TWO OR MORE HEADS ARE BETTER THAN ONE:

THE BENEFITS OF GROUP PIANO

by

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(Under the direction of David Fung and Pete Jutras)

ABSTRACT

The educational concept of cooperative learning has existed for many years, and dates back as early as the 1920s. Cooperative learning is broadly used by teachers in diverse fields, including K-12 classroom settings, collegiate group piano classes, and adult group piano instruction. The benefits of cooperative learning have been widely acknowledged by researchers across fields, especially in the areas of motivation, psychological, cognitive, and social development. Educational and social psychologists such as John Dewey, Kurt Lewin, Jean Piaget, and Lev Vygotsky have recognized the enormous potential of cooperative learning as the primary learning environment, and many music scholars have promoted group learning as a primary method of acquiring musical knowledge and skill.

Group settings provide learning opportunities that cannot be experienced in a one-on-one setting. Moreover, group teaching provides opportunities for instructors to deliver a more comprehensive, creative, and motivating music curriculum as outlined by David and Roger Johnson, Robert Slavin, Frances Clark, Christopher Fisher and many more.

The purpose of this study is to demonstrate the benefits of group piano - motivational, psychological, social, and developmental-and connect the general principles of cooperative

learning theory specifically to group piano study for ages five to eight, an under-researched age group. The study will examine how cooperative learning enables students to learn in a student-centered environment and how it aids the development of intrinsic motivation. The group activities and games developed as part of this study are designed to address the research performed in the age group of students five to eight.

INDEX WORDS: Cooperative Learning, Group Piano, Group Lesson Activities, Preschool Students, Beginning Piano Students

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COOPERATIVE LEARNING THEORY

Introduction

The study of music education for children has existed for many years, and as interest in early childhood education started to grow in the 1970s, significant numbers of scholars expanded on the teaching strategies inherited from the past. Educational psychologists have provided information on the positive developmental effects of learning music at an early age, and parents who have been exposed to this information have become more concerned about their children's development, involving them in enrichment activities at earlier ages.

The educational concept of cooperative learning has existed for many years, dating back as early as the 1920s. Cooperative learning is broadly used by teachers in diverse fields, including K-12 classroom settings, collegiate group piano classes, and adult group piano instruction. The benefits of cooperative learning have been widely acknowledged by researchers across fields, especially in connection to motivation, psychological, and social development. Educational and social psychologists such as John Dewey, Kurt Lewin, Jean Piaget, and Lev Vygotsky have recognized the enormous potential of cooperative learning as a primary learning environment, and many music scholars have promoted group learning as a primary method of acquiring musical knowledge and skill.

The purpose of this study is to demonstrate the benefits of group piano - motivational, psychological, social, and developmental-and connect the general principles of cooperative learning theory specifically to group piano study for ages five to eight, an under-researched age

group. The study will examine how cooperative learning enables students to learn in a student-centered environment and how it aids the development of intrinsic motivation. The group activities and games developed as part of this study are designed to address the research performed in the age group of students five to eight.

Although cooperative learning has been widely discussed and researched in other fields, it is relatively under-researched in music and in piano study for the age group of five to eight. This document does not attempt to prove with statistics, but instead explores various studies on cooperative learning in other subject areas such as computer, math, science, and literature classes that are focused on college-level students. It also reviews positive findings of pedagogues who are advocates of group piano and research on the positive effects of adult group piano and college class piano. Exploration of the benefits of cooperative learning in diverse areas and in adult piano study has made it possible to draw connections on how cooperative learning might pertain to the learning of young beginning piano students.

Group settings provide learning opportunities that cannot be experienced in a one-on-one setting. Moreover, group teaching provides opportunities for instructors to deliver a more comprehensive, creative, and motivating music curriculum. Learning in a social setting with fun and intriguing group activities may allow students to endure learning plateaus, prolong interest, and reach a sufficient level of accomplishment. Group piano instruction, which is a teaching design that uses cooperative learning, provides a student-centered learning environment in which all students participate in all parts of the learning process. In turn, students accumulate small successes, which contribute to positive personal experiences. Through activities in group piano, students are constantly challenged to develop their musical skills through their own effort. The efforts put into fun group activities are rewarded with increased mastery. The group learning

dynamic encourages students' interaction and participation, and influences group functioning and productivity.[1]

Cooperative learning values learning experiences in which all members work together, are actively involved in all parts of the learning process and take an active role for the group to succeed. Guy Duckworth suggests that groups typically grow and develop along the following five dimensions. *Membership* is a stage at which individual members assess their own involvement in the group and the involvement of others. *Influence* manifests itself when members become comfortable with their specific roles and begin to share in decision-making processes. Each member feels that he can contribute something to the overall outcome. As membership and influence are attained, *feelings* become important once members gain confidence that they can express themselves freely. Importantly, *individual differences* emerge as members begin to convey their own unique experiences, skills, and knowledge, and come to recognize and value the individual differences each group member possesses. Finally, and perhaps most importantly, *productivity* is achieved as the singular ideas of individuals are analyzed, combined with others, and synthesized, thus generating new ideas beyond the capabilities of a single person.[2]

Students learn through group discussion, discovery, and implementation, which propels them to think critically in every part of their learning process. In this learning setting, the teacher becomes a guide and facilitator rather than a lecturer or an authority figure. According to Fisher, the nature of small groups challenges students to understand diverse perspectives and to develop

[1] Christopher Fisher, *Teaching Piano in Groups* (New York: Oxford University Press, 2010), 51.

[2] Guy Duckworth, "Group Dynamics," in *Proceeding from Pedagogy Saturday III,* ed. Margaret Lorince (Cincinnati, OH: Music Teachers National Association, 1999), 78-79.

oral communication skills, self-management, and leadership skills. He also believes that small groups encourage students to engage in problem-solving and higher-level thinking.

Group allocation and instructing them to cooperate requires a careful plan for the activities that will lead to success. David and Roger Johnson have identified five essential elements that must be present for cooperative learning to be successful: positive interdependence, face-to-face instruction, individual accountability, social skills, and group processing.[3] Positive interdependence is achieved when all members have mutual learning goals or joint rewards. Individuals will thus strive for "We, not me."[4] Face-to-face instruction involves discussion derived by problem-solving, whether it is to offer personal insight or collective analysis of presented learning material. Individual accountability ensures that each student contributes to the group and is responsible for his or her own learning. For instance, activities should be structured so that all students thoroughly learn the material and assist other members in mastering the work. Social skills are one of the fundamental skills needed for this process and can be learned through cooperative learning. Students learn to accept dispositions and criticism, offer constructive feedback themselves, and develop leadership skills. Group processing occurs when all members take a step back to question, "What is working? What is not?"[5] Students thus assess their group work, examining what went well and what can be improved.

When all of these elements are present in the learning process, students are not passive and remain active in all aspects of learning. This sort of learning experience helps to develop the intrinsic motivation that supports students' autonomy, rather than teaching through control. The

[3] David W. Johnson and Roger T. Johnson, *Learning Together and Alone: Cooperative, Competitive, and Individualistic Learning* (Boston: Allyn and Bacon, 199): 39.

[4] Fisher, *Teaching Piano*, 54.

[5] Fisher, 55.

Chinese Confucian philosopher Xunzi once said, "Tell me and I forget. Teach me and I remember. Involve me and I learn."[6] Teachers can create a safe space for learning by allowing students to develop their ability level through their own efforts.[7] Group dynamics enable students to work together to achieve the same goal, discover skills through their own efforts, and encounter peers with similar experiences, thus making piano study less of a solitary experience. Cooperative work removes some of the pressure on individual students, so that they typically experience less anxiety.[8] In light of findings by David and Roger Johnson and Fisher, students can acquire musical skills through fun activities and social relationships in a group learning environment.

Benefits of Class Piano

The implications of cooperative learning can be observed in piano classes in college settings as well as in adult group piano lessons. At the end of the nineteenth century, Calvin Cady, a leading music educator and proponent of group piano in the United States, strongly advocated group piano class as a viable means of instruction.[9] Elementary schools in the United States implemented piano class programs in part to enhance students' cultural and artistic awareness. Raymond Burrow, who offered a successful piano class for adult beginners at Columbia University Teachers College, became a leader in the field of group piano instruction for adults, making innovative developments for college piano classes and creating coursework to

[6] Xunzi, *Xunzi: The Complete Text*, reprint ed., ed. Eric L. Hutton (Princeton: Princeton University Press, 2016).

[7] Karin S. Hendricks, Tawnya D. Smith, and Jennifer Stanuch, "Creating Safe Spaces for Music Learning," *Music Educators Journal* 101, no. 1 (September 2014): 36, http://www.jstor.org/stable/43289089.

[8] Jacquelyn Boswell, "Human Potential and Lifelong Learning," in *Music Educator Journal* 79, no.4 (1992), 38-40.

[9] Fisher, *Teaching Piano*, 9.

train class piano instructors.[10] The advent of the electronic keyboard made the development of group piano teaching possible. As a result of this technological advancement, the National Association of Schools of Music encouraged all graduates to acquire keyboard proficiency, and group piano teaching at college and university levels increased dramatically.[11]

As Randall Sheets describes in Table 1, private lessons traditionally have different goals from group piano. One of the major differences between private and class piano instruction, aside from the number of students taught by the instructor, is that private lessons typically focus on repertoire, while class piano focuses on functional skills.[12] In private lessons, a majority of students typically learn basic rhythm and music notation, explore repertoire in their method books and supplementary books, and learn to develop optimal artistry on the instrument. Group lessons typically provide additional time for students to broaden their artistry with activities that focus on strengthening functional skills such as rhythmic pulse, reading, sight-reading, technique, and theory.

When students acquire musical skills in groups, they can also reap the advantages of learning in a social setting. Benefits include interaction through discussion and peer teaching, positive motivation through peer support, and critical thinking.[13] Fisher states that a group-oriented learning environment benefits all students' musical growth and that working with peers helps students to learn from each other, become actively involved in creating their own music, develop higher expectations of their own musicality, and increase their motivation with regard to

[10] Fisher, 5-6.

[11] Fisher, 5.

[12] Randall Sheets, "Class Piano Versus Private Piano: Should We Really Take Sides," *American Music Teacher* 32, no. 5 (April-May 1983): 35.

[13] Sheets, 35.

the repertoire's difficulty.[14] Private piano study can sometimes become monotonous and provide little stimulation. One of the advantages of group study is that it can help bypass the monotony of practicing alone because students are surrounded by other students who may inspire them.

Piano learning materials in group piano classes are not limited to method books, but can often include contemporary pop, folk music, simplified orchestral pieces, and ensemble works. Students become familiar not only with their own music, but also with others' music as they become active listeners and act as each other's accompanists. Performing as a group reduces stress and anxiety, develops aural skills, builds confidence, and provides opportunities for ensemble playing. Group classes also provide students with opportunities to give and receive constructive feedback. Areas for potential improvement as well as practice strategies can also be discussed in group settings.

Table 1. Summary of Typical Goals of Class Piano and Private Piano. [15]

Class Piano	Private Piano
1. Functional Skills: harmonic analysis, ear training, chording melodies, playing by ear	1. Repertoire: polished performance, interpretive sensitivity, understanding of style, masterful technique
2. Technique: as it facilitates functional skills	2. Technique: as it facilitates repertoire
3. Repertoire: as it illustrates functional skills	3. Functional skills: as they contribute to style and interpretation

[14] Fisher, *Teaching Piano*, 20.

[15] Sheets, "Class Piano," 35.

Benefits of Adult Piano Study

Interest in piano study has gained popularity as adults increasingly invest in learning opportunities during their free time. Retired adults are typically highly motivated to learn new activities. They often choose to participate in piano study during their free time purely for self-fulfillment and pleasure. Researchers investigating the leading factors in adults' choice to study piano have found that the benefits have strong parallels with some of the categories found by leisure researchers.[16] Adult students noted that personal pleasure, fun, enjoyment, and pleasure were important motivating factors, as well as accomplishment and self-satisfaction. Self-efficacy, self-esteem, relaxation, and self-expression were also noted as personal benefits.[17] Researchers have also listed social and cultural benefits from adult piano study, such as socialization, shared accomplishment, and group interaction.[18]

While adult piano students are highly motivated, there is also a high potential for dropping out due to discouragement, as students discover that piano playing is more difficult than anticipated.[19] Students' frustration with technical skills can override their enjoyment and interest in music. Motivation can easily decrease when students wish to avoid the feeling of discouragement in their free time by engaging in less frustrating activities.

Group study has been successful among adults because it provides a learning environment that reduces potential discouragement. Humans become progressively more verbal

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[16] Pete Jutras, "The Benefits of Adult Piano Study as Self-Reported by Selected Adult Piano Students" (PhD diss., University of North Texas, 2003), 89.

[17] Jutras, 89-99.

[18] Jutras, 99.

[19] Brenda Wristen, "Demographics and Motivation of Adult Group Piano Students," *Faculty Publications: School of Music* (2005): 4, htttps://doi.org/10/1080/14613800600957503.

in their learning styles as they age.[20] Adults can generate motivation by sharing similar experiences, discussing practice strategies, and giving and receiving constructive feedback. Music-making as a group also provides stimulation for adults. Supportive and encouraging environments reduce individual stress levels, resulting in less anxiety and pressure. Ensemble playing can be particularly rewarding for some adults.[21] When students have peers in the learning process, they are more willing to go beyond their comfort zones to accept new challenges and may feel less discouraged by failure. Adult students in groups are often less nervous and anxious about performing in front of others because they have supportive peers who can play along with them.

Benefits of Beginning Students Group Study

Robert Pace, who adapted the class piano method for private lessons, advocated the use of dyad lessons and larger group lessons for the average-age beginning piano student (including adult students). He believed that certain aspects of piano instruction can work better in groups than with one student at a time. Pace developed a comprehensive group piano method entitled *Piano for Classroom Music* (1956) that stressed music fundamentals, playing in all keys (multiple-key approach), harmony, ear training, sight-reading, and improvisation, among other functional skills.[22] Fisher states that group lessons have been a prime system for teaching beginning-level students because they provide a great setting for introducing fundamental music

[20] Wristen, 5.

[21] Jacquelyn Boswell, "Human Potential and Lifelong Learning," *Music Educator Journal* 79, no. 4 (1992), 38-40, https://doi.org/10.2307/3398529.

[22] Fisher, *Teaching Piano*, 5.

skills. This approach also eliminates the need for instructors to present the same material multiple times to individuals during private lessons.

Research exploring the success of group learning in adults can also be adapted to young beginning students. The discouragement and loss of enjoyment due to lack of physical ability and short concentration span often observed in younger students can be overcome through cooperative learning. Cooperative learning allows participants to be engaged in fun musical activities in a group setting and may naturally motivate young students. Learning musical skills through games, interacting with other students, and experiencing music with their whole body can prolong their concentration.

Piano can be a solitary instrument unlike many other instruments, which are regularly performed in social settings such as orchestra or band. For some younger students this can be a deterrent. For those who struggle to practice alone, practice time may feel redundant and lose motivation, preventing them from proceeding to the next level. Similar to how peer interaction and peer support provide musical growth for some adults, group learning may provide young students a supportive learning environment where they know they have their peers along their musical journey. Young beginning students can develop higher expectations of their own musicality as they receive and provide constructive feedbacks from their peers, widen their musical scope as they hear diverse repertoire played by their peers, and overcome musical challenges as they work cooperatively.

