independent variables by providing different instruction strategies. Ethnicity, gender, age, musical experience, and other demographic information are mixed and have no bearing as a prerequisite for participation in the study. All data collected from the participants remains anonymous and was analyzed for change using a numbering system.
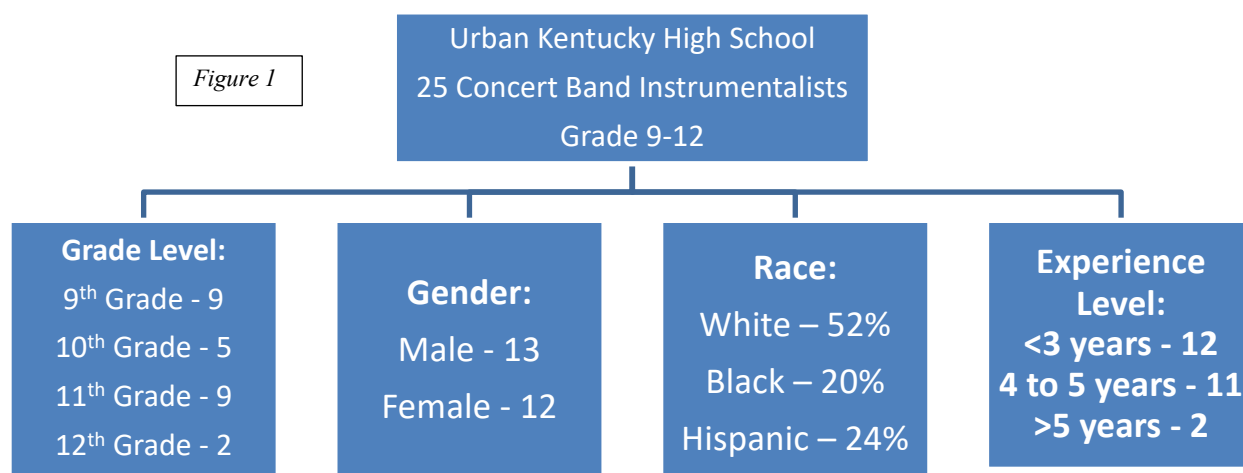
As outlined by *figure 1*, the sample includes 25 concert band instrumentalists from grades nine through twelve. Of the 25, 9 participants were in the ninth grade, 5 in the tenth grade, 9 in the eleventh grade, and 2 in the twelfth grade. 13 participants were male and 12 were female. The sample represents the greater school population, which is approximately 74% White, 14% Black, 7% Hispanic, and 5% Other. These specific participants will be 52% White, 20% Black,

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[174] Mike Allen, *The SAGE Encyclopedia of Communication Research Methods*, 4 vols. (Thousand Oaks, CA: SAGE Publications, Inc, 2017), doi: 10.4135/9781483381411.

[175] Creswell, 229.

24% Hispanic. Participants represent a variety of experience levels, with the majority having

approximately four years of band experience. Twelve participants have less than three years,

eleven have four to five years, and two have more than five years of experience.

The research occurred in the band room at the high school, which was a comfortable and

familiar setting to all returning students. Participants were divided between two separate

instructional periods. The first instructional period was a beginning band class, which is reserved

for students who have had little prior music instruction and are beginning a new instrument. The

second instructional period was a traditional high school concert band and included all students

with some level of prior instruction. Although the specific content of the concert music rehearsal

was different between the two classes based on instrument proficiency and need, all other

instruction activities and methods were delivered consistently. Instruction and quantitative

assessment both occurred during the scheduled class period to provide consistency of routine to

the students. The qualitative interviews also occurred in the band room, but the randomly

selected participants were pulled away from the others for an undisturbed conversation.

Figure 1

Urban Kentucky High School
25 Concert Band Instrumentalists
Grade 9-12

Grade Level:
9th Grade - 9
10th Grade - 5
11th Grade - 9
12th Grade - 2

Gender:
Male - 13
Female - 12

Race:
White – 52%
Black – 20%
Hispanic – 24%

Experience Level:
<3 years - 12
4 to 5 years - 11
>5 years - 2

Curriculum

Participants engaged in a traditional and consistently organized performance-based curriculum that guides them through the fundamentals of instrumental performance and musicianship as well as concert music rehearsal. Content-related instruction followed a typical feedback cycle, where the students performed a portion of music, the teacher provides commentary, and the students apply the commentary to a new attempt. The 55-minute class period observed a daily instructional routine to provide a comfortable and predictable educational experience, outlined below. *Activities added to the daily routine and curriculum specifically for this study have been underlined:*

1. Set Up for Rehearsal (5 min) – Students set up the room, retrieve and prepare instruments/materials, and begin an independent warm-up. While a routine was established for this time and specific warm-up activities were suggested, students were provided freedom and choice in the activities they chose to play. Most students chose to play long-tones, scales, or excerpts from concert music.

2. Ensemble Warm Up (10 min) – Full ensemble activity that will include a variety of exercises on a rotation:

    1. Mindset and Focus Redirection – These exercises will encourage mindfulness and help students to regain focus on the current objective, eliminating physical and emotional distractions and encouraging students to be present. Students were reminded about the importance of mindset and focus through activities, growth mindset videos, classroom conversations, etc.

    2. Breathing Control – These exercises revisited the importance of proper breathing and reviewed air support fundamentals, encouraging students to intentionally

place their focus on basic instrument technique. This activity encouraged students to actively participate in establishing a firm foundation for more advanced concepts.

3. Sound Production – Students performed metered long tones on mouthpieces/reeds, then using fully-assembled instruments on a unison pitch. Like the breathing exercise, this required students to bring active participation and focus into their fundamental skills.

3. <u>Rhythm Reading / Chorales</u> (10 min) – These exercises prioritized rhythm reading skills and the ability to transfer musical notation into a performance context. Students will participate in the following exercises on a rotation:

1. Students will perform several rhythm sight-reading exercises, primarily displayed on a tv screen at the front of the classroom. After an initial read, they will be given 30 seconds to silently evaluate their own performance before attempting a second performance. This process will be repeated at least 5 times. Rhythms will include notes and rests from half notes to sixteenth notes, and from dotted half to dotted eighth notes.

2. Students will be given a short worksheet that displays rhythms as stated above and will be asked to annotate the rhythm using the common 1e+a2e+a3e+a4e+a system. Rests on the beat will be annotated with parenthesis. Completed worksheets will be reviewed by peers, then returned for corrections.

4. Concert Music Rehearsal (35 min) – Students were guided through a rehearsal of distributed concert music, which included a variety of technical and musical challenges. This portion of rehearsal followed a common feedback cycle, beginning with student

performance, continuing with a time of commentary from the instructor, and concluding with a revised performance attempt from the students. During this time, the following specific growth-mindset concepts will be implemented and modeled to encourage students to adopt similar beliefs and processes:

1. Active Error Detection – The instructor modeled the identification of errors, both technical and musical, and provided potential steps for improvement. Students were also invited through questioning to take part in the identification of errors through self-reflection as well as peer review. Admission of personal error was encouraged and always followed with a compliment for the personal accountability and request for an action step recommendation.

2. Praise of Effort – The instructor actively identified and praised students who demonstrated improvements that required effort, specifically when individuals took the time to practice and improve outside of the direct rehearsal instruction. Students were also encouraged to praise their peers when evidence of hard work and improvement was demonstrated.

3. Confidence and Acceptance of Failure – The instructor reminded the students daily that confident mistakes are always better than timid accuracy. Students who backed away from challenges were encouraged to play incorrect notes and rhythms, but to play them as if they were correct. The frequency of error across all students and instrumentalists was revealed and the instructor made a point to identify their own personal errors. These efforts were intended to demonstrate the commonality of error and the importance of error to education and success.

5. Questions/Tear Down (5 min) – Students were given time to finish anything that is incomplete and to pack up. Instruments and music were stored safely and responsibly in designated locations according to the daily routine. This was also a designated time for students to approach the instructor to ask instruction- related questions.

In addition to the daily routines listed above, students participated in two weekly activities, which occurred during the warm-up time. Each instructional period above was slightly shortened on the specified days to allow for these added instructional activities:

1. Weekly Goal Setting (10 min) – On the first day of each week, students completed a goal-setting activity to approach each rehearsal thoughtfully and methodically. Goals were required to be specific, measurable, and achievable within the allotted time, but should pose a challenge to the student's current skill level. This process was demonstrated through modeling during instruction, and the instructor included examples of daily class-wide goals throughout the week. Writings were documented in composition notebooks and turned in weekly to be reviewed and returned with feedback to ensure that productive and adequate goals were chosen.

2. Weekly Self-Evaluations (10 min) – On the final day of the week, students revisited the goals they set for themselves and self-reflected on their success or failure to meet the goals. They were encouraged to reflect authentically and honestly. If they did not meet a goal, they were required to choose that goal again the following week. Writings were recorded in the same composition notebooks and turned in weekly to be reviewed.