Group activities allow instructors to be more creative in their lesson plans and allow students to experience multiple activities that are geared towards the same concept. Repetition is a key to improvement; however, absentminded repetition, as often happens in solitary practice, over time can reduce a student's interest in studying music at all. Reinforcing the material with

different activities that elevates their enthusiasm may help students to fully absorb and utilize the concepts learned without lowering their motivation.

Beginning group class also provides students with performance opportunities, both ensemble and solo. Students learn performance manners and have chances to share their music in a non-threatening environment. Students feel accomplished and rewarded by completing a small task, which develops higher self-esteem and intrinsic motivation. Opportunities in ensemble playing help students to gain a positive attitude, higher self-esteem, greater collaborative skills, and a greater ability to see from others' perspectives. Students therefore learn to experience the joy of music making. Additional benefits of cooperative learning in a beginning group class will be further discussed in Chapter 3.

The question of whether private or group lessons are better is not the focus of this discussion. Both approaches have great advantages that are essential to students' musical achievement. Regardless of lesson types, all instructors should prevent students from having diminished achievement as a result of a lowered motivation. This document suggests and explores why cooperative learning can be beneficial to young beginning piano students by discussing various research and document on cooperative learning in other subject areas, connecting the general principles of cooperative learning theory specifically to group piano study, and suggesting some group teaching activities that may pertain to students' motivational, psychological, developmental, and social development.

CHAPTER 2

REVIEW OF LITERATURE

The following review of literature will discuss cooperative learning, group teaching, and motivation. Literature on cooperative learning theory addresses motivational, psychological, cognitive, and social perspectives; the importance of group goals and individual accountability; and social interdependence theory. Literature on group teaching addresses group teaching in college-level group piano classes, adult group piano settings, and intermediate-level classes. This literature also discusses why the group setting has been a successful teaching model, the goals achieved in the group setting, and practical teaching tools. Literature on motivation explains why motivation is important in a child's education and identifies factors that contribute to a child's motivation and satisfaction in music education.

Journal Articles, and Research on Cooperative Learning

Cooperative vs Competitive

In their article "Impact of Group Processing on Achievement in Cooperative Groups," David and Roger Johnson and Mary Stanne discuss their research on cooperative learning conditions that resulted in greater success in problem solving and achievement.[23] In their study, forty-eight high-ability Black American high-school seniors and entering college freshmen at Xavier University were given a complex computer-assisted problem-solving assignment in four conditions: cooperative learning with no processing, cooperative learning with teacher-led

[23] David W. Johnson, Roger T. Johnson, and Mary Beth Stanne, "Impact of Group Processing on Achievement in Cooperative Groups," *The Journal of Social Psychology* 130, no. 4 (August 1990): 507-516, https://doi.org/10.1080/00224545.1990.9924613.

processing, cooperative learning with teacher and student-led processing, and individual learning.

In cooperative learning with no processing conditions, the students were randomly assigned to four groups of three. In the cooperative learning with teacher-led processing condition, the students were assigned to four groups of three and instructed by the teacher to (a) summarize the information and the ideas of all group members, (b) encourage active oral participation of all members, and (c) check for agreement among members each time a decision was made.[24] In the cooperative learning context with teacher and student-led processing conditions, the same number of groups and tasks were given as in the previous conditions, but each member was assigned the responsibility for ensuring that all members engaged in one of the three social skills: summarizing, encouraging participation, and checking for agreement.[25] In the individual condition, the students were randomly assigned to groups of three but were instructed to work alone without discussion.

The researchers found that students in the three cooperative conditions performed better in the problem-solving process than those in the individual condition. The condition with teacher-led and student-led processing resulted in greater problem solving, increased achievement, and more student-to-student interaction. The compared cooperative conditions can be directly applied to group piano study, especially beginning group class. Students in beginning group classes are likely to experience teacher-led and student-led processing, achieving higher level-thinking and enjoying social benefits.

[24] Johnson, Johnson, & Stanne, 511.

[25] Johnson, Johnson, & Stanne, 511.

In the book chapter "The Impact of Cooperative and Competitive Learning Environments on Academic Achievement," David W. Johnson and Roger T. Johnson describe three ways in which learning goals may be structured: cooperatively, competitively, and individualistically.[26] Cooperative learning happens in a small group, when all students work together to maximize their individual and collective learning.[27] Students work against each other to achieve personal goals in competitive learning contexts and work by themselves in individualistic learning. Although this book chapter does not directly discuss piano study, these three settings can be applied to piano study: all piano students practice individually, some attend competitions as a means of motivation, and even fewer participate in a group learning environment. This book chapter supports the notion that cooperative learning is a necessary supplement to individual learning. This dissertation will fill in the gaps concerning how and why this connects to piano study for beginning students.

In the chapter "Research on Cooperative Learning and Achievement: What We Know, What We Need to Know," Robert Slavin updated and extended his prior writings on cooperative learning, examining student achievement from motivational, social cohesion, cognitive, and developmental perspectives.[28] He discussed factors that may contribute to student achievement, with particular attention to group goals and individual accountability. From motivational perspectives, individuals feel motivated to attain their own personal goals by achieving success in the group. Slavin argued that group members must both help their group mates to succeed,

[26] David W. Johnson and Roger T. Johnson, "The Impact of Cooperative, Competitive, and Individualistic Learning Environments on Achievement," in *International Handbook of Student Achievement*, eds. J. Hattie & E. Anderman (New York: Routledge 2013), 372-374.

[27] Johnson and Johnson, 372.

[28] Robert Slavin, "Research on Cooperative Learning and Achievement: What We Know, What We Need to Know," *Contemporary Educational Psychology* 21, no. 1 (1996): 43-69. Also see Slavin 1989, 1992, 1995.

and, perhaps even more importantly, encourage their group mates to exert maximum personal effort.[29] Cooperative learning activities are structured so that groups must work together to reach a common goal; therefore, students are both individually and collectively responsible for learning. Group music activities introduced in Chapter 4 are designed for students to work cooperatively to reach a common goal. Each group member will have a specific role that allows them to put in their maximum effort for both individual and group success.

Social cohesion theorists argue that students help their group mates because they care about the group. They emphasize team-building activities and argue that individuals' contribution to the group should not be measured. While motivational and social perspectives are based on group norms and interpersonal influence, cognitive theorists assert that interaction among students increases achievement and encourages higher level thinking. Similarly, the developmental perspective on cooperative learning views interaction among individuals around appropriate tasks as helpful for promoting mastery of critical concepts.[30] Although Slavin does not explicitly discuss piano study, these different perspectives on cooperative learning can be applied to group piano study for beginning students and will be discussed in Chapter 3.

Slavin states that cooperative learning is more than a theory and is being used by millions of teachers.[31] Research on cooperative learning has moved beyond the question of whether cooperative learning is effective in accelerating student achievement to focus on the conditions under which it is optimally effective.[32] He states that learning is best achieved in cooperative

[29] Slavin, 44.

[30] Slavin, 48.

[31] Slavin, 43.

[32] Slavin, 53.

learning settings when there is both a group goal and individual accountability.[33] When students receive a single assessment as a group, as opposed to receiving individual grades or individual feedback, they are encouraged to work hard, initiate interaction, and engage in peer teaching. This raises the question: What are some group conditions and activities that accelerate students' achievement with optimal effect? This paper will provide examples of practical activities for beginning group piano class that may enhance motivational, social, psychological, and cognitive benefits.

Elizabeth Cohen's article "Restructuring the Classroom: Conditions for Productive Small Groups" goes beyond the general question of effectiveness of small group learning.[34] Her research reviews the conditions that promote optimal productivity in small groups in the classroom. She focuses on the types of interaction and the conditions in which interaction is hindered, and raises the following questions: "What kinds of interaction are necessary for different kinds of outcomes? And what are the task instructions, student preparation, and teacher roles that foster the desired type of interaction?"[35]

Cohen asserts that not all tasks given to cooperative groups generate collaboration and promote group interaction. Therefore, instructors should assess whether an assigned task promotes group interaction and motivates students to offer each other assistance to achieve success in the groups. Conversely, instructors must examine if a task only allows extensive exchange of ideas among higher-status students, thus limiting participation of all students. She

[33] Slavin 53.

[34] Elizabeth Cohen, "Restructuring the Classroom: Conditions for Productive Small Groups," *Review of Educational Research* 64, no. 1 (1994): 1-35, https://doi.org/10.3102/00346543064001001.

[35] E. Cohen, 30.

gives group assignments in mathematics as an example of tasks that can be carried out without group discussion. A group task is a task that requires

> resources—information, knowledge, heuristic problem-solving strategies, materials, and skills—that no single individual possesses so that the task objectives can only be completed by the joint efforts of the group.[36]

For groups to generate mutual exchange of ideas, music activities for young beginning students should be planned carefully so that all group members can participate equally. One of the solutions to this is to give everyone a chance to become a class leader. This provides an opportunity to build a leadership skill, regardless of ability level. Specifying each group member's role also allows them to participate actively to contribute to group success.

Tudge found that children paired with partners who had used a higher-level cognitive rule on a pre-test were able to function at a higher cognitive level on the post-test than on the pre-tests.[37] The whole group benefited when higher-achieving students had a chance to give explanations to the group. Tasks that have clear procedures may have the "right answers" but often do not promote cooperation, whereas in tasks that contain "ill-structured problems" (i.e., tasks that do not give straight forward answers, or answers that can be explained by single person), group productivity depends on interaction. Problems that have no right answer led students to exchange resources and promote task-related interaction.[38] Interaction between students encourages deeper discussion of class material and mutual exchange of ideas. This allows students to discover beyond materials that the instructor presents.

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[36] E. Cohen, 3.

[37] Jonathan R. H. Tudge, Paul A. Winterhoff, and Diane M. Hogan, "The Cognitive Consequences of Collaborative Problem Solving with and without Feedback," *Child Development* 67, no. 6 (1996): 2902, https://doi.org/10.2307/1131758.

[38] E. Cohen, 4.

As discovered by David and Roger Johnson and Stanne, cooperative learning with teacher and student-led processing resulted in greater problem solving, increased achievement, and more interaction among students. Younger students may need additional guidance from an adult for them to have mutual exchanges of ideas and equally satisfying learning experiences. Cohen states that frequently requesting help and receiving appropriate help results in positive achievement.[39] Students not only can receive help from the instructor, but also may benefit from interacting with high achievers in the group.

Cohen's description of interaction serves as the main indicator of group success. "Ill-structured problems" that prompt students' interaction are similar to common activities in group piano class. Students will need to interact with their peers and cooperate to solve challenges. This supports the notion that group piano study is beneficial to students because it requires the higher-level thinking necessary to productivity. Although this research does not discuss music education, the idea that students' achievement is positively affected by interaction among students underpins the importance of group study. Once again, this raises a question of the types of group activities that promote an extensive and positive exchange of ideas.

Marjan Laal and Seyed Mohammad Ghodsi's article "Benefits of Collaborative Learning" lists social, psychological, and academic benefits described by different scholars who advocate for cooperative learning.[40] The benefits for students listed by the authors include critical thinking skills, active involvement in the learning process, personalized lectures, improved self-esteem, greater productivity, and increased motivation. The authors acknowledge

[39] E. Cohen, 7.

[40] Marjan Laal and Seyed Mohammad Ghodsi, "Benefits of Collaborative Learning," *Procedia-Social and Behavioral Sciences* 31 (2012): 486-490, https://doi.org/10.1016/j.sbspro.2011.12.091.

that American society often values competition over cooperation. However, they argue that cooperative learning results in higher achievement and greater productivity compared to a competitive and individualistic learning environment. The same can be said for many experiences in piano education. Parents and teachers typically value a competitive environment more than a cooperative one.

Competitions can serve to measure one's musical ability and improvement. This raises several questions: What is the purpose of competition? Is it just to win or is it to beat one's opponent? Is winning the ultimate goal we teach our students? Will students be dispensable learners that continue to enjoy music if they win a competition? Competitions may be the best way to pursue a concert career but might not be the best way to achieve the motivation that ultimately prolongs one's musical journey.

Group settings can form a competitive environment due to their nature. However, instructors should carefully plan the activities so that students learn value beyond winning, learn to cooperate to promote each other's success, and learn that they can elevate their abilities when they put in effort. The benefits of cooperative learning listed in this article—oral communication skills, reduced anxiety, increased student interaction, self-management, and pursuit of a common goal—will be further discussed in the dissertation in Chapter 3, under psychological benefits.

David and Roger Johnson's article "An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning" summarizes social interdependence theory and describes how social and educational psychology have contributed to educational practices.[41] The authors state that social interdependence exists when the outcomes of individuals are

[41] David W. Johnson and Roger T. Johnson, "An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning," *Educational Researcher* 38, no. 5 (2009): 365-379, http://www.jstor.org/stable/20532563.

affected by their own and others' actions.[42] Morton Deustch (1949, 1962) conceptualized two types of social interdependence, positive and negative. Positive interdependence exists when

> There is a positive correlation among individuals' goal attainments; individuals perceive that they can attain their goals if and only if the other individuals with whom they are cooperatively linked attain their goals. Positive interdependence results in promotive interaction (i.e., individuals encouraging and facilitating each other's efforts to complete tasks in order to reach the group goals).[43]

Negative interdependence exists in competitive learning, where individuals perceive that goals are obtained only when the other individual with whom they are competitively linked fails to obtain their goals. Positive interdependence results in an interaction in which students exchange needed resources, act in trusting and trustworthy ways, foster reduced anxiety and stress, learn appropriate social skills, and build constructive competition in which students are motivated to complete a task efficiently. In these cooperative learning environments, students experience increased psychological health compared to competitive or independent settings.[44]

As discussed by Slavin and other cooperative learning theorists, the best learning occurs when a group works together to reach a common goal. Group goals encourage each member to share ideas and put forth the maximum effort to help the group succeed. Positive interdependence is therefore critical in cooperative learning. If social interdependence is applied to music education, one can view traditional performing competition as an example of negative interdependence. As previously mentioned, competition may not be the best way to develop

[42] Johnson and Johnson, 365.

[43] Morton Deutsch, "Cooperation and Trust: Some Theoretical Notes," *Nebraska Symposium on Motivation,* ed. M. R. Jones (1962): 275.

[44] Johnson and Johnson, 365.

intrinsic motivation. For students to experience true enjoyment, learning settings with positive interdependence are needed.

Books, Articles, and Dissertations on Group Music Teaching

Christopher Fisher's *Teaching Piano in Groups* devotes a chapter to cooperative learning and offers instructional strategies for teaching rhythm, ear training, improvisation, harmonization, and technique with specific examples. It also includes group piano suggestions for pre-college, adult, and university music major students.[45] Fisher's suggestions illustrate how cooperative learning can be directly applied to group settings. Due to the nature of group piano's structure, Fisher states that it lends itself well to the application of cooperative learning.

Fisher believes that a group provides a habitat of motivation. He states, "[in groups] relationships are often formed that have the potential to challenge students to achieve their best as part of the built-in system of accountability."[46] According to Fisher, students in groups will build a relationship that is powerful enough to change an individual's attitude towards the task. Peer interaction that provides honest and non-judgmental feedback can also motivate students. When an individual is rewarded within a cooperative group, group members challenge each other to do their best, thus motivating all members to strive for greater success.

Fisher proposes teaching strategies in groups of two, four, and more than four. The "Think-Pair-Share" strategy, which is designed to develop conceptual knowledge and stimulate students' participation, is suggested for dyad lessons. Pair check, where students alternate solving a problem while the other coaches, is a prime method for practicing and reviewing lesson concepts. Fisher also provides suggestions on how to apply his strategies when teaching

[45] Fisher, *Teaching Piano*, 51-78.

[46] Fisher, 52.

technique, harmonization, sight-reading, and improvisation. While his suggestions are effective and practical, most are aimed for intermediate-level students. The gap in strategies for beginning-level students will be bridged in Chapter Four of this dissertation by providing cooperative learning strategies for beginning group piano students.

Randall Sheets explains the different goals posited in group and private piano lessons in his article "Class Piano Versus Private Piano: Should We Really Take Sides?"[47] He states, "Class piano is not a lower rung on the piano major's ladder of skills and techniques, but an entirely different path with its own unique needs, problems, and rewards."[48] He explains that the main goal of class piano centers around functional skills, while private piano tends to prioritize repertoire. Sheets argues that it is not a question of which approach is better, and he makes a case for their coexistence, as both have their own distinct advantages. He concludes that the combination of private lessons and group class for younger beginners is a successful approach, and that it "opens countless possibilities and advantages for the development of the younger student."[49]

Students who only receive private lessons may be exposed to diverse repertoire but can still miss out on opportunities to develop functional skills. Group piano class exposes students to functional musical skills from an early age. When musical skills are taught in fun and creative group activities, students are afforded more opportunities to develop musicianship skills so that they can learn more independently.

[47] Sheets, "Class Piano," 35-36.

[48] Sheets, 35.

[49] Sheets, 36.

The article "Creating Safe Spaces for Music Learning" by Karin S. Hendricks, Tawnya D. Smith, and Jennifer Stanuch offers a practical model for fostering emotionally safe learning environments for music students that promote a positive sense of self-belief, self-esteem, freedom, and purpose.[50] The authors question why music education often evokes fear and anxiety in performing, resulting in many students' withdrawal. To answer this question, they discuss the types of learning environments that foster intrinsic motivation, how competition affects students' learning, if talent is needed to attain musical skills, and additional considerations for teachers to keep in mind when trying to create safe spaces for learning.

Hendricks, Smith, and Stanuch also argue that personalized goals connected to student needs and interests promote student motivation. Teachers need to "view musical ability as a [developable] skill [and] allow students to develop their ability level through their own efforts."[51] Students who understand that musical skills can be developed when they put in effort will also realize that effort is rewarded by increased mastery. They conclude that a "safe space" is a learning environment where students can express themselves freely, and this is achievable when educators adapt the learning environment to the students' social, emotional, and physical needs. The important aspects presented in this article are precisely what group piano study promotes.

Ann Milliman Gipson argues that group-oriented learning environments benefit all students' musical growth regardless of their age, level, or instrument in the article "Group Lessons = Positive Results."[52] Working with peers allows students to learn from each other, be actively involved in creating their own music, develop higher expectations of their own

[50] Hendricks, Smith, and Stanuch, "Creating Safe Spaces," 35-40.

[51] Hendricks, Smith, and Stanuch, 36.

[52] Ann Milliman Gipson, "Group Lessons = Positive Results," *American Music Teacher* 55, no. 3 (2006): 18-21, https://www.jstor.org/stable/i40140940.

musicality, and increase their motivation. She discusses her own experience of teaching piano to secondary college students as an example to support her arguments. Gipson restructured her studio by organizing twelve students into groups of three. Although each group had students with different levels of playing ability, each student was assigned repertoire based on their reading ability, previous musical study, and semester goal. Instead of having 30-minute private lessons every week, Gipson held small group lessons every three weeks. In the other two weeks, students had their customary 30-minute private lesson. The three primary goals for the small group lessons were: to create an environment in which "students [are held] more accountable for their practice and musical progress between lessons"[53]; to help students develop higher expectations of their performance because Gipson believes all musicians should "perform at a high level of musicianship regardless of the repertoire's difficulty"[54]; and to develop each student into an independent learner who could assess their own progress and make "wise musical decision[s] leading to a more successful musical product."[55]

Gipson asserts that the group learning environment is a natural vehicle in which students can develop musical independence. While students worked independently each week, they also met with their practice partners to assess each other's strengths and weaknesses and offer suggestions for improvement. Gipson found that this motivated students throughout the week. Additionally, the group lesson served as the "due date for meeting specific musical goals that were addressed in weekly private lessons."[56] As a result, students achieved a higher performance

[53] Gipson, 19.

[54] Gipson, 20.

[55] Gipson, 20.

[56] Gipson, 20.

level in the final jury than in the previous semester. Gipson's experiment proves the effectiveness of a cooperative learning environment but does not mention cooperative learning theory to back up her argument. This gap will be addressed in this dissertation by incorporating cooperative learning theory to explain the positive effects of group piano that provide motivational, social, cognitive, and psychological benefits.

Pete Jutras' dissertation, entitled *The Benefits of Adult Piano Study as Self-Reported by Selected Adult Piano Students*, assesses the benefits reported by 711 adult students from 24 states.[57] The category of Skill Benefits was the highest rated category, and 14 Personal Benefits such as self-actualization and fun were also rated highly. Jutras describes the personal benefits of piano study in adulthood and how the benefits and motivating factors are similar to those found by leisure researchers. For the past 25 years, numerous studies outlining the physiological, psychological, sociological, economic, and environmental benefits of leisure activities from sports to participation in arts were conducted by psychologists, sociologists, recreation planners, and leisure researchers. Adult piano students' motivational factors can be organized into three broad groups which are consistent with categories of benefits identified by leisure researchers: personal factors, skill-related factors, and social/cultural factors.[58] Personal motivational factors include self-esteem, personal pleasure, the experience of joy and happiness.[59] Skill-related factors include the enrichment of musical knowledge, the development of musical talent, and the improvement of skill. Social benefits include socialization, shared accomplishment, group interaction, social improvement, and social relationships.[60]

[57] Jutras, "Benefits of Adult Piano Study."

[58] Jutras, 10.

[59] Jutras, 10.

[60] Jutras, 10.

Some of the benefits found in leisure activity research and in adult piano classes are also listed by cooperative learning theorists. Many of the benefits found in group adult piano similarly apply to beginning group piano for children. This parallel comparison will be used to underscore the benefits of children's group piano class in tandem with private lessons. My dissertation will address this gap by highlighting the advantages of cooperative learning in group piano and recommending further research.

Brenda Wristen's article "Demographics and Motivation of Adult Group Piano Students" discusses the goals, attitudes, and motivational factors for adult students in piano study.[61] More adult students are participating in leisure and social activities as human longevity has increased. Some adult students may have received music education as children or adolescents, while some may be approaching piano instruction for the first time. Wristen states that most adult students are highly motivated to pursue their interest as a form of self-fulfillment and pleasure, but there are also high drop-out rates because they find playing piano more difficult than anticipated. To prevent early termination of lessons and help motivate adult students, Wristen suggests incorporating singing, rhythmic movement, playing by ear, and improvisation in addition to the fundamentals of instrumental technique. She recommends that teachers need to set up realistic expectations for adult students, offer clear and concise instruction, and give frequent and honest feedback.

Adults often prefer leisure activities in the context of social settings, and participating in group music-making is a strong motivating factor for adults to continue in music study.[62] Myers reported that in the context of group learning, stronger students often motivate the rest of the

[61] Wristen, "Demographics and Motivation," 1-31.

[62] Wristen, 9.

group, and individual motivation stems from the excitement created from a class.[63] Adult students are willing to go beyond their comfort zone because they know that they have a group that is willing to do the same. Once again, the benefits reported by adult piano students in the surveys conducted by Wristen and Jutras correlate to the benefits of cooperative learning theory. These reports will be used to examine the positive effects of group piano study for beginner level students.

Books, Journals, Articles, and Research on Motivation

Angela Duckworth's *Grit: The Power of Passion and Perseverance* argues that success does not result from talent alone, but from special passion and perseverance, or what she calls "grit."[64] Duckworth states that people often have hidden prejudice against those who have succeeded, thinking that they achieved something not because they worked for it, but because they are naturally talented. Talent, however, only helps to quickly improve the skill when individuals put in effort, and achievements are made when skill is combined with effort. Duckworth applies sociologist Dan Chambliss's quote:

> Superlative performance is really a confluence of dozens of small skills or activities, each one learned or stumbled upon, which have been carefully drilled into habit and then are fitted together in a synthesized whole. There is nothing extraordinary or superhuman in any one of those actions; only the fact that they are done consistently and correctly, and all together, produce excellence.[65]

Grit involves perseverance as well as enjoyment; Duckworth notes that no individual will work "doggedly" on something they do not find intrinsically interesting.[66] Some might argue that

[63] Wristen, 9.

[64] Angela Duckworth, *Grit: The Power of Passion and Perseverance* (New York: Scribner, 2016).

[65] A. Duckworth, 36.

[66] A. Duckworth, 106.

loving the activity does not mean that you will be great at that particular activity. Duckworth agrees that even the development of interest requires effort and practice. Especially at an early age, individuals rarely care about improvement; they think about the current moment, rather than projecting years into the future. Therefore, making the initial learning experience pleasant and rewarding is critical so that young students have fun and build intrinsic motivation. Later, deliberate practice becomes a habit that leads to "flow," which psychologist Csikszentmihalyi describes as a highly enjoyable state that skilled people experience during performance.[67]

Assuming that this psychological theory applies to all students, the initial learning experience is highly important. It follows, then, that teachers should aim to maintain students' interest in order to motivate them to continue learning. For students to improve, they must put in effort; for them to put in effort, they should first enjoy the activity. Group learning provides a social setting where students interact with friends, learn through fun group activities, and develop their skills through practice time. This provides a pleasurable learning experience that develops intrinsic motivation as well as life-long social skills.

Mindset: The New Psychology of Success, by Carol S. Dweck, describes the growth mindset that people need to have in different areas of life such as parenting, business, school, and relationships.[68] Dweck defines a growth mindset as a "belief that your basic qualities are things you can cultivate through your efforts, your strategies, and help from others."[69] People have different talents, aptitudes, interests, and temperaments, but she believes everyone can change and grow through application and experience. Dweck states that children with a fixed mindset

[67] A. Duckworth, 129.

[68] Carol S. Dweck, *Mindset: The New Psychology of Success* (New York: Ballantine Books, 2006).

[69] Dweck, 7.

only care about success. On the other hand, for those who have a growth mindset, success is about stretching themselves and striving towards becoming smarter.[70]

Dweck asserts that praising children's intelligence and talent will give a temporary boost in confidence and motivation but will ultimately lower their confidence and motivation when they encounter difficulties. For children with a fixed mindset, success equates to intelligence and failure to a lack of intelligence. Parents should teach their children to love challenges, be intrigued by mistakes, enjoy effort, seek new strategies, and keep on learning.[71] By doing so, they are learning life-long methods for building and repairing their confidence and boosting their self-esteem. Children need to learn that "skills and achievement come through commitment and effort."[72]

The group learning environment allows students to be engaged in challenges in a cooperative setting where they solve problems through sharing and discussion. Similar to the adult piano group setting, beginning piano students may experience decreased anxiety and stress about new challenges they are facing because they have their peers to support them. Group activities help them to acquire knowledge as well as to develop social skills and other life-long skills as they strive to overcome challenges.

J. Christopher Roberts' article "Situational Interest of Fourth-Grade Children in Music at School" identifies the characteristics of common elementary music class activities that draw situational interest.[73] Lessons containing kinesthetic activity, self-efficacy, challenges, and

[70] Dweck, 17.

[71] Dweck, 180.

[72] Dweck, 182.

[73] J. Christopher Roberts, "Situational Interest of Fourth-Grade Children in Music at School," *Journal of Research in Music Education* 63, no. 2 (2015): 180-197, https://doi.org/10.1177/0022429415585955.

creativity may enhance children's interest, leading to increased participation and improved performance outcomes. Roberts divides interest into two main subcategories: individual interest and situational interest.

> Individual interest refers to a relatively enduring preference for certain topics, subject areas, or activities, one that is slow to develop and, once established, difficult to alter. Situational interest, on the other hand, emerges out of the specific characteristics of the immediate environment and is therefore often temporary.[74]

Individuals' interests evolve over time, and because it is impractical to meet all individuals' interests in a learning situation, educators are often concerned with situational interest.[75] Roberts conducted research with 24 children from one fourth-grade class in the Pacific Northwest. He sought to answer the question, "What were the sources of situational interest for children in one fourth-grade music class?"[76]

He found that fourth-grade boys and girls both showed and expressed a greater interest in activities that were new over those that were familiar. The least interesting activities stated by the students were those done repeatedly in class. He concluded that repetition is key to improvement but may decrease students' interest. Children were also engaged in activities involving physical movement. Roberts witnessed that children "threw themselves into activity with vigor, singing strongly and excitedly while playing a rock-scissors-paper game with a partner" during an active singing game.[77] Previous research by Temmerman and Mizener supports Roberts's findings: music class activities containing movement were the most preferred music class activities by preschoolers and that children in third through sixth grades preferred games that involved more

[74] Roberts, 181.

[75] Roberts, 181.

[76] Roberts, 183.

[77] Roberts, 189.

movement over those with less.[78] Students were more engaged in the musical activities that required movement, such as drumming or playing an instrument, over those that restricted movement, such as singing.

Roberts's research notes that creative activities prompted fourth-grade students to be more engaged in the class. When creativity was incorporated into activities that were initially less desirable, interest was often heightened. Roberts states that there is no literature supporting creativity as a means to heightened situational interest, but "offering children choices in their learning has been found to elicit interest due to an increased sense of ownership over the activity".[79] Active learning can refer to activities that require physical movement as well as activities that require mental work. Providing more choices for students to incorporate creativity into activities encouraged them to engage in higher-level thinking. Group piano study engages students in creative activities as well as other activities that require more student involvement. Roberts's article is relevant to this dissertation because it underscores how the group learning environment increases the motivation needed for students to continue their music study.

The article "Children's Satisfaction with Private Music Lessons," by Nora Rife et al., asserts that feelings of satisfaction are key to learning because they provide motivation for students to continue their participation in music study.[80] Their research aimed to study factors related to satisfaction with private music lessons from a child's perspective by studying a sample of 568 children from the ages 9 to 12. Voluntary youth activities, both musical and non-musical, promote positive development by providing needed challenges, concentration, and intrinsic

[78] Roberts, 189.

[79] Roberts, 192.

[80] Nora A. Rife et al., "Children's Satisfaction with Private Music Lessons," *Journal of Research in Music Education* 49, no. 1 (2001): 21-32, https://doi.org/10.2307/3345807.

motivation.[81] However, children who lack intrinsic motivation may experience challenges in these activities. Therefore, feelings of satisfaction are essential in learning because they act as positive reinforcement for intrinsic motivation, ultimately leading to positive skill development. Nora Rife et al. support this argument by citing the sample collected by Duke, Flowers, and Wolfe (1997), in which 951 children cited personal pleasure as a benefit of piano study. The authors argue that for maximum success to occur, by which they mean the development of personal skills and attainment of personal pleasure, music instructors should acquire knowledge about satisfaction from a child's perspective.

In the survey the authors conducted, children expressed pleasure and fun as important for music lesson satisfaction. The authors suggest that children who liked to practice were overall more satisfied with their lessons than those who did not like to practice. Their Music Lesson Satisfaction Scale (MLSS) demonstrates that, for students to continue taking private lessons, the following components must be present: fun lessons, interesting music, enjoyable improvement, and a likeable teacher. Furthermore, students must receive encouragement from parents and friends. The authors also note that children enjoyed playing duets with their teachers and teachers can use this as a means to increase children's playing time.