Instrumentation

The data collection for this study will occur in multiple stages across an eight-week period. Participants will receive instruction for 50 minutes, 5 days a week, for the full 8-week period. Quantitative data will be collected on the first day of the study and the final day of the eighth week. The data will be analyzed for improvement in all areas between the beginning and the end of the study. Data will be collected through three methods:

1. <u>Performance Assessment</u> – Participants will record themselves clapping ten rhythms that are randomly shown. Rhythms will include duple rhythms only, sixteenth notes or greater in value. Participants will be asked to place a school-owned device in front of them with the webcam function actively recording. The assessment will occur simultaneously to ensure consistent conditions, and each individual performance will be captured and submitted to the digital learning platform for review. Performance videos will be asynchronously graded by rubric. (*Appendix B*)

2. <u>Written Assessment</u> – Participants will complete a written assessment that will display a series of six selected rhythms and ask to label each note in the rhythm using the "1e+a 2e+a 3e+a 4e+a" syllable system. Rhythms will include duple rhythms only, sixteenth notes or greater in value. Rests will also be notated, but with the addition of parenthesis to indicate silence. Written assessments will be graded by a simple point system. Every note and rest will earn one point, and scores will be determined by accuracy percentage. (*Appendix C*, rhythms will change)

3. <u>Survey</u> – Participants will complete a two-part survey before, during, and after the study to assess any effect to the mindset and musical self-efficacy of the student. The first section will be *The Mindset Quiz* (*Appendix D*), developed by Carol Dweck in 2008. and

it will use a six-point Likert scale as follows: *Strongly Agree = 5, Agree = 4, Mostly Agree = 3, Mostly Disagree = 2, Disagree = 1, and Strongly Disagree = 0*. Point values reverse periodically and will be removed from the participant's view to ensure an honest answer and accurate scoring. The second section will be the *Self-Efficacy Formative Questionnaire* (*Appendix E*), created by Gaumer Erickson in 2018. This assessment similarly uses a five-point scale to determine change.

After the final day of the study, ten randomly chosen participants will provide supplementary qualitative data through an independent interview. To proportionally represent the group, two of the participants will be percussionists and the other eight will be winds. This data will be used to further explain trends and personal experiences during the study. Open-ended interview questions will include:

- What is the difference between fixed mindset and growth mindset?

- What does it mean to take ownership of mistakes? Why does this matter?

- What is Self-Evaluation? Do you think that it is useful? Explain.

- Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

- Explain any changes that you have noticed since the beginning of the study.

Assumptions

For this study, it should be assumed that the student participants represent a wide variety of experiential backgrounds with both music and educational mindset. Some of the students have

been fortunate enough to be exposed to music throughout their education, however many have not. Due to the lack of elementary music education in the school district, the participants display a wide range of performance and literacy abilities, influenced by supplemental musical experiences or whether they have always attended school in-district. Due to the low socioeconomic status of the school population, the majority have always attended a school in district and will have less than adequate music instruction.

It is assumed that survey results from the participants are as truthful and accurate as possible and that any trends or discoveries represent a greater population, specifically music students in performance-based classrooms of a similar demographic. Growth mindset and self-efficacy are both personal and internal viewpoints which can only be assessed through self-reported means. Authenticity will be stressed to all participants prior to any assessment, as well as the reassurance that there are no wrong answers when mindset is under assessment.

Finally, participants must regularly attend the classes (90% participation or more) to receive the instruction and display accurate results. Participants who failed to attend enough instructional periods are not included in the final data. Instruction occurs during the scheduled class time, simple assessments will be administered to measure growth in rhythmic comprehension and musical self-esteem, and participant surveys elaborate on data analysis and demonstrate any change in educational mindset throughout the study.

Hypotheses

As suggested by the current body of research and literature, it is expected that the rhythmic comprehension and musical self-efficacy will improve during the study resulting from

the implementation of the independent variables in the instruction.[176] By modeling problem solving techniques, implementing positive ownership of mistakes, and encouraging short-term goal setting, the existing literature would suggest a measurable improvement of both skills and mindset.[177] As participants transition from a fixed-mindset to a growth-mindset, Dweck's work would also suggest that there will be a measurable change in their own abilities and self-image.[178] It is expected that a correlation will be observed between growth mindset and rhythmic comprehension, as evidenced by an increased score in both areas over the course of the 8 week study.

It is expected that the qualitative aspect of the study will reveal a notable change in educational mindset and self-efficacy. Students who are randomly selected should demonstrate a thorough comprehension of growth mindset concepts. The introduction of the growth mindset independent variables should directly relate to an increased rhythmic notation comprehension and music self-efficacy in the participants according to the trends observed in previous studies.

Based on the existing literature and previously conducted research, this study should demonstrate an improved rehearsal experience, educational productivity, increased skill level, and greater musical self-efficacy. Students who adopt the growth mindset model should demonstrate academic growth across all areas of education and take important skills beyond the classroom and into adulthood. The resulting data demonstrates the presence or lack of correlation

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[176] Hewitt, 298–313.

[177] Moser, 1484–89.

[178] Carol S. Dweck, *Mindset: The New Psychology of Success* (New York, NY: Ballantine Books, 2016).

between the independent and dependent variables, which can be used to inform decisions and processes for future research.

Conclusion

The field of music education and general education psychology are rapidly evolving, but frequently considered independent specialties. While some collaborative research exists, it is limited and the full scope of the relationship between these fields has not been explored. This research study will explore the relationship between a growth mindset educational paradigm and the instrumental music classroom. It is hypothesized that a positive and measurable relationship will be detected: resulting in increased rhythmic notation comprehension and musical self-efficacy. Further study would include alterations to the participant demographics, evaluation of relationships between growth mindset and other dependent educational variables, and the implementation of a growth mindset paradigm throughout other music classes, specifically younger children.

Chapter Four – Research Findings

Explanation of Data

On January 9th of 2023, the initial pre-assessment was conducted, resulting in the raw scores that are outlined in Appendix F. Students were asked to complete the survey pages (Appendix D & E) and written assessment (Appendix C) in one sitting, then they recorded their performance assessment (Appendix B) simultaneously. This process required the use of most of the first instructional period. The purpose of the pre-assessment as baseline data was explained to the students prior to administering.

The total possible score for each assessment portion is provided at the bottom of the chart and each individual score is listed next to the individual participant's assigned number. The average score and percentage of the total possible have been presented under the chart, except for the performance assessment scores. These scores will be displayed and interpreted by comparing two histograms for change across time. Student #10 does not have a performance assessment score due to lack of attendance on the day it was administered and complications with a timely and accurate make-up assessment. This student's survey and written assessment scores were promptly taken and have been applied, but the performance assessment scores will not be included for the post-assessment for consistency with the data.

On March 3rd of 2023, the post-assessment was conducted using the same documents and process as the pre-assessment, resulting in the raw scores that are outlined in Appendix G. Changes have been color-coded for ease of visual analysis: green scores represent improvement, yellow scores represent lack-of-change, and red scores represent decrease in score. The following sections break down each component of the assessment and analyze any change that is present between the two assessments.

Mindset Survey

The first portion of the survey was the Mindset Survey (Appendix D) created by Carol Dweck to evaluate an individual's location on the spectrum between a fixed mindset and growth mindset. Students were asked to circle the number under the severity to which they agree or disagree with the statement. The numbers are then added and compared to the total number possible, with a higher number demonstrating an inclination toward a growth mindset and a lower number demonstrating an inclination toward a fixed mindset. *Figure 1* illustrates the scores that were self-reported at the beginning of the study as well as the end.

The mean of the pre-assessments came to approximately 59.6/80 or a 74.55% with a standard deviation of 13.41, which orients itself toward a moderate growth mindset. *Figure 1* includes the score distribution bell curve for this self-reported data, implying that many students began the study with a slightly higher than central mindset tendency. To explore the accuracy of this claim, *Figure 1* also provides the distribution of scores specific to these students and this evaluation with a histogram. While the score distribution somewhat matches the bell curve, the students who scored a 65-75 are significantly reduced and the students scoring 75-80 are increased. This could indicate a small level of error due to self-reporting and student bias.

Following the pre-assessments, students were informally asked about their previous exposure to growth mindset ideas. Many of the students claimed that they have been hearing the term *growth mindset* and learning basic principles and ideas since elementary school. While the students were asked to answer authentically and reflectively, it is likely that some individual scores are slightly skewed because the student identified the correct answers for demonstrating growth mindset, choosing these answers rather than reflecting on their own mindset.

The bottom half of *figure 2* illustrates the scores and distribution of the post-assessment, which was identical and collected at the conclusion of the 8 weeks. Interestingly, the mean was reduced to 58.16/80 or 72.7% with a standard deviation of 14.97. Rather than an increase in scores and reduced distribution after 8 weeks of targeted instruction, many scores remained consistent or lowered. Only 11 of the 25 participants demonstrated an increased growth mindset score while 11 other students self-reported a decreased score, 3 of which recorded a score reduction greater than the standard deviation. The remaining 3 participants saw no change.

Figure 2
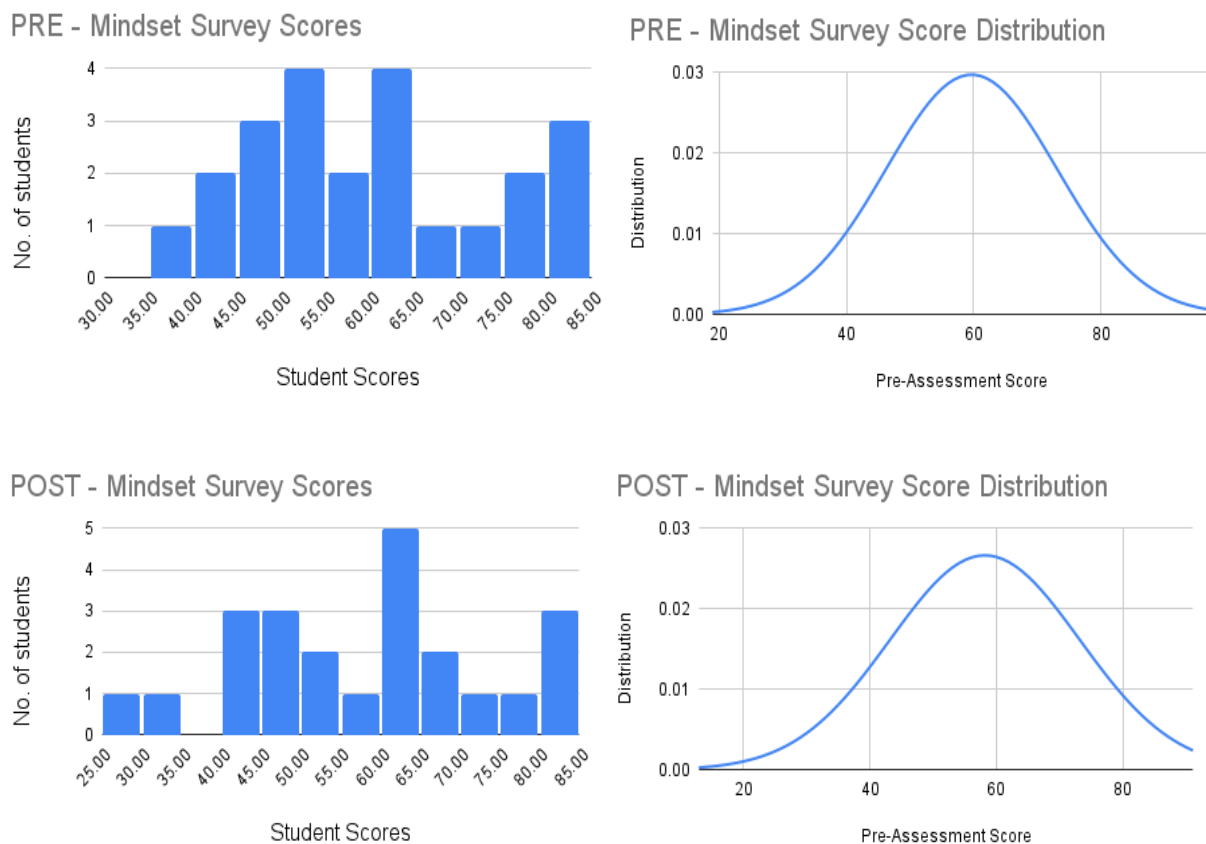
Self-Efficacy Survey

The second portion of the survey was the Self-Efficacy Survey (Appendix E) created by Gaumer Erikson to evaluate an individual's beliefs about their own abilities to succeed with a new task or skill. Students were asked to circle the number under the severity to which they agree or disagree with the statement. The numbers are then added and compared to the total number possible, with a higher number demonstrating a higher level of self-efficacy. Thirteen points were deducted from the participant scores as well as the total possible to reduce the lowest possible score to zero.

The mean of the self-reported pre-assessment scores came to approximately 37/52 or a 71.3% with a standard deviation of 10, which orients itself toward a moderate level of self-efficacy. *Figure 3* illustrates the score distribution bell curve using the self-reported data, implying that most participants are beginning the study with a slightly higher-than-central self-efficacy tendency. To explore the accuracy of this claim, *figure 3* also outlines the distribution of scores specific to these students and this evaluation using a histogram. Many participants self-reported a score that was significantly more central to the mean when compared to the mindset survey. Notably, a similar occurrence with an unusual proportion of high scores is present, demonstrating once again the possibility for a small error due to self-reporting and student bias. The results also include a single outlier score reported by student 11, who only scored a 6/52 on the pre-assessment.

The bottom half of *figure 3* illustrates the scores and distribution of the post-assessment, which was identical and collected at the conclusion of the 8 weeks. Interestingly, the mean demonstrated very little change, increasing to 37.56/52 or 72.23% with a standard deviation of 8.63. While the difference in the mean is inconsequential, the widening of the bell curve is worth

noting as well as the lack of growth and large number of lowered individual scores. Only 11 of the 25 participants demonstrated an increased self-efficacy score while 11 other students self-reported a decreased score, 3 of which recorded a score reduction greater than the standard deviation. The remaining 3 participants saw no change. Notably, these are the same numbers as represented in the mindset scores, but there is no consistency or trend between students. Even though these two areas are directly related, Appendix G demonstrates a lack of consistency between student scores. Most students saw one area of growth and one area of score reduction with no visible trends.

Figure 3

PRE - Self-Efficacy Survey Scores

PRE - Self-Efficacy Survey Score

POST - Self-Efficacy Survey Scores

POST - Self-Efficacy Survey Score
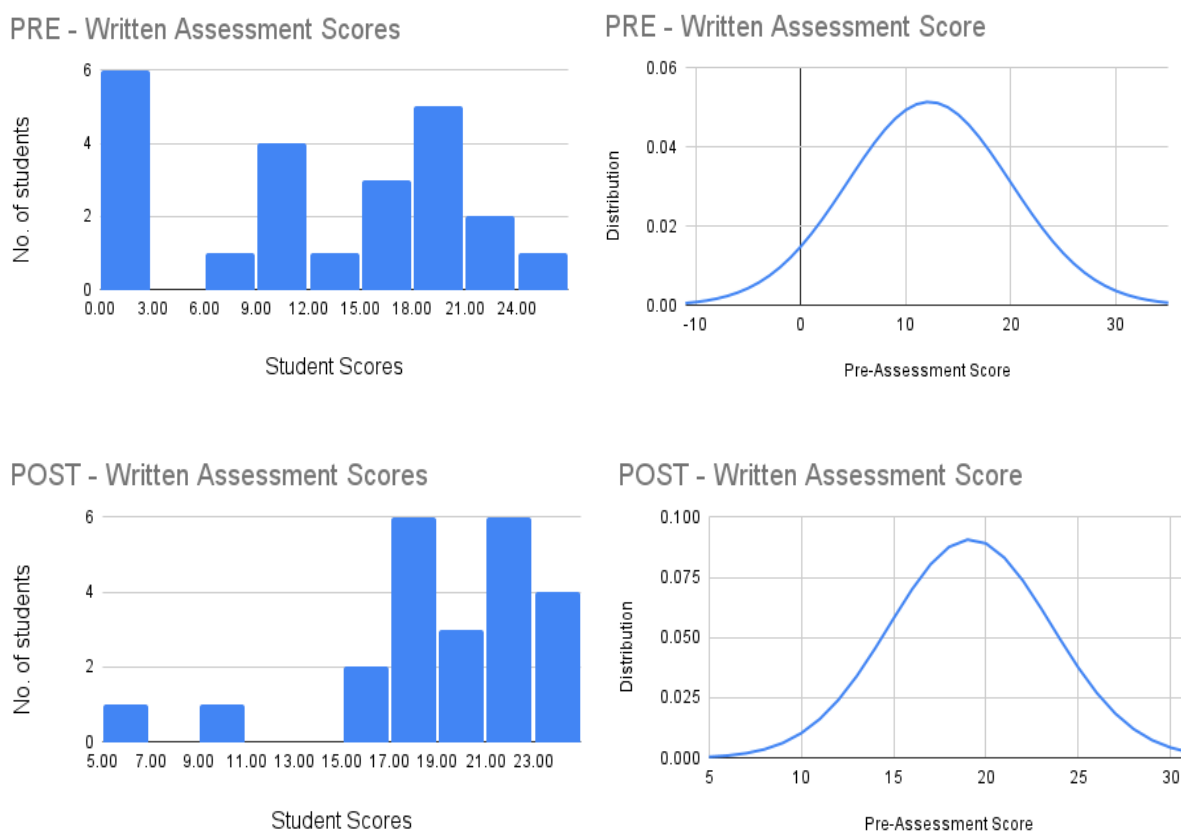
Written Assessment Scores

The third portion of the survey was the written assessment (Appendix C) which was administered to evaluates a student's ability to interpret and annotate standard rhythmic notation. Students were asked to annotate the rhythms using the standard 1e+a2e+a3e+a4e+a method, including rests in parenthesis. This labeling method was explained to students before the assessment but was not practiced in order to demonstrate pre-existing abilities. Students earned one point per correctly labeled beat, for a total of 24 points.

The mean of the self-reported scores came to approximately 12.2/24 or a 50.83% with a standard deviation of 7.75, which orients itself toward a central level of proficiency. *Figure 4* illustrates the score distribution bell curve using the self-reported data, implying that most students are beginning the study with a central rhythmic-reading proficiency tendency. To explore the accuracy of this claim, *figure 4* also outlines the distribution of scores specific to these students and this evaluation. The results demonstrated a much larger variety of positions, likely due to the variety of experience and years of prior music education. The pre-assessment bell curve illustrates a larger spread in distribution, including many participants who scored a zero, and less than 25% of participants with a score matching the mean.