Group study provides non-threatening performance opportunities. By sharing music in a supportive environment, students feel satisfied by accomplishing a task. Group study also motivates individuals to practice so that they can share more music with their friends. And more practice, of course, leads to improvement. The dissertation will explain how group activities provide satisfaction and cultivate enthusiasm about learning among beginning level students.

[81] Nora A. Rife et al., 22.

CHAPTER 3
BENEFITS OF COOPERATIVE LEARNING

Many scholars have noted the importance of cooperative learning and how it might pertain to students' learning as explored in Chapter 2. The following chapter will further discuss the benefits of cooperative learning, but specifically in motivational, psychological, cognitive, and social perspectives. Each benefit will be explained and supported by research and studies listed in Chapter 2 along with additional literature. This chapter will also discuss how motivational, psychological, cognitive, and social benefits of cooperative learning could occur in group piano.

Motivational Benefits

Motivation has been cited as one of the dominant predictors of student academic achievement and is recognized as one of the most important educational challenges.[82] Costa-Giomi, Flowers, and Sasaki have suggested that lowered motivation and diminished achievement are the clearest indications that a student is likely to drop out of piano lessons.[83] When comparing children who dropped out of lessons with those who continued for three years, they found no differences in cognitive abilities, musical abilities, motor proficiency, self-esteem, and demographic factors. The difference they found was that students who continued were more persistent in lesson attendance, practice, and homework completion in the first six weeks of

[82] Roy M. Legette, "In-Service Teacher Beliefs about the Causes of Success and Failure in Music," *Bulletin of the Council for Research in Music Education* 192 (Spring 2012): 75, https://doi.org/10_5406/bulcoursemusedu.192.0075.

[83] Eugenia Costa-Giomi, Patricia J. Flowers, and Wakaha Sasaki, "Piano Lessons of Beginning Students Who Persist or Drop out: Teacher Behavior, Student Behavior, and Lesson Progress," *Journal of Research in Music Education* 53, no. 3 (Autumn 2005): 237.

instruction than their peers who dropped out. According to Nora Rife et al., students should have feelings of satisfaction when learning because they provide motivation for students to continue their participation in music study.[84] Similarly, Duke agrees that instructors should acquire knowledge about satisfaction from a child's perspective to develop personal skills and attain of personal pleasure.

Most students begin their lessons willingly, even enthusiastically, yet many discontinue their lessons before reaching a level of accomplishment that would provide the musical independence and satisfaction to which they aspire due to lack of satisfaction of personal skill and enjoyment.[85] Duke's research provides a sample of 951 students' and parents' perceptions of piano study: while most students and parents generally had positive attitudes towards piano study, only 24% of parents and 25% of students who take piano lessons believed that piano study is necessary. Furthermore, 46% of parents and 40% of students specified that piano study is not necessary for all, and 20% of parents and 30% of students indicated that they do not know if piano study is necessary for all students.[86] Parents frequently indicate that the student's enjoyment of lessons is the determining factor for continuing with their piano studies, and therefore instructors should provide a learning environment that provides growth and valuable musical and technical guidance. Duke also states that most students will stop taking piano lessons at some point unless they are among the few who pursue it as a career.[87] But realistically,

[84] Nora A. Rife et al., "Children's Satisfaction with Private Music Lessons," *Journal of Research in Music Education* 49, no. 1 (2001): 21-32, https://doi.org/10.2307/3345807.

[85] Costa-Giomi, Flowers, and Sasaki, 235.

[86] Robert Duke, Patricia J. Flowers, and David E. Wolfe, "Children Who Study Piano with Excellent Teachers in the United States," *Bulletin of the Council for Research in Music Education,* no. 132 (1997): 64.

[87] Duke, Flowers, and Wolfe, 61.

how many of our students would pursue music as a career? How can we motivate all students to continue learning music so that they reach a level of musical independence?

Many instructors and parents have used competition as a source of motivation. While competition might be an effective motivational source for some students, it might not be the best for all. Researchers have found that competition often does not have an impact on achievement and motivation.[88] The competitive drive that many consider a part of our "human condition" may be based on familiarity, tradition, or pressure from others more than it is a personal or internal need. Furthermore, emphasizing competition may cause students to rely more on social comparison than teacher feedback, believe that their ability is fixed and unchangeable, and give up easily after repeated failure.[89] Believing that their skills are fixed would prevent students from developing their ability level through their own efforts. Conversely, Hendricks, Smith, and Stanuch insist that students should perceive musical ability as a skill that can be developed so that they understand that effort will be rewarded by increased mastery, rather than the merits of an isolated competition.[90] Carol S. Dweck also highlights the importance of growth mindset, the belief that your basic qualities can be cultivated through your effort and help from others. Children will learn a life-long method for building and repairing their confidence and boosting

[88] James R. Austin, "Competitive and Non-competitive Goal Structures: An Analysis of Motivation and Achievement among Elementary Band Students," *Psychology of Music* 19, no. 2 (1991): 142-48; Charles P. Schmidt, "Relations among Motivation, Performance Achievement, and Music Experience Variables in Secondary Instrumental Music Students," *Journal of Research in Music Education* 53, no. 2 (2005): 134-37; and Walter P. Visopoel and James R. Austin, "Constructive Responses to Failure in Music: The Role of Attribution Feedback and Classroom Goal Structure," *British Journal of Educational Psychology* 63, no. 1 (1993): 110-29.?

[89] Hendricks, Smith, and Stanuch, "Creating Safe Spaces," 36.

[90] Hendricks, Smith, and Stanuch, 35.

their self-esteem by being intrigued by mistakes, enjoy effort, seek new strategies, and keep on learning.[91]

Learning in a competitive environment can foster anxiety and fear, which may lead to performance anxiety and hinder creativity and expressiveness. The anxiety produced in competitive situations may also interfere with students' abilities to learn. Mihalyi Csikszentmihalyi suggests that true enjoyment is lost when the focus is on beating the opponent rather than on personal achievement. He states:

> The challenges of competition can be stimulating and enjoyable. But when beating the opponent takes precedence in the mind over performing as well as possible, enjoyment tends to disappear. Competition is enjoyable only when it is a means to perfect one's skills; when it becomes an end in itself, it ceases to be fun.[92]

Competitions may bring personal pleasure and enjoyment in certain conditions but may interfere with experiencing true enjoyment and satisfaction of increased personal skill, which is one of the important factors that students discontinue with their music study.

While competitions can quash interest, humans can be motivated via an internal process that leads to goal-directed behavior. Psychologist Michael Thompson has suggested that the best way of learning is when students have their own biologically driven desire to learn.[93] Similarly, the educational writer Jessica Lahey has argued that "human beings are more likely to stick with tasks that arise out of their own free will and personal choice."[94] One of the ways of getting

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[91] Dweck, 180.

[92] Teresa M. Amabile, "Within You, Without You: Towards a Social Psychology of Creativity and Beyond," in *Theories of Creativity,* ed. Mark A. Runco and Robert S. Albert (Newbury Park: Sage, 1990), 50.

[93] Michael Thompson, "Childhood Development and Early Learning," in *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation,* eds. LaRue Ellen and Bridget B. Kelly (National Academies Press, 2015).

[94] Jessica Lahey, *The Gift of Failure: How the Best Parents Learn to Let Go So Their Children Can Succeed* (New York: Harper Collins, 2015).

students to stick with tasks is by assigning interesting, fun, and intriguing activities. Sometimes the joy of these activities will allow students to continue with learning and give motivation to practice. Especially at an early age, individuals rarely care about improvement; they think about the current moment, rather than projecting years into the future.[95] Therefore, instructors should make the initial learning experience pleasant and rewarding so that young students have fun and build intrinsic motivation.

Similarly, Richard Chronister states the important role of an instructor in *The Piano Teacher's Legacy*. He states that the teacher should be a wise guide and reliable witness by "finding ways to help students teach themselves something they want to learn."[96] These arguments are supported by Gary McPherson's long-term study conducted in 1997.

> His study analyzed the musical development of 157 randomly selected children, who hadn't learned an instrument. He followed the children from a few weeks before they chose their instrument through high school graduation. Through his experiment, he found that progress was not determined by any measurable aptitude or trait, but by a "tiny, powerful idea that a child had before even starting lessons." He came to the conclusion that skills improve dramatically when long-term commitment is combined with high levels of practice.[97]

Chapter 4 outlines some group activities that might help students remain motivated in their learning.

Contrary to the popular belief that talent is not everything, many believe great musicians are born with intrinsic talent that not everyone can reach. Furthermore, enjoyable activities can promote consistency and effort, which is crucial to learning. Carol S. Dweck explains that skills

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[95] A. Duckworth, 106.

[96] Richard Chronister, *A Piano Teacher's Legacy,* edited by E. Darling (New Jersey: The Frances Clark Center for Keyboard Pedagogy, Inc., 2005).

[97] Daniel Coyle, *The Talent Code: Greatness Isn't Born. It's Grown. Here's How* (New York: Random House Publishing Group, 2009).

and achievement come with commitment and effort.[98] Although a student may be gifted, he or she may not improve if they do not have the desire to improve. Similarly, Angela Duckworth also disagrees with the belief in intrinsic talent leads to high levels of achievement. She argues that one must make an effort to gain skill. Once the skill is gained, it needs to be combined with effort in order to reach achievement (Figure 1). If a child is musically gifted but does not make an effort to practice, the child might not gain musical skills. Effort is thus key to gaining skill and achievement. Duckworth also highlights the importance of long-term commitment. Long-term commitment combined with high levels of practice results in the improvement of musical skills that allow the student to reach a high level of accomplishment.

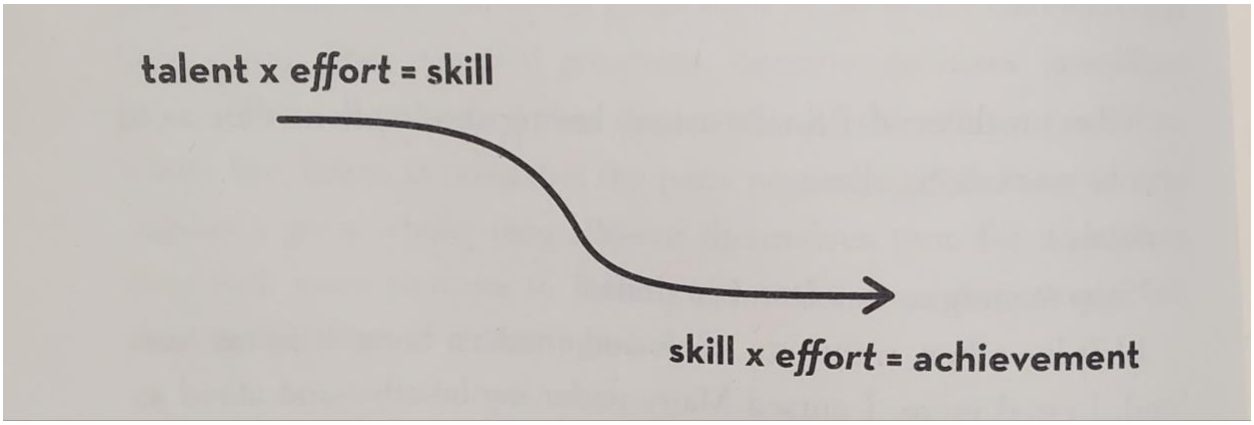

Figure 1. Skill Is Gained through Effort. Skill and Effort Need to Be Combined to Reach Achievement[99]

[98] Dweck, *Mindset*, 182.

[99] A. Duckworth, *Grit,* 42.

In other words, commitment to an instrument is critical in musical study. For students to have a long-term commitment, they need continual motivation. Instructors should therefore know where their students are in terms of skills and consider their learning types to elevate their passion for music. Frances Clark once said, "Meet the students where they are, not where you are, not where you want to be, but where they really are." She adds that successful teachers' first goal should be to help students "grow by and for themselves,"[100] and put them in a "student-centered" learning environment, as opposed to "teacher-centered."[101] In teacher-centered lessons students become reactive participants. Having a perfect lesson plan is only a fragment of preparing for a lesson, but it does not mean the lesson itself will be perfect. How do teachers know if actual learning is happening? Does listening and doing what was taught mean that students are learning? Spoon-feeding students with information less likely make them learn. Teachers must provide a learning environment that challenges students to be active, responsible, and have ownership of the learning process.

For students to learn and utilize what they have learned, the teacher needs to become a facilitator rather than a lecturer. Cooperative learning provides a student-centered learning environment in which all group members are actively involved in every stage of the learning process, allowing students to grow by and for themselves. All the participants must take an active role to accomplish the group goal through their cooperative efforts. When group members strive for the group's success, group goals are accomplished as well as each member's personal goals. Slavin states that group members must help their group mates to do whatever helps the

[100] Frances Clark, "Thoughts and Attitudes about Teaching," in *Questions and Answers: Practical Advice for Piano Teachers,* ed. Louise Goss (Northfield: The Instrumentalist Company, 1992), 6.

[101] Elvina Pearce, "How We Teach," in *The Success Factor in Piano Teaching: Making Practice Perfect,* ed. Craig Sale (Kingston: The Frances Clark Center for Keyboard Pedagogy, 2014), 15.

group to succeed and, perhaps even more importantly, to encourage their group mates to exert maximum efforts to meet their personal goals.[102] By working together, students become motivated to complete the task, discover new ways of solving problems, and, most importantly, personalize the material learned.

Student-centered learning should occur in both private and group settings. However, there might be a limit on what the instructor can offer to students in a private setting. While instructors can give full attention to one child in a one-on-one instruction format, this format might have limits in offering the diverse activities that promote consistency and effort of the students. Cooperative learning allows instructors to create diverse creative group activities that reinforce the material, activities that encourage situational interest, and activities that allow students to discover new ideas through group discussion. One of the pedagogy students of Frances Clark, Elvina Pearce highlights the importance of the discovery:

> Students learn not by being told but rather by discovering for themselves and experiencing the meaning of the concepts being presented. Therefore, teachers should create an environment where students need whatever new information is to be presented and create lessons, which will enable them to discover and experience for themselves those things that are important for them to learn. [103]

With the proper guide of instructors, students are able to discover new ideas during cooperative learning, new ideas that are discovered through their own effort, and that meets their interest.

According to Jean Piaget, children are constantly challenged by new situations and experiences due to their insatiable curiosity. They love to explore, discover new things, and learn how those things operate. Some students might have started learning piano because they can

[102] Slavin, "Research on Cooperative Learning," 44.

[103] Pearce, "How We Teach," 13.

produce sound with it instantly, allowing them to explore their musical curiosity unhindered.[104] Fisher states that children are naturally musically gifted and express their emotion through dancing, marching, drumming to music, or singing along to music. [105]. Repetition is a key to improvement but may decrease students' motivation. To prevent loss of motivation due to lack of discovery, experience, satisfaction, and appropriate challenges, instructors should provide new and creative activities that trigger students' curiosity and give them space to discover through their own efforts.