The bottom half of *figure 4* illustrates the scores and distribution of the post-assessment, which was identical and collected at the conclusion of the 8 weeks. In contrast with the previous two sections, the mean demonstrated significant change, increasing to 19.16/24 or 79.83% with a standard deviation of 4.39. Only two of the participants were unable to individually score greater than the original mean. 2 students scored lower, 4 remained the same, and all other students demonstrated growth when compared to the pre-assessment, 7 of which demonstrated growth larger than one standard deviation. Some growth is to be expected due to the number of

participants who demonstrated no understanding of the concept during the pre-assessment, however, it is notable that all but 6 participants demonstrated growth, regardless of experience level or original score.

Figure 4

PRE - Written Assessment Scores

PRE - Written Assessment Score

POST - Written Assessment Scores

POST - Written Assessment Score

Performance Assessment Scores

The final portion was the performance assessment, which was assessed for proficiency in two domains by rubric (Appendix B). Participants were asked to place school-issued iPads on their music stand and record a video of themselves clapping a rhythm in unison as it was displayed on the screen in the front of class. Participants were given approximately 5 seconds to

look at the rhythm before they were counted-off and expected to perform the rhythm in unison. Individual videos were submitted through Google Classroom and assessed by rubric for confidence and rhythmic accuracy. Two points were deducted from the student score as well as the total possible in order reduce the lowest possible score to zero.

As illustrated in *figure 5*, all participants scored within the 0-2 range on the pre-assessment, demonstrating a significant lack in performance proficiency despite the success on their written assessment scores. Many scored a 3-4 on the confidence domain due to prompting and an understanding of the study topic but struggled to perform the rhythms proficiently. The disparity between these scores and the written assessment scores demonstrate that a basic functional knowledge of rhythmic notation does not necessarily relate to physical application.

Figure 5 also illustrates the post-assessment data, which demonstrates a significant increase in proficiency. While only one participant scored a perfect score, all participants demonstrated growth. Since most students scored a 3-4 on the confidence domain during the pre-assessment and the post-assessment demonstrates considerable growth, it can be determined that the majority of the change occurred within the accuracy domain.

Figure 5
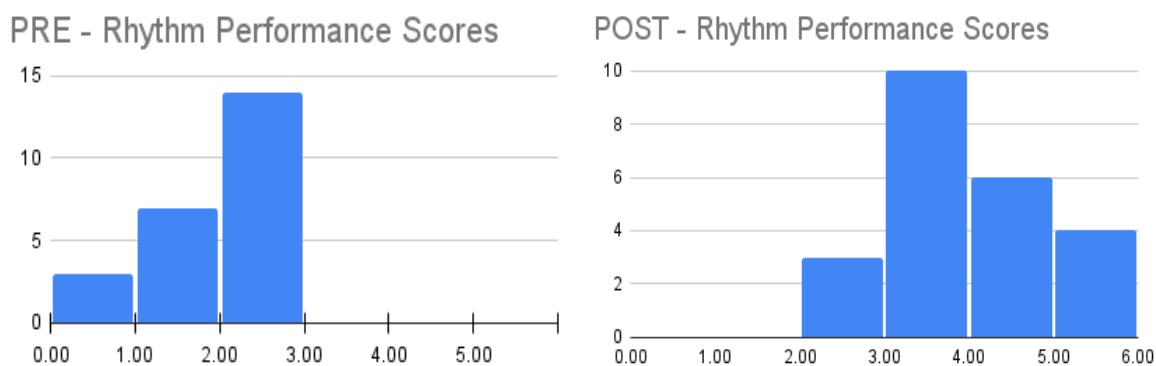
Findings

After 8 weeks of targeted instruction in the areas of growth mindset and rhythmic comprehension, the collected quantitative data suggests the following three statements:

1. *The study resulted in almost no change in mindset and self-efficacy scores.* While there were many differences between the pre-assessment and post-assessment data, the data does not demonstrate any definable and consistent change that comes as a direct result of the study. Many of the participants demonstrated growth or score reductions that were slight, but the contrasting changes from individual to individual made very little impact on the mean scores or distribution. This could be a result of the following:

   a. *Pre-assessment scores began too high and allowed little room for growth, caused by previous knowledge.* As explained in the "Mindset Survey" section, many students reported that the growth mindset concept was not new, and many had a basic knowledge of key terms and concepts. If participants were previously aware of the educationally correct answers, it is possible that they answered inauthentically, resulting in higher-than-accurate initial scores. This unintended bias would reduce the ability for post-assessment scores to demonstrate growth overtime, even if growth is present.

   b. *Lack of change due to change in perception and understanding of growth mindset.* Many of the participants self-reported a high level of growth mindset on the pre-assessment but demonstrated a tendency toward a fixed mindset throughout the 8 weeks of instruction. It is possible that the students truly believed themselves to have a growth mindset at the time of the pre-assessment but discovered through instruction and over time that they did not. As their

understanding of growth mindset increased, the validity of the initial score

decreased. In this theory, the post-assessment score could be an authentic

assessment, but the pre-assessment would be too high due to a lack of

understanding and personal application.

c. *The duration of the study was not long enough to reveal meaningful and*

   observable change. Interestingly, this observation and possible explanation is

   consistent with the results of a previous study published in the *Frontiers in*

   Psychology journal and summarized in Chapter Two of this document. The

   researchers observed a dose-response effect, stating:

   "Only students who had been enrolled in the *El Sistema*-inspired program for 2 or
   3 years exhibited higher year-end levels of overall growth mindset than their peers
   who did not participate. The scores of students who had been enrolled for a single
   year were not significantly different from those of the comparison group. This is
   consistent with findings suggesting that certain extra-musical benefits of music
   and arts programming may emerge over time and with accumulated exposure."[179]

2. *The study resulted in a significant growth in written and performed rhythmic*

   comprehension. Participants began the study with limited demonstratable abilities but

   showed a significant level of growth between the assessments. Growth was not

   contingent upon previous experience and generally occurred simultaneously between

   written and performed skills. Participants from a wide variety of backgrounds and

   experience levels demonstrated growth, indicating that prior experience was not a factor

   in score changes. Participation in the study resulted in an increase of rhythmic

   comprehension, both written and performed.

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[179] Holochwost, 7.

3. *The quantitative data suggests that there is not a direct correlation between growth mindset and rhythmic comprehension.* As a result of the two statements above, it is clear that there is no discernable correlation between these two areas as they were introduced and evaluated by this study. While growth mindset principles and rhythmic instruction methods such as the ones used in this study have both shown significant positive application to the classroom, this study did not observe a simultaneous positive result. Since this observation contrasts the common suggestions of the literature review, it would be logical to assume that further study is needed with further manipulated variables.

<div align="center">Student Interviews</div>

Upon the conclusion of the research study and collection of all post-assessment materials, 10 participants were randomly selected to participate in a short exit interview. The selection process included 3 percussionists, 4 participants with less than a year of instrumental experience, and 3 participants with multiple years of instrumental experience. The purpose of the interview was to include participant perception of primary concepts and areas of change throughout the 8 weeks. Since growth mindset and self-efficacy are largely personal qualities, this will give additional insight into the collected data. Each participant was asked to answer the same 5 questions, which are listed below with any trending or consequential answers. The interviews have been transcribed and included as Appendix H, and all quotations used in the following analysis can be found in this location.

What is the difference between fixed and growth mindset? This question was intentionally left open-ended and allowed participants the opportunity to define both concepts in any way that quickly came to mind. Most participants responded by explaining both as opposing belief

systems, claiming that one is the believe that you can learn a new skill and the other as the belief

that you are incapable. Many clarified that success comes through a growth mindset and the

willingness to apply hard work. One participant verbalized and example response in each

mindset, claiming that fixed mindset says "I can't do this" while a growth mindset says "I can't

do this, yet!"

These answers demonstrated an accurate understanding of basic concepts as they apply to

acquisition of skills but fell short of Dweck's definition of growth mindset, which connects

mindset to intelligence. Dweck explains that new skills may be learned with a fixed mindset, but

an individual's intelligence and the basic pieces of who they are can also be changed.[180] While

they are correct that personal perception of skill acquisition relates to an individual's mindset,

this is a narrow understanding of mindset and its applications. Mindset is often misunderstood

and over-simplified in such a way, and must be taught to include "identifying mistakes, making

plans for growth, and leading students toward self-sufficiency."[181]

What does it mean to take ownership of mistakes? Why does this matter? Most

participants were able to verbalize that mistakes are valuable educational experiences rather than

negative moments to be avoided, while those who did not claimed that taking ownership of

mistakes ensures that others are not blamed for your actions. The participants who described

mistakes as learning opportunities also described the connection to growth mindset, but the other

participants demonstrated a continued avoidance toward making mistakes entirely. While they

were able to explain that accountability was an important trait, these individuals were unable to

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[180] Dweck, 12-13.

[181] Adams, 22.

explain why and how this would relate to personal growth beyond simple statements about "not doing it again".

According to Jason S. Moser, the perseverance and recovery of individuals who make mistakes passively with a fixed mindset versus those who give attention to mistakes through growth mindset is substantial.[182] These participants demonstrated a general knowledge of why accountability is a positive trait, but most still demonstrated an aversion to making mistakes in the first place. The responses to this interview question demonstrate a level of growth mindset that is less advanced than the quantitative data suggests.

What is Self-Evaluation? Do you think that it is useful? Explain. The participants had a variety of responses to this question, many who defined self-evaluation as either a method of error detection or as an assessment for goal setting. While both definitions have elements of accuracy, only a few of the participants could verbalize the connection to growth mindset. Many claimed that it is useful because it helps you to identify when you are wrong, so you can "fix mistakes and do better next time," which specifically deals with failure. Participants did not discuss the positive encouragement that comes from identifying areas of growth, only the potential growth from identifying areas of error.