Group piano allows students to experience creative and active group activities. Lessons containing kinesthetic activity, self-efficacy, challenges, and creativity enhance children's interest, encouraging greater participation by avoiding monotonous presentation of the material. The reinforcement of materials is critical for students to improve. The same concepts should be introduced multiple times for students to be able to internalize and utilize them. Although topics covered in a class might not meet all students' interests, instructors can motivate students with situational interest. Creative group activities involving craft, physical movement, singing, and cooperative mental work develop motivation. Instructors can sustain students' attention through captivating activities and effective lessons, and by providing a motivational learning experience. When they participate in fun activities, students are more likely to put in effort, which will in turn be rewarded with increased mastery. Once they know that they have improved and are good at something, they feel rewarded. This process develops their intrinsic motivation.

Many believe that success comes from consistency and passion. For students to continuously put forth effort, they need continuous motivation. For them to have continuous

[104] Fisher, *Teaching Piano*, 175.

[105] Fisher, *Teaching Piano*, 175.

motivation, they first need to enjoy the activity. Group learning can provide a fun learning environment where students are given opportunities to develop their skills through creative learning, work in a safe learning environment where they learn through appropriate challenges, and, most importantly, train to discover new ideas through their own effort and through cooperative efforts.

Psychological Benefits

Needless to say, motivational benefits largely correlate to psychology. There are three ways of structuring learning environments: cooperatively, competitively, and individualistically.[106] As mentioned above, cooperative learning is based on small group learning in which students work together cooperatively to maximize their own learning and influence others' learning as well. Johnson argues that individuals in cooperative settings seek outcomes that are beneficial to themselves and beneficial to all other group members. In competitive learning contexts, students work against each other to achieve excellence. Johnson gives the example of academic settings in which a student strives for a grade of "A" that only few students can attain. Individuals in these settings seek outcomes that are beneficial to themselves but less so for other group members. In individualistic learning, a student works by themselves towards personal goals that are unrelated to others in the group. Individuals in this setting seek outcomes that are beneficial to themselves but not to other group members.

The study of cooperative, competitive, and individualistic efforts is one of the oldest fields of research in U.S. social psychology. Deutsch notes that groups that practice positive interdependence (cooperation) are characterized by promotive interaction, where students promote each other's success. Negative interdependence (competitive), on the other hand, results

[106] Johnson and Johnson, "Impact of Cooperative," 2.

in oppositional interaction, where students block each other's effort to succeed. Deutsch furthermore states that, depending on how students interact, there are varying degrees of substitutability (the degree to which actions of one person can substitute for the actions of another person), cathexis (an investment of psychological energy in objects outside of oneself, such as friends, family, and work), and inducibility (openness to being influenced and to influencing others).[107] Figure 2 below summarizes how interactions affect students' psychology. As shown in the diagram, students that cooperate (positive interdependence) invest in promotive interaction and are influenced by one another's positive emotions. Such students develop positive relationships with their group mates, which results in positive psychological health. Students that are in a competitive situation (negative interdependence) have negative emotions towards each other and do not influence one another. This results in negative relationships and moderate psychological health. Positive interdependence motivates students to try harder while also facilitating the development of new insights and discoveries, and the more frequent use of higher-level reasoning strategies.[108]

Cooperative learning has its roots in social interdependence theory. Kurt Lewin stated that the essence of a group is the interdependence among members created by common goals, and an intrinsic state of tension amidst group members, which motivates them to accomplish the desired common goals.[109] One of Lewin's graduate students, Morton Deutsch, later extended

[107] Morton Deutsch, "A Theory of Co-operation and Competition," *Human Relations* 2, no. 2 (April 1949): 129-152.

[108] Johnson and Johnson, "Educational Psychology Success Story," 366.

[109] David W. Johnson, Roger T. Johnson, and K. Smith, "Cooperative Learning: Improving University Instruction by Basing Practice on Validated Theory," *Journal on Excellence in College Teaching* 25, no. 3 and 4 (2014): 88.

Lewin's formulation of social interdependence theory. Deutsch conceptualized three types of social interdependence:[110]

1. Positive interdependence (cooperation) exists when individuals' goal achievements are positively correlated; individuals perceive that they can reach their goals if and only if the others in the group also reach their goals
2. Negative interdependence (competition) exists when individuals' goal achievements are negatively correlated; each individual perceives that when one person achieves his or her goal, all others with whom he or she is competitively linked fail to achieve their goal
3. No interdependence occurs when a situation is structured individualistically, so that there is no correlation among participants' goal attainments; each individual perceives that he or she can reach his or her goal regardless of whether other individuals attain or do not attain their goals.

The application of social interdependence theory in education has become one of the most successful and widespread practical applications of social and educational psychology.[111] Promotive interaction in the accomplishment of group goals provides several positive benefits. Helping, sharing, and encouraging one another to succeed helps students to act in trusting and trustworthy ways, provide efficient and effective help, assume responsibility, and experience less anxiety and stress.[112] Personal responsibility is increased when students are involved in each other's learning. When students lack personal responsibility, or when there is lessened responsibility for the final outcome, they may reduce their contributions to goal achievement.

[110] Deutsch, "Theory of Co-operation and Competition," 129-152.

[111] Johnson and Johnson, "Educational Psychology Success Story," 365.

[112] Johnson and Johnson, 368.

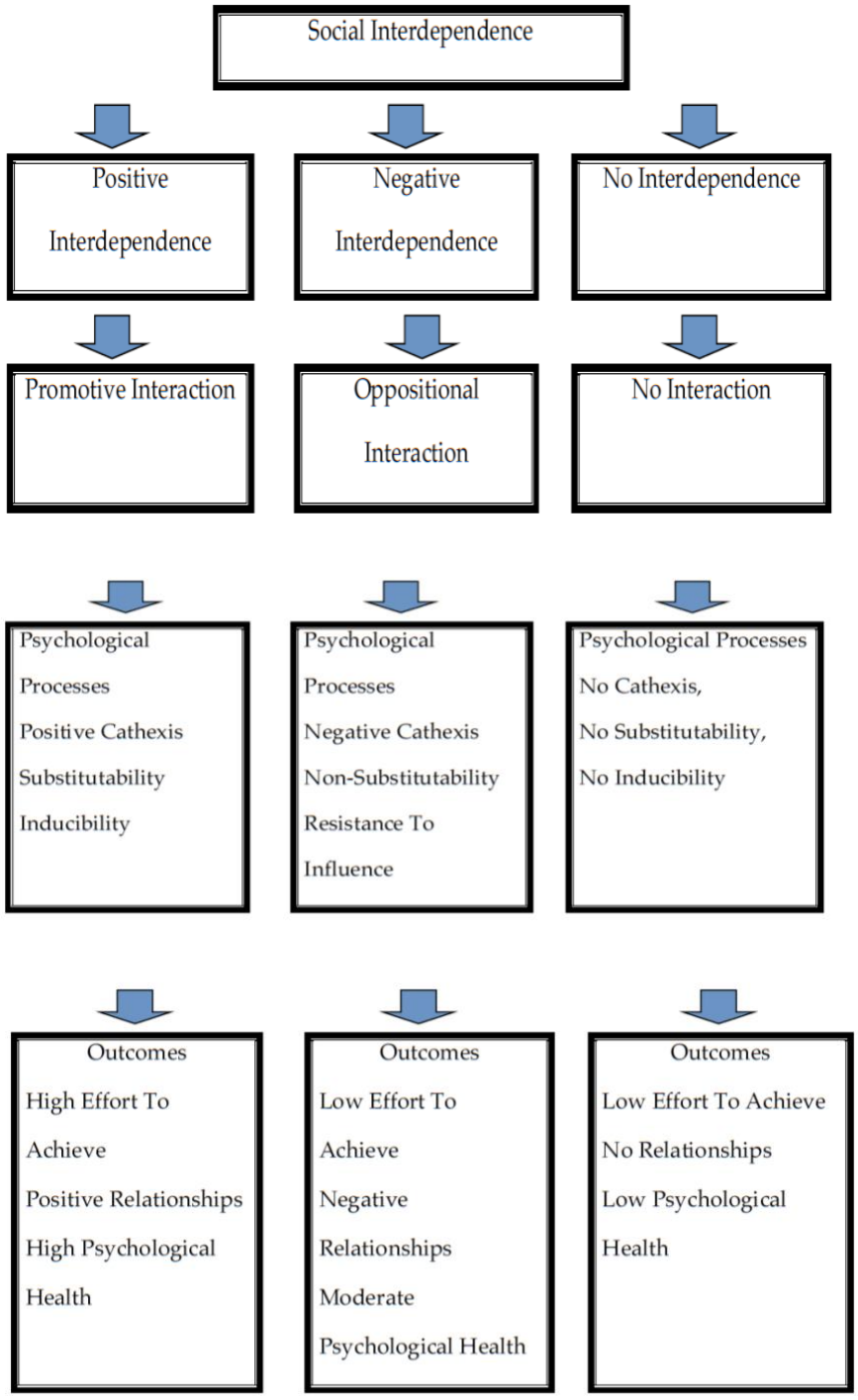

Figure 2. Overview of Social Interdependence Theory[113]

[113] David W. Johnson, Roger T. Johnson, and E.J. Holubec, *Cooperation in the Classroom* (Edina: Interaction Book Company, 2008).

David and Roger Johnson argue that cooperative processes, as opposed to competitive ones, lead to greater group productivity, better psychological health, and higher self-esteem.[114] They have conducted research measuring the relationship between social interdependence and psychological health.[115] Participants in the study included university individuals, older adults, suburban high school seniors, juvenile and adult prisoners, step-couples, Olympic hockey players, and Chinese business managers. The results indicate that there was greater psychological health in the groups who valued cooperation than those with a competitive or individualistic format. They found that cooperativeness is positively related to emotional maturity, positive social relations, strong personal identity, self-confidence, higher self-esteem, basic trust and optimism about people, independence and autonomy, and increased skills in taking different perspectives.[116] Competitiveness did have some positive effects, but was negatively related to psychological health, including condition self-esteem and egocentrism.

Another study conducted by Norem-Hebeisen and Johnson in a Midwestern suburban community with 821 white, middle-class, high school seniors concluded that, in cooperative experiences, individuals see one another in a positive way—as capable, competent, and successful people.[117] On the other hand, in competitive experiences, individuals experienced conditional self-esteem that was dependent on the results of the competition, and this led to basic self-rejection. They concluded that the positive results in cooperative experiences are due to the

[114] David W. Johnson and Roger T. Johnson, *Cooperation and Competition: Theory and Research* (Edina: Interaction, 1989).

[115] Johnson and Johnson, "Educational Psychology Success Story," 365-379.

[116] Johnson and Johnson, 372.

[117] Johnson and Johnson, 372.

values inherently taught by cooperative efforts, which include participating in the group for the success of oneself and others, reaching for common goals, and having a perspective that promotes the success of others. Competitive experience may teach one to defeat others in order to attain one's success and to see winning as important, even if it obstructs others' success. Individualistic experiences teach us to be ignorant of others' well-being. The researchers added that in all of these experiences, conflict among individuals will likely occur. The main difference is that, in cooperative situations, conflict occurs over the groups' common goal, whereas in competitive situations conflicts occur over who will win or who will lose.

An important aspect of psychological health is self-esteem.[118] Table 2 shows Johnson and Johnson's comparison of cooperative, competitive, and individualistic learning settings. Cooperative experience promotes higher self-esteem than competitive experiences (effect size = 0.58) and individualistic experiences (effect size = 0.44). Similar results are shown in the high-quality studies (effect size = 0.67 and 0.45, respectively). When students work cooperatively, it tends to increase their self-confidence and autonomy. By sharing ideas and solving problems together, they learn to cope with adversity and stress. Having supportive peers in a cooperative setting reduces anxiety and builds confidence, as students know that they have colleagues to work with and that others want them to participate. Slavin found that students in cooperative settings had more positive feelings about themselves than they did in traditional classrooms because, as they cooperate to achieve group goals, they feel accepted and have positive feelings about their own self-worth and their learning experience.[119] When students view each other as

[118] Johnson and Johnson, 372.

[119] Robert Slavin, "Cooperative Learning and the Cooperative School," *Education Leadership* 45, no. 3 (November 1987): 7-13.

competent colleagues, rather than competitors, interpersonal relationships improve. As the group members work cooperatively to reach their common goal, low achievers gain alongside high achievers, resulting in an increase in self-esteem.

Table 2. Mean Effect Size for Impact of Social Interdependence on Dependent Variable[120]

Dependent Variable	**Cooperative vs. Competitive**	**Cooperative vs. Individualistic**	**Competitive vs. Individualistic**
Achievement	.67	.64	.30
Interpersonal attraction	.67	.60	.08
Social support	.62	.70	–0.13
Self-esteem	.58	.44	–0.23
Time on task	.76	1.17	.64
Attitudes towards task	.57	.42	.15
Quality of reasoning	.93	.97	.13
Perspective taking	.61	.44	–.13
High-quality studies			
Achievement	.88	.61	.07
Interpersonal attraction	.82	.62	.27
Social support	.83	.72	–.13
Self-esteem	.67	.45	–.25

Students' attitude toward a particular subject also improves as their self-esteem increases. David and Roger Johnson and Smith found that a cooperative environment in biology class empowered the students and increased their belief that they could succeed in the course.[121] They found that improvements in psychological health increased students' academic self-conception

[120] Johnson and Johnson, *Cooperation and Competition*.

[121] David W. Johnson, Roger T. Johnson, and K. Smith, *Active Learning: Cooperation in the College Classroom* (Edina: Interaction Book Company, 1991).

and self-efficacy, as well as their ability to deal with uncertainty, commit to goals, and understand their own interests and needs.[122] Group discussion on a particular subject made students more accepting of diversity among students and also benefited both lower- and higher-level students: lower-level students benefit by modelling higher-level students, and higher-level students benefit by helping the other students. Through this process, students become their own teacher, discovering what they know and what they need to know.

The primary goal of activities in group piano is to provide musicianship skills so that students can use them when they practice, have private lessons, and play in their leisure time. Students in group piano work cooperatively to attain musical skills and achieve success for the whole group, rather than competitively to achieve an "A" grade for themselves. During this process, the group members are psychologically connected and help each other move through the learning process. Their participation is valued regardless of their skill level, and group activities rarely aim to separate winners from losers. Creating a competitive environment in a group class should be rare because it creates self-worth protection, self-handicapping behaviors, and defensive pessimism. Self-worth protection involves withholding efforts so that failure can be attributed to not trying rather than to incompetency. Self-handicapping involves creating an impediment to one's performance (e.g., unrealistically high expectations) so that an excuse is read if one fails. Defensive pessimism involves unrealistically low (a) expectation for succeeding and (b) value of task, so that anxiety about succeeding is minimized.[123]

While students learn from each other in group settings, a competitive environment can still form as a result of human nature. It is the instructor's duty to ensure that all members

[122] Johnson, Johnson, and Smith, "Cooperative Learning," 101.