While many participants struggled to produce a complete definition and explanation of the benefits, one student said:

> "Self-evaluation is looking at what you do and determining *whether or not you believe you have improved upon yourself* and what you can do to continue to improve. I believe it is valuable because it helps you see where you made mistakes but *what you've already improved that at the same time* and what you can do to further yourself."

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[182] Moser, 1484–89.

This answer demonstrated a complete understanding of the self-evaluation process, standing out from the other responses. The complete concept was discussed at length throughout the study, but only one student was able to verbalize a complete definition when asked directly. As previously stated, these results could also indicate a level of growth mindset that is perhaps less advanced than the quantitative data suggests.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal? Participants should have connected this question to the weekly goal setting and reflection activity that was introduced to encourage regular self-reflection, as explained in the curriculum section of chapter 3. This activity challenged students to reduce their individual challenges into smaller and more manageable pieces, intended to focus effort and reveal growth. Participants reviewed the expectations and purpose for this assignment weekly and were reminded to focus their efforts on the active goals each day. The resulting responses to this question demonstrated a wide variety of comprehension.

Participant 11, 18, 22, 23, and 24 provided an answer that described identifying specific sections of music and prioritizing repeated practice of these challenging areas. While they provided a variety of answers regarding their evaluation of the goal completion with fluctuating success, these students were at least able to reduce a large goal into small manageable pieces. This demonstrated a comprehension of productive goal setting but did not guarantee the ability to productively self-assess. Participant 9 had a similar response but specified that he would practice slowly through the parts before playing at the performance tempo. This attention to note and rhythmic accuracy at a slow tempo is a useful strategy, but this responder also claimed that he would know if he met the goal "…if I could play the whole song and I think it's good."

Interestingly, participants 2, 3, 11, and 14 explained that they would use video recordings of themselves to identify growth. While this strategy was not explicitly demonstrated or included in the curriculum for the study, recorded playing tests were used during the regular classroom instruction. It is likely that these students discovered this strategy on their own during the process of recording their own performances. While this is a worthwhile use of technology to identify growth, it does not demonstrate the ability to reduce a large goal into smaller and more manageable pieces or explain the evaluation of these smaller pieces as presented by participants 2 and 14. Participant 3 did address the importance of daily practice that prioritizes areas of weakness in addition to using video recordings, as well as the recommendation to practice performance by choosing to play in front of others. This response identified different strategies as well as the method for determining success and growth.

Participant 10 struggled to respond with clear goals at first, stating that they would "practice real hard and make sure to get the keys down so I don't mess up." While this student struggled to provide examples, they did explain the process of writing down missed notes on the music and referenced the process of "writing things down" and "completing those goals", referring to our weekly goal setting activities. While the student was unable to verbalize clear steps and self-assessment, the individual was able to refer to classroom procedures relating to the goal setting process.

These responses demonstrated a basic understanding that short term goal setting is a useful strategy, but many of the responses demonstrated an inability to produce examples of specific short-term goals that are measurable and easy to self-assess. This revealed another aspect of disconnect between conceptual knowledge and application of growth mindset strategies to real life and content-specific examples.

Explain any changes that you have noticed since the beginning of the study. While this question was intended to reveal personal changes, it was intentionally left open-ended to include whole group changes if any were noticed. Participants were also encouraged to answer honestly, including if they have not noticed any changes. Despite the lack of quantitative evidence that supports a significant change in mindset or self-efficacy, the students revealed that they noticed changes in these as well.

Participant 11 identified a perceived change in the culture and effort with learning across the whole group. Specifically, this student stated that individuals are working together and encouraging each other in a way that they had not previously and have "basically just become a family since the beginning of the study." Additionally, participants 9, 18, and 23 cited an increased proficiency with musical skills, stating that they can play without making as many notes in the music and the ability to "play 8th notes and 16th notes better" than at the beginning of the study. These claims of increased rhythmic proficiency are supported by the quantitative data.

Participant 2 noticed an increase in their own productivity during warm up and practice times, claiming that they identified areas of difficulty and began to "work on it during warm-up time". While it was not explicitly stated, this response was implying that there was a new personal accountability for using time productively and targeting areas of weakness rather than playing the fun and easy portions of songs. Participant 22 answered similarly, but provided some specific strategies that were new additions to the routine such as shortened and targeted practice sessions outside of rehearsal. This participant also noted changes in attitudes from different sections in the band, concluding by stating that "I feel like everyone has grown in each of their own small different ways, and ways that I don't know if they even realize yet."

Perhaps the most notable response was the contrasting opinion from participant 24, who stated that they believe the students have more of a fixed mindset than a growth mindset. The student clarified that they have seen their own areas of improvement, but generally there is a culture of growth mindset. Since this response revealed a stark contrast to many of the others, the student was asked to explain this statement further. The response was "[This is because] they figured out like what it actually means and they've found out they may have thought that they had a growth mindset, but it was actually more toward the fixed side." If this is true, it could explain the reason for the unexpectedly high pre-assessment scores for mindset and the lack of any significant change on the post-assessment.

The interviews provide an additional level of insight into the quantitative scores, suggesting that they may not provide a complete picture. While the raw scores do not demonstrate a correlation between the independent and dependent variables, thereby disproving the hypothesis of this study, the qualitative exit interviews suggest that this may be the result of external factors. The lack of consistent interview responses and the inability to demonstrate more than a basic knowledge of growth mindset concepts suggest that the short duration of the study or the instructional devices chosen may have limited the potential for an observable correlation. While this study did not identify a correlation, it did reveal potential areas of focus and improvement for future research, which will be considered in the next chapter.

Chapter Five – Conclusion

Relationship of the Results to the Literature Review

For the purposes of this study, the literature review can be reduced to and represented by the following themes: Growth Mindset is a valid educational paradigm with significant benefits and wide-spread application, participatory music education experiences are greatly effective, and the addition of modern general education instructional methods increase success within the music classroom. Based on the literature reviewed in chapter two and this summary, it is logical that a correlation between Growth Mindset and musical improvement through hands-on experiences could be expected. As a foundational element of music, it is also logical that rhythmic comprehension would be the greatest element impacted.

The findings that are documented in chapter four do not demonstrate a correlation, and therefore cannot be used to definitively validate this theory. However, the potential for bias and the addition of variables that were not previously expected were revealed through the qualitative interviews, which opens new avenues of study. While the potential for error when using human subjects was always considered, the extent to which this would affect the study was dramatic. The variability between individuals and the inability to accurately assess mindset were two of the greatest discoveries of this research, both of which are concepts absent from the literature.

Additionally, this study was conducted over a span of 8 weeks, which may have been an inadequate dose of growth mindset instruction to witness and document significant change. One of the studies reviewed in Chapter Two revealed a delayed increase of growth mindset. While the musical growth mindset in the study was observed to increase over a short span of time, general growth mindset did not demonstrate substantial change until 2 and 3 years after the beginning of

the instruction.[183] The study procedures did not include direct growth mindset instruction but focused on participation in an orchestral music education program. Increased general growth mindset was observed as a by-product of increased musical growth mindset. Based on the results of the current study, it could be deduced that theorized that growth mindset develops on a delay when it is applied through a musical context, even when instruction directly targets growth mindset concepts.

The results of this study do not close the gaps between existing research, but instead suggest that the gaps are wider than the current literature suggests. The areas of music education pedagogy and growth mindset are vast concepts individually, and the addition of live participants with a variety of personal, educational, and experiential backgrounds have revealed several limitations to this study which should be isolated and further investigated to find consistent and definitive evidence that adds to the body of literature supporting the validity of growth mindset within music education.

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

While the results of this study include many implications worthy of further study, it is important to consider the limitations of the study as it was conducted and analyzed. This research was constructed using available participants through targeted means and is unable to provide results that are entirely accurate or representative of all similar populations and learning contexts. As with any research project, a certain margin of error and variability should be expected, as well as the following areas of limitation:

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[183] Holochwost, 7.

1. Limited Study Duration. This study was intended to evaluate the possible existence of a correlation between growth mindset and rhythmic comprehension over the course of an 8-week period, using targeted instruction in both areas. The lack of evident correlation suggests one of the following statements: (a) a correlation does not exist, or (b) a correlation only exists after a longer period of instruction. The study "Planting the Seeds: Orchestral Music Education as a Context for Fostering Growth Mindsets," which was reviewed in chapter two and referenced in chapter four suggests that a new study intended to span a longer time frame would be a logical next step.[184]

2. Small Sample Size, Limited Representation. This study focused on a small urban public school band class, which does not accurately represent all student populations. The educational and emotional needs, prior experiences, and beginning skills and mindsets are significantly different in this sample than in many other schools around the country. The educational and academic culture of the school is far below average, which creates additional barriers to success and progress. This study cannot adequately represent all school populations, and any application of these results and observations without further study in other populations and must consider these circumstances.

3. Self-Reported Mindset and Self-Efficacy Data, allowing a potential for bias. Although the assessments were introduced with a request for genuine self-reflection and authenticity, the mindset and self-efficacy data was entirely self-reported, which allows the potential for bias or error in the data. As stated in Chapter 4, many of the participants reported that they had previously learned the basics of growth-mindset and were likely

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[184] Holochwost, 7.

aware of the correct way to answer each question based on the study explanation. Those who were unable or unwilling to submit an honest reflection likely scored higher than what is accurate. This inability or misunderstanding could also disguise any true change in mindset. As proposed by student 24 in their interview, it is likely that some participants discovered that they truly had a fixed mindset after submitting a high score on the pre-assessment out of ignorance, dramatically limiting the opportunity for score growth. This study is limited by the honesty and authenticity of the self-reported surveys, as well as the prior misconceptions that may have been present.

4. Absence of Control Group. Due to the importance of providing every student with a productive and meaningful education, the inclusion of a control group in this study would have been unethical and damaging to the education of those participants. Prioritization on fixed mindset teaching and neglecting the educational needs of the students would be the only way to conduct this study with a control group. While the study seeks correlations between growth mindset and rhythmic comprehension, it is unable to identify causation without the inclusion of a control group, which in most arrangements would be unethical.

<div align="center">Considerations for Future Study</div>

As stated previously, the variability between individuals and the inability to accurately assess mindset were two of the greatest discoveries of this research. These areas were too broad to definitively identify a correlation between mindset and rhythmic comprehension. Due to the literature suggesting that a correlation does exist, it would be beneficial to explore this area further, but to break the research into small, targeted portions. Between the findings of the study

as it was conducted, relationship to the existing research and literature, and the significant study limitations listed above, the following areas of study should be investigated:

1. Design a study that will span a prolonged instructional period. As suggested previously, the length of time may have contributed to the lack of data correlation. The existing literature does not explain whether growth mindset is believed to develop quickly when targeted, but it does suggest that it develops slowly as a prolonged dose of instruction is administered. To investigate the relevance of time in the development of general growth mindset, a study should be designed with a similar population of participants that spans an extended instructional period. The results of this new study would benefit and elaborate upon the results of this current study.

2. Identify participants without any previous knowledge of Growth Mindset. As outlined in the previous section, one limitation of this study was the previously introduced knowledge of growth mindset in many of the participants. Since these strategies have become popular in modern educational theory and instructional methods, it could benefit the area of research to study students who have not had exposure to this concept and compare the results to those who have. Previous experience with terms and concepts can create bias and inconsistency with self-reported data. As implied by this study, this can also result in a misrepresentation of the starting point. Identifying participants without any previous knowledge of growth mindset could allow the pre-assessment data to portray a more accurate starting point.

3. A consideration for future study would be the development of a tool or evaluation that can determine an individual's level of growth mindset without the potential for error or bias from self-reporting. In addition to identifying an individual's level of growth

mindset in relation to other factors as this study attempted to accomplish, this tool could be used to help individuals explore the difference between their perceived mindset and actual mindset. This study revealed a potential variance between these two concepts. How can research identify the difference between a basic comprehension of growth mindset and practical application of growth mindset? If mindset is an intrinsic motivator that cannot be assessed through external means, collected data will always contain a high potential for error. The existing research and literature suggest a tremendous educational advantage associated with growth mindset, but we can only ever observe results of the mindset rather than the mindset itself. Also, growth mindset is often over-simplified and misunderstood as a method for effort-based praise and encouragement about future educational possibilities. Growth mindset does not occur through effort praise alone, but it must also include "identifying mistakes, making plans for growth, and leading students toward self-sufficiency."[185] This misunderstanding was evidenced through the qualitative interviews, even though many of the students reported their understanding of growth mindset to be much more thorough.

4. Multiple Schools / Introduce Control Group. This study was completed with a small sample size that represented a single demographic and without a control group due to the need for consistent synchronous instruction. To obtain more statistically relevant results that are representative of a larger population, future studies could involve multiple schools, some of which are designated as a control group. This would ensure that results are not contingent on the specific learning environment and would provide the opportunity to compare scores with a control group. The addition of multiple schools

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[185] Adams, 22.

would ensure that the control group of participants is unaware that they are receiving different instruction and that the teacher could focus on providing a single synchronous curriculum to all students. This may create additional challenges since different teachers with different teaching styles may unintentionally alter the consistency of the instruction, but it also has the potential to provide additional and relevant data if curriculum and instruction can be effectively mirrored across each location.

5. Explore additional demographics and backgrounds. This study specifically targeted participants in a small urban band program, largely from a low-socioeconomic status. These participants have developed skills and mindsets as a result of their previous experiences and the school systems in which they were raised and educated. Based on existing research, it can be assumed that differences may present themselves if this study were to be conducted with participants of various other backgrounds. Future studies should include additional demographics and backgrounds to explore the influence that an individual's context and previous experience has on their observable changes. These differences could be used to influence future research and to benefit students in the demographics that show significant change.

6. Target ages and experience levels. Similarly, this study explored a mixture of students from 9th through 12th grade with anywhere from less than one year to 7 years of musical experience. These students have also not experienced the privilege of an elementary music program, meaning that much of their experience comes from hands-on participation with instruments beginning in 6th grade or later. Additional research that narrows the participant field by age, experience level, or music education background could be beneficial to identify any possible differences in effect.

An educator's primary purpose should be to create a self-sufficient learner that no longer needs the guidance of a teacher. To encourage this independence, educators should provide students with much more than simple facts and skills, but with a personal educational philosophy and paradigm that will propel them into life-long learnership. Music education is widely accepted as one of the most comprehensive forms of socioemotional learning and teachers of life skills. Growth mindset is quickly growing in popularity as more than simply an educational tool, but as a life-long intrinsic motivator. Continued research in the common ground between these two areas would greatly serve the future of education.

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APPENDIX A

IRB Approval Letter

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

December 14, 2022

Frederick Krieger
Rebecca Watson

Re: IRB Approval - IRB-FY22-23-353 The Effects of Growth Mindset Strategies on the Rhythmic Notation Comprehension and Musical Self-Efficacy of High School Instrumentalists

Dear Frederick Krieger, Rebecca Watson,

We are pleased to inform you that your study has been approved by the Liberty University Institutional Review Board (IRB). This approval is extended to you for one year from the following date: December 14, 2022. If you need to make changes to the methodology as it pertains to human subjects, you must submit a modification to the IRB. Modifications can be completed through your Cayuse IRB account.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP
*Administrative Chair of Institutional Research*
Research Ethics Office

APPENDIX B

Performance Assessment Rubric

Figure 1	Novice – 1	Emerging – 2	Proficient – 3	Exemplary - 4
Accuracy	Rhythms are performed with <50% accuracy	Rhythms are performed with >50% accuracy	Rhythms are performed with 80-90% accuracy	Rhythms are performed with 90-100% accuracy
Confidence	Clapping is inaudible, performance is non-existent or in response to auditory stimuli.	Clapping is audible, but performance is mostly in response to auditory stimuli.	Clapping is audible and demonstrates independence with some hesitancy.	Clapping is audible and performance demonstrates no hesitancy – entirely independent.

APPENDIX C

Written Assessment Example
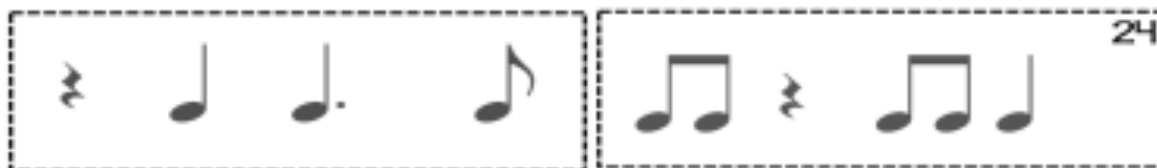
APPENDIX D

MINDSET QUIZ
& SCORING SHEET

Please read each statement carefully and then indicate the extent to which you agree or disagree, and then give yourself the corresponding point value.

Question	Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree	My Score
You have a certain amount of intelligence, and you can't really do much to change it	0	1	2	3	4	5	
Your intelligence is something about you that you can't change very much	0	1	2	3	4	5	
No matter who you are, you can significantly change your intelligence level	5	4	3	2	1	0	
To be honest, you can't really change how intelligent you are	0	1	2	3	4	5	
You can always substantially change how intelligent you are	5	4	3	2	1	0	
You can learn new things, but you can't really change your basic intelligence	0	1	2	3	4	5	
No matter how much intelligence you have, you can always change it quite a bit	5	4	3	2	1	0	
You can change even your basic intelligence level considerably	5	4	3	2	1	0	
You have a certain amount of talent, and you can't really do much to change it	0	1	2	3	4	5	
Your talent in an area is something about you that you can't change very much	0	1	2	3	4	5	
No matter who you are, you can significantly change your level of talent	5	4	3	2	1	0	
To be honest, you can't really change how much talent you have	0	1	2	3	4	5	
You can always substantially change how much talent you have	5	4	3	2	1	0	
You can learn new things, but you can't really change your basic level of talent	0	1	2	3	4	5	
No matter how much talent you have, you can always change it quite a bit	5	4	3	2	1	0	
You can change even your basic level of talent considerably	5	4	3	2	1	0	
Total Score							

The Mindset Quiz was developed by Dweck, Carol (2008). Mindset: The new psychology of success. Random House Digital, Inc.

APPENDIX E

Self-Efficacy Formative Questionnaire

Please **CHECK ONE** response that best describes you. Be honest, since the information will be used to help you in school and also help you become more prepared for college and careers. There are no right or wrong answers!