[123] Johnson and Johnson, "Educational Psychology Success Story," 370.

experience a positive learning experience by generating constructive competition. Instead of perceiving a task as a means to determine winners or losers, the aim of competition should be to complete a task effectively by encouraging all members' participation and provide a space where students of different levels can cooperate to overcome challenges. Competition should not be encouraged on a one-to-one basis and instructors should ensure social support. Students thus learn that value is beyond winning, and work towards strengthening their relationships with others. They become more willing to take on more tasks and enjoy challenging tasks, thereby improving morale.[124] David and Roger Johnson describe that competition tends to be more constructive when:

a. Winning is relatively unimportant. Too much focus on winning results in high anxiety which interferes with performance. If winning is too important, losing promotes the development of competition-learned helplessness and perceiving their performance as failure. If winning is too important, winning can promote the development of psychological burnout
b. All participants have a reasonable chance to win. Motivation to achieve is based on the perceived likelihood of being able to achieve a challenging goal. Those who believe they cannot win will not try, will cheat, will avoid challenge, and will have less interest in an enjoyment of the experience.
c. Have clear and specific rules, procedures, and criteria for winning. Ambiguity interferes with achievement, as energy is directed toward worrying about what is fair and unfair. [125]

Constructive competition or healthy competition may arise as students actively engage with the activity. To promote healthy musical and psychological growth of the students games and activities should have specific rules and account for the specific role of each student and let each group member have a chance to lead the class. This encourages equal participation of each group member, promoting group discussion and cooperation to achieve a common goal.

[124] Johnson and Johnson, 370.

[125] Johnson and Johnson, 370.

Cooperation allow students to feel less anxious because they have a partner or a group mate to work with towards achieving a challenging goal. There are no winners or losers in group activities, there are students who try to learn more and improve. Winning or losing does not interfere with their self-esteem because (1) everyone will have a chance to win, (2) the act of participating in a group activity and having their voice heard is rewarding, and (3) what matters is not their skills, but rather their attitude towards the subject. Small successes experienced during group activities may increase their self-esteem and positive feelings towards the subject, resulting in satisfaction and greater motivation.

Regular performance in a non-threatening environment is a regular procedure in group study. Performance becomes a natural part of the students' educational process because they have supportive audiences other than their private instructor or family members. Performance is not about who plays with the least number of wrong notes, or who plays a better piece. Listening to others perform helps students develop aural skills while also providing chances to learn from their peers. Performance also helps students to become exposed to a variety of repertoire and discover ways to improve by giving and receiving constructive feedback from their peers. As Costa-Giomi, Flowers, and Sasaki state, young children's achievement may consist of a feeling of accomplishment of small tasks, such as having a complete piece ready to play.[126] Having a piece to play for their peers every week not only increases their confidence in public performance and decreases their anxiety, it also makes them feel rewarded and proud. This positive experience in turn increases their motivation to practice.

[126] Eugenia Costa-Giomi, Patricia J. Flowers, and Wakaha Sasaki, "Piano Lessons of Beginning Students Who Persist or Drop out," 236.

Students with high self-esteem will likely have more positive feelings towards the subject and actively participate to improve their skill. Cooperative learning provides an opportunity for students to develop confidence and self-esteem. Contributing to a common goal and having their efforts recognized enhances positive feelings towards the subject and towards themselves. Cooperative learning teaches students not only to put in their effort as an individual, but also as a group. They learn to help one another, learn value beyond winning, and learn enjoy challenging tasks.

Cognitive/Developmental Benefits

Interaction among students during appropriate tasks develops critical thinking and higher-level reasoning. From a developmental perspective, the effects of cooperative learning on student achievement are largely or entirely due to engaging in cooperative tasks.[127] Group discussion, in which students present, argue, and hear other viewpoints, increases students' achievement and mental processing. Vygotsky posits that collaborative activity among children of similar ages promotes growth because these students are likely to operate within one another's proximal zones of development. He defines a zone of proximal development as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers."[128]

On the basis of this and other findings, Piaget argues that, during cooperative efforts, participants engage in discussion through which cognitive conflicts occur and are resolved, and

[127] Slavin, "Research on Cooperative Learning," 49.

[128] L. S. Vygotsky, *Mind in Society,* eds. M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Cambridge: Harvard University Press, 1978), 86.

in which inadequate reasoning can be exposed and modified.[129] Vygotsky suggests that when group members exchange information, students provide and receive constructive feedback. Through this process, individuals discover weak points in each other's reasoning strategies, correct one another, and adjust their understanding on the basis of others' understanding.[130] Damon has proposed four foundations for a peer-based foundation by integrating the ideas of Piagetian, Vygotskian, and Sullivanian.[131]

a. Through mutual feedback and debate, peers motivate one another to abandon misconceptions and search for better solutions.
b. The experience of peer communication can help a child master social processes, such as participation and argumentation, and cognitive processes, such as verification and criticism.
c. Collaboration between peers can provide a forum for discovery learning and can encourage creative things.
d. Peer interaction can introduce children to the process of generating ideas.

David and Roger Johnson and Stanne examined the relationship between cooperative learning and achievement through four conditions. Forty-eight high-ability Black American high-school students and entering college freshmen at Xavier University were given a complex computer-assisted problem-solving assignment.[132] Students in each condition were given the same task: to sail an ancient ship to the New World and back in search of gold. In this activity,

[129] Johnson and Johnson, *Learning Together*, 39.

[130] Johnson and Johnson, 40.

[131] William Damon, "Peer Education: The Untapped Potential," *Journal of Applied Developmental Psychology* 5 (1984): 335.

[132] Johnson, Johnson, and Stanne, "Impact of Group Processing," 507.

they had to apply their knowledge in deciding what actions to take to solve problems, be able to master map-reading and navigation, and record their decision and give feedback on the consequences of the actions taken on the computer.[133] There were two measures of problem-solving achievement: the distance the ships sailed to the New World and back, and the amount of gold obtained. While students in the cooperative conditions had more group discussion than did those in the individual condition—$F(3, 46) = 7.96$, $p < .01$, and $F(3,46) = 6.75$, $p < .01$, respectively—they also made more progress in sailing their ship to the New World and back, $F(3,46) = 22.41$. Students in all three cooperative conditions obtained significantly more gold than those in the individual condition, $F(3,46) = 3.74$. Moreover, in both tasks, the combination of student- and teacher-led processing resulted in more progression and a greater amount of gold than did teacher-led processing alone or no processing.

This research proves that students achieve higher scores in cooperative conditions, and that a combination of both large and small-group processing results in greater achievement than large-group processing only or no processing. The result also provides evidence that group processing helps to increase individual achievement and group productivity. David and Roger Johnson and Stanne argue that group discussion arouses meta-cognitive thoughts and increases an individual's ability to achieve. They also state that group processing increases students' self-efficacy by directing attention toward skillful cooperative behavior and reducing personal inhibition such as self-doubt and self-preoccupation. Through this process, members gain insight into how to behave more effectively.

William Damon and his colleagues at Texas Christian University have devised a method called "cooperative scripts" for college students that allows them to learn technical material or

[133] Johnson, Johnson, and Stanne, 510.

procedures far better than students working alone. Students take roles as recaller and listener. One student reads a section of text and then the recaller summarizes the information while the listener corrects errors, fills in any omitted material, and helps think of ways both students can remember the main ideas.[134] In this series of studies, Damon and his colleagues found that both the recaller and the listener learned more than students who worked alone. This sort of collaboration between peers may offer a forum for discovery learning and generate new ideas.[135] In other words, students absorbed more material as they cooperated to become their own teachers.

A similar teaching approach can be used in teaching reading comprehension skills. In reciprocal teaching, students must formulate questions for one another based on a narrative or expository text.[136] The effects of this approach on student achievement have been supported by many studies.[137] Students must process the material themselves and learn how to sort out the main ideas of the reading passages. Their learning thus becomes active. In this method, the instructor works with small groups of students and guides them with question generation and summarization. The instructor then turns over responsibility to the students so that students gradually take on more responsibility and carry on activities with each other.

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[134] Damon, "Peer Education: The Untapped Potential," 331-343.

[135] Slavin, "Research on Cooperative Learning," 50.

[136] A. S. Palinscar and A. L. Brown, "Reciprocal Teaching of Comprehension Monitoring Activities," *Cognition and Instruction* 1, no. 2 (2009): 117-175, https://doi.org/10/1207/s1532690xci0102_1.

[137] A. S. Palinscar, "Reciprocal Teaching: Field Evaluations in Remedial and Content Area Reading" (presentation, Annual Convention of the American Educational Research Association, Washington, D.C., 1987); B. Rosenshine & C. Meister, "Reciprocal Teaching: A Review of Research," *Review of Educational Research* 64, no. 4 (1994): 478-530.

Group piano class is a form of study done in small group in which both students and teacher lead the group processing. The instructor facilitates the group discussion and students' participation, and clearly provides procedures and guidance on materials learned. These activities promote interaction between students that raises "ill-structured problems," as Cohen points out.[138] Problems that arise in the activity allow students to exchange resources, request and receive help, debate, all of which develop their cognitive process and motivate them to search for better solutions. Slavin points out that collaboration between peers can provide a forum for discovery learning and encourage creative solutions.[139] While private instruction provides information for students to acquire, group piano class provides an environment for students to explore and apply the information learned and expand their knowledge.

[138] E. Cohen, 4.

[139] Slavin, "Research on Cooperative Learning," 50.

Table 3. Comparison of Dependent Variables Across Conditions [140]

Variable	Student and teaching processing	Teacher processing	No processing	Individual	*F*
Gold	14.17	2.08	6.00	0	3.74**
Final position	5.50	3.92	3.92	2.08	22.41***
Talked over what we were doing	4.08	3.92	4.31	2.83	7.96***
Everyone participated	4.50	3.92	3.85	2.83	6.75***
Teacher gave us feedback	4.42	4.31	2.38	2.67	14.48***
Contributions were valued	3.92	4.00	4.08	2.83	6.12***
Necessity of computers	4.18	4.06	4.03	3.68	1.88
Teacher-student interaction	0.23	0.12	0.19	0.80	2.51*
Student-student interaction	2.26	1.58	2.89	0.55	15.28***

Students' discussion and collaboration creates a less competitive learning environment. When students are placed in an environment in which they are being assessed, not all can perform at their best. Several studies have found that biology classes that emphasize competition for grades create more tension, self-doubt, and anxiety in students than do those in a non-competitive environment.[141] Win-lose situations recognize stronger students only, excluding the

[140] Slavin, "Research on Cooperative Learning," 513.

[141] D. Haines and W. McKeachie, "Cooperative versus Competitive Discussion Methods in Teaching Introductory Psychology," *Journal of Educational Psychology* 58, no. 6 (1967): 386-390.

participation of weaker students. In contrast, cooperative situations foster the participation of both stronger and weaker students. Active involvement of all students allows instructors to pick up interconnective information about students' understanding that they would not have learned in a standard classroom setting.[142] Therefore, instructors have better idea of where their students are, knowing what is needed to fill up the gap.

Learning environments that promote less competition and comparison provide a growing space for students. Lights found that students in small groups spoke more often, asked more questions, and were more engaged in class than those in non-grouped, teacher-directed classes.[143] Students develop critical thinking through the process of defining a newly learned concept in their own language, explaining the concept to their group mates in their own words, and including contrasting ideas within one group idea. Group piano consists of students who possess unique abilities and individual differences. Fisher states that group structure enables all students to learn something from one another, as one student may play by ear with exceptional skill whereas another student possesses outstanding sight-reading ability.[144] Therefore, each student can contribute something meaningful to the group. The act of participating and the cognitive processes involved may become intrinsically rewarding and motivate students to learn.

Exchange of ideas that promote higher-level thinking is facilitiate in a cooperative learning setting. As learning does not happen instantly, parents and instructors constantly have to create a growing space for children. Jean Piaget states that children's cognitive equilibrium is constantly challenged by new situations and experiences. Gordon suggests that children's

[142] Haines and W. McKeachie, 389.

[143] R. Lights, *The Harvard Assessment Seminars* (Cambridge: Harvard University Press, 1990).

[144] Fisher, *Teaching Piano*, 8.

musical aptitude is malleable and expandable through the age of nine, which some researchers argue is that point at which the window of opportunity begins to close.[145] Fisher therefore advises children to engage in music study in early childhood. He views these formative years as a prime time to nurture a love for music and create a musical foundation through instruction. When young students are engaged in cooperative learning that initiates group discussion, achievement and cognitive development will increase as they discover new ideas from one another.

To meet young students' needs, instructors have to understand how children learn. Piaget's four stages of development outline that beginning piano students between five and eight typically fit in preoperational and concrete operational stages. During the preoperational stage, children learn to use words and pictures to represent objects, think symbolically, and think about things in concrete terms. They also struggle with logic at this stage.[146] Piaget describes ages seven through eleven as a concrete operational stage. Children begin to understand the concept of conservation, their thinking becomes more organized and logical but still concrete, and they struggle with abstract ideas.

Young children may need adult guidance on cooperativeness and group contribution. Concepts presented in private lessons or in the group lessons can be personalized as students participate in group discussion under the guidance of the instructor. To provide a growing space for students to learn, instructors should act as guides and promote simple group discussion that encourages the exchange of ideas and the acceptance of diverse perspectives. This can be as

[145] Edwin Gordon, *Learning Sequences in Music: Skill, Content, and Patterns* (Chicago: GIA Publications, 1993).

[146] Saul A. McLeod, "Jean Piaget's Stages of Cognitive Development," *Simple Psychology*, June 6, 2018, https://www.simplypsychology.org/piaget.html.

simple as discussing feelings when listening to music, discussing two syllable words to represent half note, or naming the title of one another's performance pieces after listening to them perform. By doing so, students may learn beyond what the instructor presents as they exchange feedback and adjust their understanding on the basis of others' understanding. They are exposed to a wider variety of possible solutions and are likely to take risks by exploring alternate ways of solving problems.[147] Consequently, cooperative learning fosters a form of discovery learning as opposed to receptive learning.

To maximize young students learning experience, instructors should create group activities that prompt their creativity and logical development. Instructors should incorporate activities such as drawing and musical activities such as singing to help enhance symbolic thinking, which will later develop into logical thinking. Creative teaching that uses colors, pictures, crafting, and simple games helps to teach the same concept in different ways. As students at this age still struggle with logic, instructors should explain what students need to do and how they should do it in concrete terms. The same concept can be introduced with a variety of group activities, such as activities that involve physical movement, craft, singing, and coloring. This gives space for students to internalize and personalize the concepts learned. Participating in fun group activities develops cognitive processes and allows students to have ownership of their learning process.

Cooperative learning provides students exposure to each other's ideas, questions and answers on each other's thoughts, and diverse opinions. Students are given an opportunity to think beyond what the instructor provides. As students cooperate to solve group challenges, they

[147] Fisher, *Teaching Piano*, 9.

constantly have to think, discover, discuss, and implement. During this process, learning responsibility shifts onto students and students become the directs of their learning.

Social Benefits

Learning in a social setting can be one of the motivating factors for piano students. Other instruments, such as strings, brass, percussion, and vocalists have a large ensemble that meets regularly during the week in addition to their private instruction. This allows students to be exposed to music more often and experience peer interaction and peer influence. It also motivates them to practice and have a chance to enjoy music-making with others. University and adult students have group learning opportunities, and team activities are commonly found in students' extracurricular activities. Not only does it motivate students, but it also brings positive mental and social health. Team sports participation has been reported to benefit physical, mental, and social development. Psychosocially, organized sport participation has been positively associated with improved social competence[148] and greater social support from friends and family.[149] A study of over 1322 collegiate athletes concluded that sports participation increased physical activity and were associated with higher mental health scores.[150] The study also concluded that team sport participation benefits both social and psychological health.

[148] Chloe Bedard, S. Hanna, and J. Cairney, "A Longitudinal Study of Sport Participation and Perceived Social Competence in Youth," *J. Adolesc. Health* 66, no. 3 (2020): 352–359, https://doi.org/10.1016/j.jadohealth.2019.09.017.

[149] M. H. Guddal et al., "Physical Activity and Sport Participation among Adolescents: Associations with Mental Health in Different Age Groups. Results from the Young-HUNT Study: A Cross-Sectional Survey," *BMJ Open* 9, no. 9 (2019).

[150] T. R. Snedden, J. Scerpella, and S. A. Kliethermes, "Sport and Physical Activity Level Impacts Health-Related Quality of Life among Collegiate Students," *Am. J. Health Promot.* 33, no. 5 (2019): 675–682, https://doi.org/10.1177/0890117118817715.

Communication, emotional intelligence, and self-discipline are necessary skills for one to survive in the real world, and these skills can be obtained through group activities. Positive group dynamics can be experienced as stronger students become role models to the rest of the class and motivate them, and as students are willing to accept more challenges and go beyond their comfort level when they know that they have supportive peers. Fisher believes group learning has a potential to generate a spirit of enthusiasm and motivation that cannot be achieved alone by the instructor.[151] According to him, cooperative learning provides a prime environment that aids in the development of leadership skills, learning when it is appropriate to follow, lead, listen, and critique, and learning to perform or work as an ensemble. As they participate in creative games and activities, students develop communication skills and social skills.

A learning environment that allows students to socialize may change students' attitude towards a task. One may be indifferent to the subject they are learning but become motivated to participate when they see their peers actively get involved and solve challenges through cooperation. Through peer interaction, students challenge one another to do their best. A mixture of stronger and weaker students should not promote comparison but rather a constructive competition. Under proper guidance of the instructor and thoughtfully planned group activities, students may learn from each other, understand higher levels of achievement by witnessing stronger students, and learn that they can elevate their own level as they put in their maximum effort. This builds a positive class dynamic as weaker students are motivated by stronger students and stronger students internalize material by helping their peers.

Moreover, fun games and activities give equal opportunities to all individuals, both weaker and stronger students. Stronger students will typically lead in a traditional classroom

[151] Fisher, *Teaching Piano,* 9.

setting. In a group piano class, however, students can take turns to become class leaders, initiating development of leadership of all students. Students are more likely to get motivated if they know that they will have a chance to participate and that their participation matters. As they take turns, each assumes various roles such as listener, critique, encourager, and leader. Students learn when it is appropriate to lead and when to follow, thus developing social skills. Giving an opportunity to each member to lead the class motivates students to be active instead of passive, to internalize the material, and to concentrate during class time.

When students' responsibility increases, they learn from one another and the instructor becomes a facilitator. This thus develops a student-centered learning experience, in which students direct their own learning. As they get involved in the activities, they share common and contrasting experiences, generating group discussions that produce a rich variety of knowledge and ideas. Peer interaction is most productive when students freely exchange strategies that enhance the learning of all involved, and which provide support throughout the entire process of learning.[152] Discussion promotes higher order thinking and as students cooperate to achieve a common goal, students will learn that effort will be rewarded by increased mastery.

Cooperative learning fosters cooperative behavior with equal-status interaction between students. A group setting is a social structure consisting of people with diverse ethnicities, statuses, ages, experiences, and backgrounds. Most groups will be organized according to a common interest. (In the case of beginning group class, this common interest is piano.) Research supports that cooperative learning contributes to interpersonal relationships between team members. As people of different ethnic backgrounds work towards common goals, problems,

[152] Fisher, *Teaching Piano*, 52.

and tasks, they develop positive feelings towards one another.[153] Studies by Gonzales and Slavin found that Anglo Americans and Asian Americans working cooperatively towards learning goals demonstrated more positive attitudes towards Mexican Americans than did learners in competitive classrooms. [154]

Slavin also found that students in cooperative groups demonstrated substantially more cross-ethnic friendships than did students in competitive groups. David and Roger Johnson found that cooperative learning promotes considerably more cross-ethnic interpersonal attraction between minority and majority students in the United States.[155] Table 4 indicates that there was more cross-ethnic social interaction during cooperative work than in competitive situations. Compared to competitive conditions, students in cooperative conditions experienced less conflict, more personal support from peers, more cooperative interaction among group members, and more joint activities during free time. Minority students experienced less conflict among students, had more sense of belonging, and were more satisfied with their group work. Students in cooperative conditions experience greater personal acceptance and support from their peers and positive academic self-esteem. This kind of dynamic learning environment provides students with the opportunity to learn among peers who support and encourage them.

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[153] M. Lee Manning and Robert Lucking, "Cooperative Learning and Multicultural Classrooms," *The Clearing House* 67, no. 1 (1993): 13, https://www.jstor.org/stable/30188729.

[154] A. Gonzales, "Classroom Cooperation and Ethnic Balance" (presentation, Annual Convention of the American Psychological Association, New York, 1979); R. Slavin, *An Introduction to Cooperative Learning* (New York: Longman, 1983).

[155] David W. Johnson and Roger T. Johnson, "Relationship Between Black and White Students in Intergroup Cooperation and Competition," *The Journal of Social Psychology* 125, no. 4 (1985): 421-428, https://doi.org/10/1080/00224545.1985.9713521.

Cooperative learning teaches individuals the appropriate use of social skills, thus preparing students for the real world. Appropriate social skills are developed as students coordinate efforts to achieve mutual goals. During cooperative learning, students must:[156]

a. Get to know and trust each other

b. Communicate accurately and unambiguously

c. Accept and support each other

d. Resolve conflicts constructively.

Cooperative work can teach students to be responsible for their actions and respect the abilities and contributions of their peers.[157] Laal and Ghodsi note that, as students encounter contrasting opinions among the group, they learn to deal with situations with respect, share authority, and accept other group members' opinions and actions. Students are able to understand their differences and learn how to resolve social problems that may arise when they are actively involved in interacting with each other on a regular basis.[158] Cohen describes that cooperative learning leads to both social and academic success. Not only does it enhance achievement on both basic skills and higher order thinking, it also promotes productive social behavior and improves racial and ethnic harmony.[159]

[156] Johnson, 369.

[157] Laal and Ghodsi, "Benefits of Collaborative Learning."

[158] Johnson and Johnson, "Relationship Between Black and White Students," 427.

[159] Cohen, 2.

Table 4. Mean Responses on Dependent Measures [160]

Dependent Measure	Cooperative Maj.	Cooperative Min.	Competitive Maj.	Competitive Min.		Test
Achievement	18.64	9.67	20.77	10.40	M-M:	*F*= 82.73****
Cross-ethnic task interaction	.46	.21	.47	.32	M-M:	*F*= 6.85***
Cross-ethnic management interaction	.08	.03	.08	.03	M-M:	*F*= 7.78***
Cross-ethnic social interaction	.02	.01	.00	.00	C-C:	*F*= 5.14**
					M-M:	*F*= 3.01*
Total handicap integration, social schema (play)	7.71	9.30	4.43	7.13		*F*= 6.26**
Self-esteem	3.79	4.33	4.06	3.93	C-C:	*F*= 3.78**
Cohesion	3.16	3.80	2.98	3.44	Int:	*F*= 5.68**
Belonging	3.12	3.97	3.01	3.96	M-M:	*F*= 12.26****
Success	3.76	3.63	4.08	3.52	M-M:	*F*= 3.61*
Conflict	2.98	2.56	3.33	2.97	C-C:	*F*= 5.11**
					M-M:	*F*= 5.38**
Peer academic support	3.36	3.55	3.13	3.72	C-C:	*F*= 3.25**
Peer personal support	3.36	3.48	3.23	2.79	M-M:	*F*= 2.92*
Teacher academic support	4.04	4.35	3.77	4.50	M-M:	*F*= 5.05**
Group satisfaction	3.25	4.25	2.92	4.11	C-C:	*F*= 22.28****
Liking for group work	3.01	3.70	2.57	3.74	M-M	*F*= 12.26****
Cooperation	4.52	4.45	3.79	3.84	C-C:	*F*= 21.06****
Intergroup cooperation	4.34	4.05	1.42	2.26	C-C:	*F*= 252.36****
					M-M:	*F*= 8.63***
					Int:	*F*= 25.05****
Liked learning about coal/nuclear	3.57	4.30	3.33	3.89	M-M:	*F*= 4.10**
Importance of learning about coal/nuclear	4.07	4.90	4.25	4.44	M-M:	*F*= 5.26**
Build more nuclear plants	1.93	3.20	1.92	3.33	M-M:	*F*= 19.63****

The same applies to group piano class: cooperative learning in a group piano class provides opportunities for students to develop communication skills and social skills. To achieve a common goal, students learn to build mutual relationships, trust, accept, and support each

[160] Johnson and Johnson, "Relationship Between Black and White Students," 426.

other, and resolve conflicts constructively. All group members must interact and participate to reach both personal and common goals. Students will confront social challenges because everyone is from different backgrounds and has different levels of accomplishment. With the guidance of an instructor, they learn to cope with people that are different from them, project their voice, give and receive constructive feedback, and become supportive. The group thus develops a safe learning space as they become supportive peers to one another.

Cooperative learning forms interpersonal relationships and builds systems of accountability. Fisher argues that these relationships are powerful enough to change attitudes toward the task set before them, providing an incentive to strive for greater success.[161] The focus on group goals is believed to be the motivator for students. Learning may result from motivation to learn and from cooperative behaviors such as encouraging and helping others to learn. Students' motivation to succeed leads to learning and prompts group interaction such as peer modeling, equilibration, and cognitive elaboration, which enhances learning and academic achievement. Deeper cognitive processes occur and may become intrinsically rewarding and lead to increased motivation to complete tasks.

Activities in group piano classes promote collaboration, wherein rewards are based on individual learning of all group members. Students are both individually and collectively responsible for learning as they work together to reach a common goal. Common goals in a group activity could mean understanding the concept through group discussion and discovery, accomplishing a given task collectively with individual commitment, or completing a task individually with optimal group attitude. A study by psychologist Kurt Lewin stressed the importance of personal involvement within the dynamic whole of a group as a result of his

[161] Fisher, *Teaching Piano*, 52.

attempt to generate high productivity within group environments.[162] Group games and activities in a group piano class engage all group members to work hard because the outcome is dependent on one another's performance. Activities require participation of all members and cooperation, and group games and activities act as their motivator. What we teach and how we teach should always reflect a student's desire and motivate them so that their enjoyment never stops.

Peer interaction may provide motivation for some students while also teaching students appropriate social skills. Students learn when to follow, lead, listen, and provide constructive feedbacks with a guidance of an instructor. As students work together to achieve common goals, they will learn to accept diversity, cope with contrasting thoughts, and develop oral communication skill. Cooperative learning provides a learning environment where students learn to trust each other, accept and support each other, and resolve conflicts constructively.

[162] Fisher, 51.

CHAPTER 4

PRACTICAL TEACHING EXAMPLES

This chapter will introduce games and activities for beginning group piano ages five to eight that demonstrate motivational, psychological, cognitive, and social benefits outlined in Chapter 3. Each game will have a description of its goal, precursor, method, and any supplies needed. The games are created for students to achieve a common group goals, which can be as simple as understanding a new concept or accomplishing a task for the group to earn a reward.

Thoughtful planning has to be done for every music lesson, but it is especially critical in a group setting because students may have different interest levels, different personalities, and different learning styles and capacities. It is especially important to create fun and active group games for children ages five to eight, as young children may rarely think about improvement, but rather think more about the current moment. Activities described in this chapter are designed to promote individual participation so everyone can enjoy an equally successful learning experience.

Reading/Notation

Fly Ball (Note naming game)

Goal: Identify the notes and interval.

Precursor: Familiarity with notes around the guide notes (Middle C, Treble G, and Bass F) and understanding of line and space notes.

Supplies: Staff line made with Velcro (for balls to stick) and two soft balls.

Method:

1. Divide the group into two teams, A and B (three people per group if possible).
2. Put the staff line (made with Velcro) on the wall and let the students line up facing the wall.
3. One person from Team A throws two balls at the target and names the notes.
4. Second person from Team A names the intervals; third person from team A plays the interval on the piano.
5. The team earns a point for each correct answer.
6. Team B repeats the steps 3 and 4.
7. Switch roles in the next round so everyone has a chance to throw the ball, name the interval, and play the intervals on the piano.

This game was created with the help of Adam Salas, an adjunct lecturer at Southern Methodist University. Fly Ball allows students to reinforce their knowledge of notes while being physically active. Students are motivated by throwing the ball and naming random notes that they have created. Having teammates allows them to have different roles, reinforcing different areas (notes, intervals, playing). Cooperative activities like this are enjoyable due to physical activity and they provide psychological benefits for students since participants can interact with one another.

Keywords: Pair-check, Role exchange, Kinesthetic, Student involvement, Equal opportunity, Curiosity, Reinforcement of materials

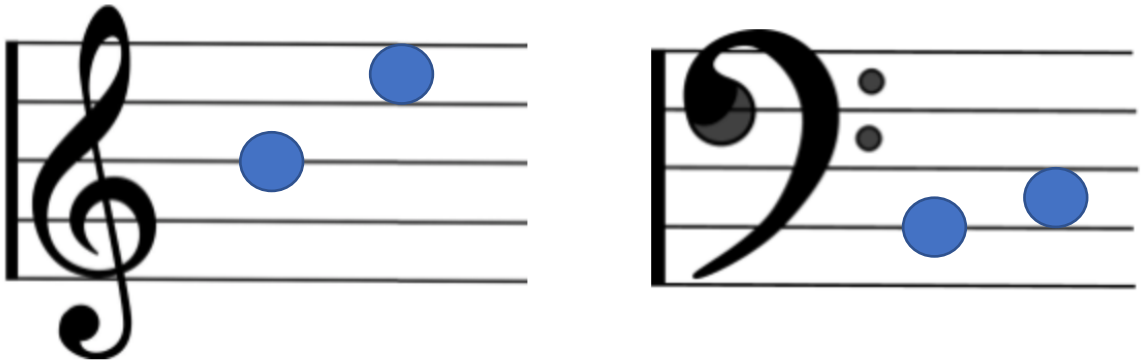

Figure 3. Velcro staff line and soft balls

Knock it off (Interval Game)

Goal: Be able to recognize intervals on the staff and on the keyboard from a 2nd to a 5th.

Precursor: Know the guide notes (Middle C, Treble G, and Bass F), understand line and space notes, and play different intervals on the keyboard.

Supplies: Game Board (below), colored papers, interval flashcards.

Method:

1. Review the flashcards with students (e.g., sing the interval, play on the keyboard, or recognize the letter names).
2. Divide the group into two teams, A and B, and pick a color for each team (e.g. Team A: blue, Team B: yellow).
3. Pile the flashcards upside down in the center.
4. One person from Team A takes one card from the pile and names the interval.
5. If the answer is correct, the student puts the colored paper on the board and fills out the blank with the corresponding interval.
6. Repeat the step with Team B.

7. If the answer is wrong, the team cannot place the colored paper and has to clear out one of their spaces.
8. The game is over when the board is all filled up with colored papers. The team with the most blanks filled up wins the game.

I created this game for students to help students to review and learn intervals. Although it is a group activity, each student will still have a chance to think and provide an answer as everyone is given an equal opportunity. During this process, students may communicate with their teammates to solve the problem together. As they discuss the answer, they learn to work together, develop critical thinking skills, and communicate appropriately to one another with the guidance of an instructor.