Student ID_____   Date _____

	Not very like me				Very like me
	1	2	3	4	5
1. I can learn what is being taught in class this year.	☐	☐	☐	☐	☐
2. I can figure out anything if I try hard enough.	☐	☐	☐	☐	☐
3. If I practiced every day, I could develop just about any skill.	☐	☐	☐	☐	☐
4. Once I've decided to accomplish something that's important to me, I keep trying to accomplish it, even if it is harder than I thought.	☐	☐	☐	☐	☐
5. I am confident that I will achieve the goals that I set for myself.	☐	☐	☐	☐	☐
6. When I'm struggling to accomplish something difficult, I focus on my progress instead of feeling discouraged.	☐	☐	☐	☐	☐
7. I will succeed in whatever career path I choose.	☐	☐	☐	☐	☐
8. I will succeed in whatever college major I choose.	☐	☐	☐	☐	☐
9. I believe hard work pays off.	☐	☐	☐	☐	☐
10. My ability grows with effort.	☐	☐	☐	☐	☐
11. I believe that the brain can be developed like a muscle.	☐	☐	☐	☐	☐
12. I think that no matter who you are, you can significantly change your level of talent.	☐	☐	☐	☐	☐
13. I can change my basic level of ability considerably.	☐	☐	☐	☐	☐

Gaumer Erickson, A.S. & Noonan, P.M. (2018). Self-efficacy formative questionnaire. In *The skills that matter: Teaching interpersonal and intrapersonal competencies in any classroom* (pp. 175-176). Thousand Oaks, CA: Corwin.

APPENDIX F

Pre-Assessment Data

Collected
Jan. 19, 2023

Student #	Mindset Score	Self-Efficacy Score	Written Assessment	Performance Assessment
1	51	41	15	2
2	75	43	16	2
3	61	30	0	2
4	46	33	0	1
5	62	38	0	2
6	56	48	1	2
7	54	32	0	1
8	52	50	0	2
9	80	52	7	2
10	53	44	18	n/a
11	35	6	18	1
12	78	47	19	1
13	43	34	17	2
14	45	27	12	1
15	66	32	17	2
16	50	32	24	2
17	57	28	11	1
18	79	46	19	2
19	42	31	11	0
20	47	33	19	2
21	63	34	16	0
22	80	52	22	1
23	64	32	21	2
24	80	35	11	0
25	72	47	11	2
Total Possible	80	52	24	6

Average Score	59.64	37.08	12.2
Percentage	74.55%	71.30%	50.83%

APPENDIX G

Post-Assessment Data

Collected
Mar. 3, 2023

Student #	Mindset Score	Self-Efficacy Score	Written Assessment	Performance Assessment
1	47	49	24	4
2	80	52	16	3
3	61	34	24	4
4	29	39	20	3
5	42	34	16	3
6	64	28	6	3
7	41	46	22	3
8	65	46	16	3
9	80	52	22	5
10	54	34	18	n/a
11	50	25	22	2
12	80	43	22	4
13	34	31	20	5
14	40	39	19	4
15	64	28	24	5
16	59	25	24	6
17	48	35	18	4
18	77	49	17	2
19	45	30	18	3
20	48	26	21	4
21	64	34	17	2
22	80	52	22	3
23	67	35	24	5
24	64	37	9	3
25	71	36	18	3
Total Possible	80	52	24	6

Average Score	58.16	37.56	19.16
Percentage	72.70%	72.23%	79.83%

APPENDIX H

Interview Transcriptions

Interview 1 - Student 11

What is the difference between fixed mindset and growth mindset?

> Growth mindset - you believe that you can do it and you're not trying to like shut yourself down, and a fixed mindset is where you're talking yourself down and trying to make yourself believe that you can't do what you are actually capable of doing as long as you try.

What does it mean to take ownership of mistakes? Why does this matter?

> When you are taking ownership of your mistakes, you are owning up to the fact that you did make a mistake and that you are okay with that mistake because it's helping you learn how to go back and try something better, try something new, and possibly be able to get it the next time.

What is Self-Evaluation? Do you think that it is useful? Explain.

> I am going to be honest don't really know what self-evaluation is, but if it is like you're setting goals for yourself and then going back and seeing if you have accomplished those goals and that you've actually put forth the effort, that is very important because it's helping you grow not as just a person but as something bigger and better.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

> So if I was to do a solo for our next concert, if it had like multiple parts to it, I would practice one part, record myself doing that one part, and see if I at least put actual effort in and sounded confident and at least try to get those notes right. After that, I will move on to the next part as soon as I'm happy with that part that I've done.

Explain any changes that you have noticed since the beginning of the study.

> In the beginning of the quarter, I saw how everybody just like didn't want to actually try and show that they were capable of their abilities, but then slowly into the research study we've actually put our effort into it. We've tried putting confidence into it, we've tried getting the notes right, we basically grew as a band. More than just having more people join, we work together, we've shown each other that we can do it, we've given each other our pieces of good mindset, we sat, we listened. We helped people, whether it was mentally or physically, basically just became a family since the beginning of this quarter.

Interview 2 - Student 14

What is the difference between fixed mindset and growth mindset?

So fixed mindset - it's basically that you not believe, basically not encouraging yourself but you could do it. Growth mindset is telling yourself you could do this and like you were telling us you're able to get 1% better.

What does it mean to take ownership of mistakes? Why does this matter?

I say basically not blaming somebody for your mistake. Not taking it out on other people, and it matters because in like a place of work, it could be anywhere in the world that you're making mistake, and if you blame it on a random person it could cause other things. It could cause somebody to get hurt or it causes you to get hurt. It's your mistakes. You should basically own up to it, learn from your mistakes.

What is Self-Evaluation? Do you think that it is useful? Explain.

Basically writing down steps as you go, basically just like our goals that we wrote down for yourself, like I said. And yes, I think it is important because you need to know what to work on. As you play music, one of our wind instruments can miss a note and they don't know it so if they like really write down exactly what you're doing and listen to yourself play then you can go back through right down the step, I'm going to fix this note, then continue to play through.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

I'll basically record myself every time I'm practicing and know that… I mean, a lot of people be on their phone, so they're most likely going to check what they have on their camera roll, and they're going to see that video, click on it, and be like "oh yeah, let me play it and record yourself." And listen to the other videos, you can tell what you did wrong here and what you did right here.

Explain any changes that you have noticed since the beginning of the study.

Honestly, when I first got here that's when we started doing it. When I first got here I didn't think I was going to be able to keep up with y'all since I was a little behind. I didn't think I was going to be able to read the notes. Now we do our rhythm exercises and we really are practicing how to read our notes. I'd say we all got better at how to read our notes. And my technique - like before I was just flat out moving my whole arm to hit the bass now I know that it's just my wrist, and for the basketball games that helped also to learn how to just move my wrist.

Interview 3 - Student 2
What is the difference between fixed mindset and growth mindset?

A fixed mindset is where you feel discouraged and you look at the failure more than you do the progress and you look at a mistake and you're like "oh I can't do this cuz I'm failing, if I don't do it first try then I'm never going to be able to do it at all." A growth mindset is where you look at something, you fail, you make mistakes, you ride a bike and you fall and bust your knee but you get up and try again.

What does it mean to take ownership of mistakes? Why does this matter?

Taking ownership of your mistakes - noticing you did something wrong - it helps you figure out what to work on to help you proceed in your goals and achieve them and it really goes along with a growth mindset.

What is Self-Evaluation? Do you think that it is useful? Explain.

Is it like looking back on what youve done? So starting out you look at yourself at point one and you see where you're at now and you notice the progress that you've made. It's important to do that so that further down the road when you set more goals and you want to achieve them it's kind of like a reminder that I'm able to do this because I've done that.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

A short-term goal would be playing the notes right. You know when you met that when it sounds smooth when you're playing. You could take a video and listen to it and then if it still doesn't sound right you can always just make sure your notes are right and also your breathing.

Explain any changes that you have noticed since the beginning of the study.

At the beginning of this quarter I was struggling with certain notes and a particular song. I asked questions, I figured out what I was doing wrong and I worked on it during warm up time. That's what I would use - that's the song I would use to warm up as well as my breathing and starting my notes out without just air.

Interview 4 - Student 9

What is the difference between fixed mindset and growth mindset?

A fixed mindset is like where you're stuck - let's say you're trying to do something like learn an instrument. You don't think you could go past what you already got, but a growth mindset is when you know you can and you could achieve something and you can get better or something.

What does it mean to take ownership of mistakes? Why does this matter?

I think it's important to take ownership of your mistakes because then you look back at them and you just realize what you did wrong and then you could not do it again. You could like improve from it and grow.

What is Self-Evaluation? Do you think that it is useful? Explain.

I think it is because you just look at what you have to improve on and you just… I think you can improve. For me, I'm pretty sure it helps a lot.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

A short-term goal I'll do for preparing for the concert is I'll slowly go through the parts and just one by one go through and try to do the best as I can to complete and play them

as well as I can and try and have it done. [I will know I met the goal] if I could play the whole song and I think it's good.

Explain any changes that you have noticed since the beginning of the study.

When I when I first got here I just looked at the notes and I was confused and as of now I can read them all without having to write any notes down and I can articulate very well. I just look at a song now and I could just tell what I'm supposed to be playing.

Interview 5 - Student 18

What is the difference between fixed mindset and growth mindset?

Fixed mindset is that you can't grow in everything, like our talents and stuff are fixed and you can't do anything to make it better. Growth mindset is basically the exact opposite of that, you believe that you can actually grow and learn more stuff.

What does it mean to take ownership of mistakes? Why does this matter?

To know what you been in, like blame it on others and like know that you did it yourself. You get to say that you did it and it's important because the responsibility of it can help you with things.

What is Self-Evaluation? Do you think that it is useful? Explain.

Self-evaluation is like how you think of yourself and like your goals and things like that. I think it's useful because it will let you know what you need to do and stuff like your goals and if youve reached it yet or not.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

It can be like little small parts and have it getting better, like getting the rhythm better on the notes. You'll know if you met that goal I'll be if you play and you're actually able to do it correctly and things and you get less mistakes than you have made before.

Explain any changes that you have noticed since the beginning of the study.

I noticed that everyone in the band has been a lot better playing stuff, and I know I have too. When we got some music we haven't played before, we actually could play well, and we've been able to sight read really well too.

Interview 6 - Student 3

What is the difference between fixed mindset and growth mindset?

A fixed mindset is where you think that you can't do better than what you really can and a growth mindset is where you think that you can grow lke based on what you experience, and that you can always do better than what you're doing in a helpful way.

What does it mean to take ownership of mistakes? Why does this matter?

So that you don't blame other people and something that you did - you know that you did it wrong so then you own up to it that you actually did it instead of blaming it on someone else. It's like important because then other people won't get blamed for like what you do or and like you can actually like learn from like things that like mistakes you did because pretty much every like mistake is like you can if there's always an opportunity to like learn from it.

What is Self-Evaluation? Do you think that it is useful? Explain.

Self evaluation is where you take in consideration what you can do and a time span so that you… with the setting the goals and everything you made goals that you would be able to complete and let you know that it wouldn't be too difficult on you and wouldn't cause too much - but it would make you kind of actually attempt to do them so that you have something you need to do. It's useful because then you won't put yourself in situations where you will be doing more than what you are capable of and you will only do things that you know you can do and that you don't need to force yourself to try hurrying them. You can do them within a time span, like how we did a week.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

You can play it through, figure out parts where you need to fix or something and you could record yourself doing it the first time, then you can come back depending on how long you have. You could practice and then you can continue depending on how often - you could try to practice every day or every other day and you could record yourself every time to see how much you get better. You can try practicing certain parts of the song you need help with and then you could also try and do it in front of other people so that you can kind of get a feel for how it would be in front of a bunch of people watching you play it.

Explain any changes that you have noticed since the beginning of the study.

I will say that - so with the goal setting and everything it actually made me realize that without really noticing, I do end up setting certain things I need to do by the end of the week. So actually setting the goals wasn't too difficult to attempt to do because I was already kind of doing that, and they weren't too difficult because I already knew what I could do and what I couldn't do.

Interview 7 - Student 24

What is the difference between fixed mindset and growth mindset?

A fixed mindset is really negative like it stops you from doing stuff that you really want to do, and a growth mindset and a growth mindset is very positive and it can allow you to do stuff.

What does it mean to take ownership of mistakes? Why does this matter?

It's if you say, "I didn't do it," you will continue to do it. You need to actually say that you did it and you should learn from your mistakes. It's important because if you don't admit to it, you're never going to get better.

What is Self-Evaluation? Do you think that it is useful? Explain.

Self-evaluation is, things you do and the goals you set, you have to achieve or you mess up and you have to try and achieve it again. Just like with our goals, I couldn't put down multiple things at the same time because I didn't achieve it the first time. It's very important because if you don't, you're probably just going to try to give up.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

A short-term goal, you would have to play through it and see which measures you actually need to work on. If you mess up or anything you try to keep going. You know you've met it if you see that you've grown from it and you actually can play through it without stopping one or two times.

Explain any changes that you have noticed since the beginning of the study.

I've seen the people have been having more of a fixed mindset, and same with me. I've kind of given up on math a lot lately, but I've retried like the test that we took yesterday I actually got an A on it.

You said you've seen people have a fixed mindset - why do you think people may have developed a fixed mindset?

[This is because] they figured out like what it actually means and they've found out they may have thought that they had a growth mindset, but it was actually more toward the fixed side.

Interview 8 - Student 22

What is the difference between fixed mindset and growth mindset?

The difference between a fixed mindset and a growth mindset is with a fixed mindset, you believe you are stuck at where you are, while a growth mindset you believe you can always improve and get better no matter what happens and you find a way around roadblocks and obstacles.

What does it mean to take ownership of mistakes? Why does this matter?

What it means to take ownership of your mistakes is to not always say when you cut us off that we made a mistake, but to acknowledge the fact that you did. You don't always have to say it, but then figure out what you did wrong and fix it over time, because it may not happen right away. It matters because you're always acknowledging that no matter what, you have something that you can improve and you can always get better but you're still always looking at what you already achieved and your progress that you've made so far.

What is Self-Evaluation? Do you think that it is useful? Explain.

Self evaluation is looking at what you do and determining whether or not you believe you have improved upon yourself, and what you can do to continue to improve. I believe it is valuable because it helps you see where you made mistakes, but also what you've already improved at the same time and what you can do to further yourself.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

Based on how long the solo is, focus on just different sections of it as at a time. The way that I can know that I reach that goal is if I can play it more fluently, keep my tone and my embouchure proper, keep my rhythm, but then also being able to play through it without stopping even if I do mess up at points.

Explain any changes that you have noticed since the beginning of the study.

I've noticed that me personally I have started using my practice time instead of just practicing non-stop like I used to I started using some of the skills we use like 15 minutes and then stop give yourself a quick break look back over it and always turn distractions off but I have noticed that like at the beginning, (name redacted), sometimes [they] would be like I can't do this, now [they] do that less and actually tries more. Same with our flutes, they play a little bit louder, and our clarinets have learned to back off and give other instruments the moment to shine when they know it's their time. I think that's a part of their growth mindset, knowing that they dont always have to be on top. But I feel like everyone has grown in each of their own small different ways, and ways that I don't know if they even realize yet.

Interview 9 - Student 10

What is the difference between fixed mindset and growth mindset?

Growth mindset is like you keep on practicing to do something and you keep on doing it until you're better at it and better at it. So you just know in your mindset and try to get better at something you wasn't good at. Fixed mindset - I want to say it's like telling yourself you can't do something, so you're struggling with something and you keep on saying you can't do it.

What does it mean to take ownership of mistakes? Why does this matter?

It matter because the more mistakes you make and you keep on making those mistakes, you have to just own up to it. If you don't own up to it then you're going to keep on messing up and keep on struggling, so you've got to keep on fixing those mistakes, keep working on it.

What is Self-Evaluation? Do you think that it is useful? Explain.

Self-Evaluation is like you sit there and you just see things you mess up on, and you've got to tell yourself that you need to fix this and fix that and then youve got to evaluate it and make you do better next time, so fix your mistakes. I personally use it because it

helps me - I know when I'm messing up on something, so I just tell myself I need to work on this, work on that, I self-evaluate and get it done. I fix it, I do better next time.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

My goal would be for the concert, to probably just practice real hard to get that - Make sure I get the keys down so I don't mess up, so I can go in there and go out clean. Don't mess, up don't embarrass myself, make sure I don't do that. So in my book, I wrote down when I messed up my keys and stuff because I noticed I keep messing up stuff. I need to complete those goals, so I'll use that as an example. Just tell yourself, write things down, tell yourself what you doing wrong, fix it later on. That's what I usually do.

Explain any changes that you have noticed since the beginning of the study.

One of the things I worked on the most was my "tah" when I play instead of just blowing straight air and I want to start working on tapping my foot. I keep on thinking about it but I don't work on that as much. I got my keys, I got that down so that helped me out. Making sure I remember my keys, especially my high keys, but I mean I feel like it helped me out with the little stuff in the long run.

Interview 10 - Student 23

What is the difference between fixed mindset and growth mindset?

With fixed, you say that you can't do anything, like "oh I can't swim, I can't play these notes," but then growth mindset would be like "oh I can't do this quite yet, I'll work on doing this."

What does it mean to take ownership of mistakes? Why does this matter?

If you make a mistake, you have to say that you made that mistake instead of trying to hide over the fact that, "oh, I did this, I'm just not going to acknowledge it." You work on those mistakes, and if you work on the mistakes, you get better at what you're doing. If you mess up a note, you practice playing that note right or you practice getting in the side position, and such.

What is Self-Evaluation? Do you think that it is useful? Explain.

It is a useful exercise, you can learn a lot about what you want to learn to do. Self-evaluation is saying, "hey, I did this on whatever day, and now I want to do this." Continuing to strive towards whatever goals you are making.

Let's pretend that you want to learn to play a solo for our next concert. Can you give me an example of a short-term goal? How will you know if you meet this goal?

You could practice the beginning five measures or wherever you struggle in that solo specifically, and you set this frame of these five measures until I get it to where I'm not stuttering or I'm not having to pause. You measure that by saying, did you make it through the five measures without messing up, and you work towards getting perfect.

Explain any changes that you have noticed since the beginning of the study.

I feel like as a whole the band has played confident especially with the music that we've been practicing and I think for me I can play 8th notes and 16th notes better than I did 8 weeks ago.