Keywords: Pair-check, Role exchange, Cognitive development, Communication, Reduced anxiety, Positive interdependence, Equal opportunity, Leadership skill

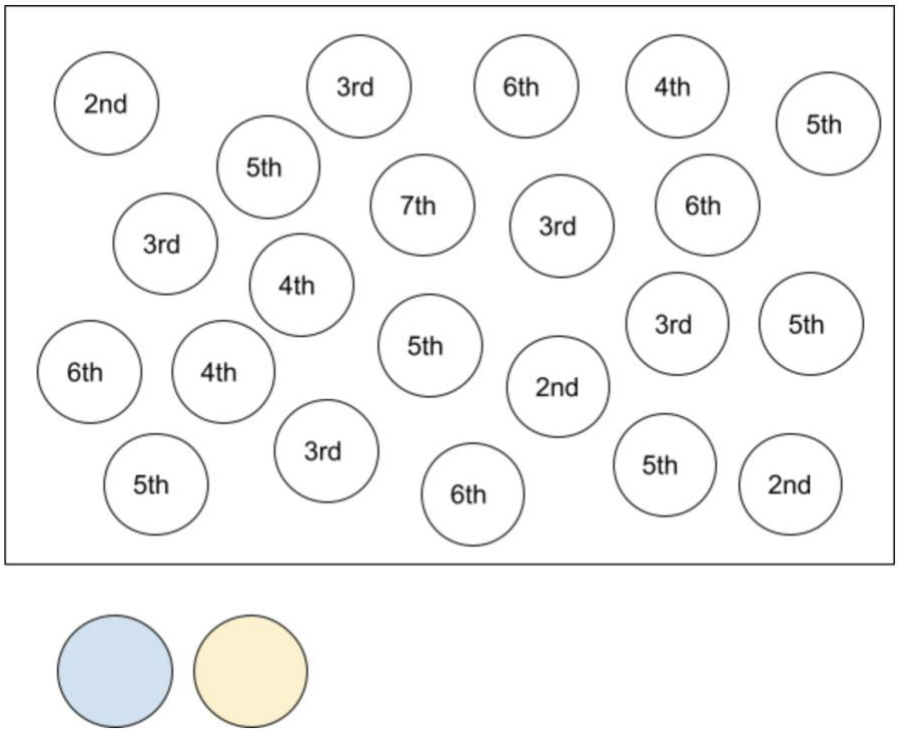

Figure 4. Game Board and Colored Papers for Team A and B

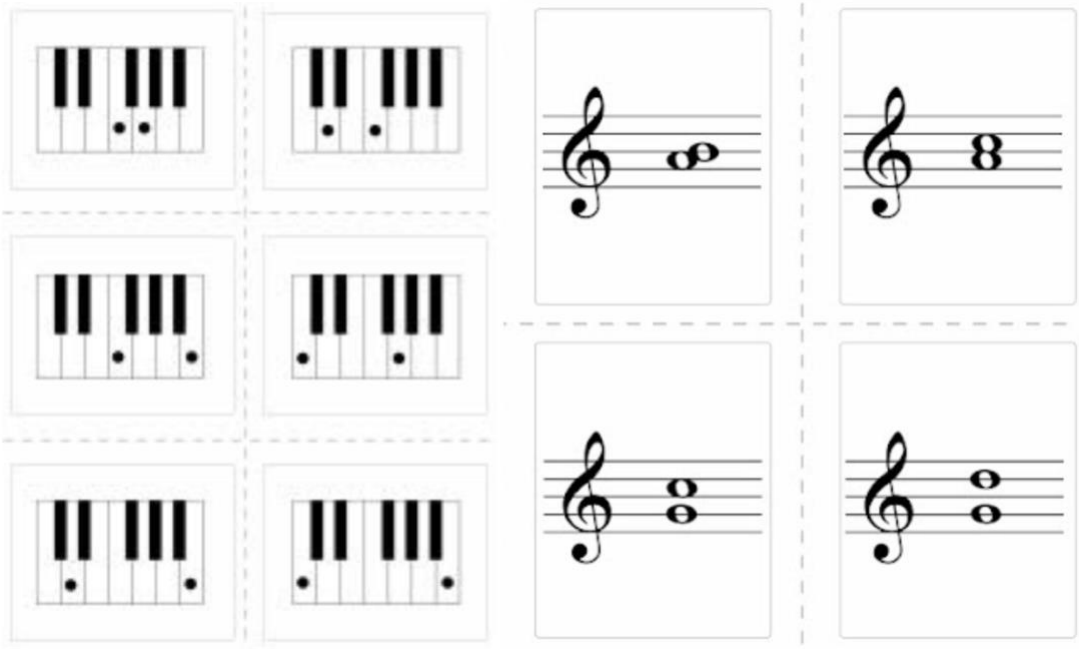

Figure 5. Interval Flashcards

Polka Smile (Whole step and Half step)

Goal: Be able to recognize half and whole steps on the staff and on the keyboard.

Precursor: Understand the pattern of pentascale, know sharp and flat symbols.

Supplies: Flashcards, keyboard image, game boards, coins.

Method:

1. Divide the group into two or more teams.
2. Each team gets one game board, one coin, and a keyboard image.
3. Pile the flash cards upside down in the center.
4. The group takes turns flipping the flash cards and answering, “half step” or “whole step”.
5. Students can use the keyboard image to decode the flashcard.
6. When the answer is a half-step, move the coin by one smiley face. When the answer is a whole step, move the coin by two smiley faces.
7. When the answer is wrong, participants must move the smiley face backwards by the steps shown on the flashcard.
8. The team that gets the coin out of the game board wins.

This game was developed and modified from pianimation.com. The modifications are designed to support cooperative learning. As with the Knock it Off game, each team member has a chance to answer and may ask for help of the teammates when necessary. Students learn to think, discuss, and implement ideas during this process.

Keywords: Student-centered, Student participation, Equal opportunity, Cognitive development, Communication skill, Social skill, Constructive competition, Reinforcement of materials

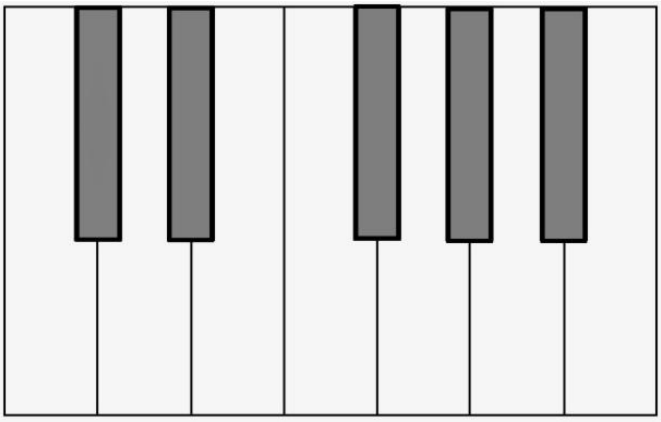

Figure 6. Keyboard Image

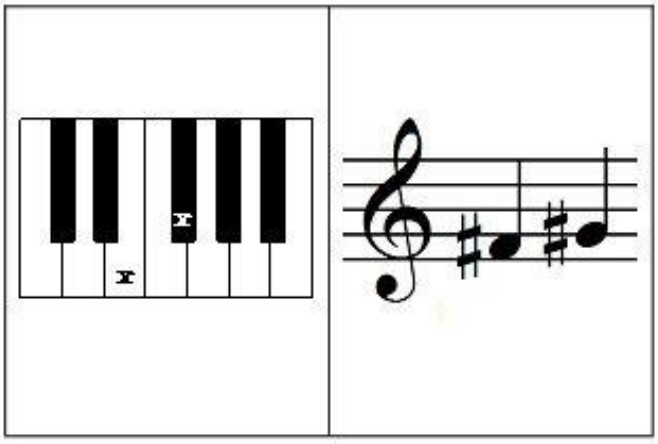

Figure 7. Whole Step/Half Step Flashcards

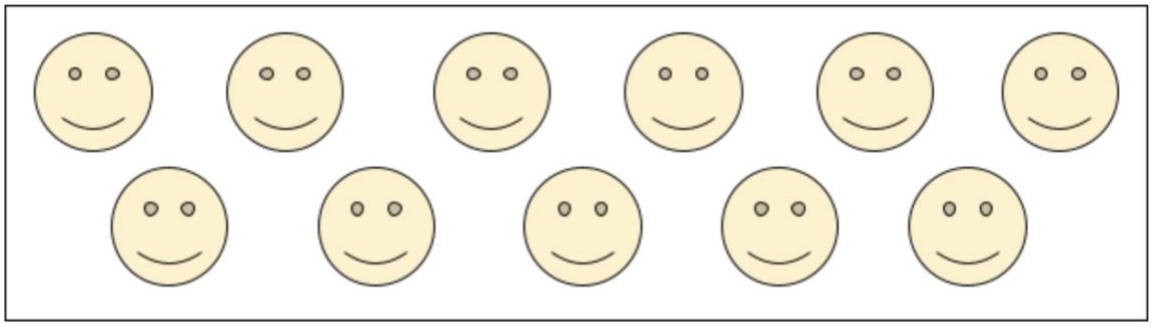

Figure 8. Whole Step/Half Step Game Board

Rhythm

Telephone Game

Goal: Be able to understand basic rhythms, duplicate them, and pass them onto the next person. The goal is for the last person to have the same answer as the first person.

Precursor: Familiarity with quarter, half, dotted half, and whole notes (the level can be adjusted).

Supplies: Rhythm flashcards with rhythm in 4/4 or ¾, with one measure increments (the level can be adjusted); paper and a pen for the last person to write the answer.

Method:

1. Students learn or review the hand gestures for each note value (quarter, half, dotted half, and whole).
2. You may create your own motion for each note values or use the motion below:
   For quarter notes, clench both fists, put the right hand on top of the left hand and tap; for half notes, open up the right hand and draw a circle [palm facing down] above the left-hand fist; for dotted half notes, open your left arm and sweep your left arm with your right as if you are smudging a butter; for whole notes, draw a big circle around your stomach with your hand.
3. Practice tapping the rhythm with the motion while using flash cards.
4. When students are familiar with the gesture, have all of them sit in a line facing the same direction except for the first person.
5. The first student decodes (converts gesture to a note value) the rhythm on the flashcard and passes it onto the next. Students will pass on the motion until the last person.
6. The last person writes the answer on the blank paper, including both rhythm and time signature. The group gets a point when the answer is the same as the original flashcard.

7. Reverse the positions of the participants so that the first student becomes the last and the second student becomes the first person in line.

This game allows everyone to participate equally. Sitting in a line sends everyone the visual message that each participant is required to be actively involved to achieve a group goal, which is to correctly pass on the rhythm. By copying and replicating the rhythm gesture, each student reinforces the rhythm and experiences the beats (for example, a half note feels longer than a quarter note). The instructor must adjust the level of difficulty for the group so that the students participate with enthusiasm (too easy or too difficult of a rhythm may decrease their level of motivation).

Keywords: Equal opportunity, Engage participation, Cooperative work, Student-centered, Reinforcement of materials, Cognitive Development, Creativity, Psychological benefit, Positive interdependence

Figure 9. One-measure Rhythm Example

Feel the Beat (Internal Rhythm)

Goal: Be able to feel internal rhythm and count.

Precursor: Familiarity with tapping and counting the rhythm in 4/4 and 3/4 in four measure increments (levels can be adjusted by adding eighth notes and sixteenth notes).

Material: Rhythm flashcard with “po,” “shi-fu,” and “Ti-g-ress.”

Method:

1. Review the rhythm and let students tap and count the rhythm aloud as a group using the motion (e.g. The rhythms used in the Telephone Game or new rhythms created by the instructor).
2. When students are familiar with tapping and counting the rhythm aloud with a hand gesture, let them count silently.
3. This time, students continue to count silently with a hand gesture but say a character's name aloud when the character appears above the note value (Panda: Po, Fox: Shi-fu, Tiger: Ti-ge-ress).
4. The level of difficulty can be adjusted as the students get more familiar with the game.

This activity was created and developed through the guidance of Dr. Hyae-jin Hwang, the director of the Piano Preparatory Department at Southern Methodist University. This activity helps students to build rhythmic accuracy as both individuals and as a group. Review of rhythm is essential in music study but may decrease students' motivation when it becomes too repetitive. Tapping and counting the rhythm with different means reinforces the material without decreasing students' interest. When students say the character's name aloud as a group aloud while tapping and counting silently, they can experience the joy of togetherness, which is similar to ensemble playing. Students may experience increases in confidence and self-esteem as their actions and voices contributes to the group ensemble.

Keywords: Reinforcement of material, Cooperative, Equal opportunity, Psychological health, Positive Interdependence, Kinesthetic, Creativity, Student-centered, Motivation

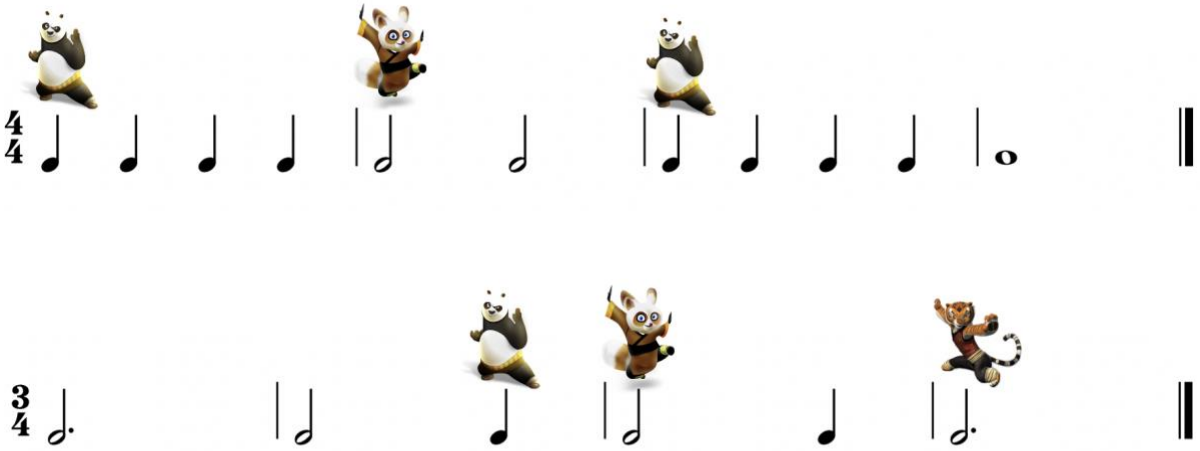

Figure 10. Kungfu Panda Rhythm Examples

Roll and Rock out the Rhythm

Goal: Be familiar with eighth-note rhythm and be able to count in steady beat.

Precursor: Familiarity with tapping and counting with quarter notes, eighth notes, and quarter rests.

Material: Dice and a worksheet (below).

Method:

1. Review the rhythms.
2. Students sit in a circle and roll the dice taking turns.
3. Draw in the rhythm in the first blank heart with the rhythm that the first student rolled. Fill out the second heart with the rhythm that the second student rolled.
4. Take turns until all the blanks are filled. Tap and count the rhythm with desired gestures or words (Ta and Ti Ti, or Pie and Apple, etc.) as a group.

This activity allows students to tap and count the rhythm that they have created. It allows students to stay motivated as they are the ones who creates the rhythm patterns (student-

centered), and as the level of difficulty is created by chance. Since this activity is a short, it can be a supplement to another rhythm activity or a short review.

Keywords: Keywords: Reinforcement of material, Cooperative, Equal opportunity, Leadership skill, Psychological health, Kinesthetic, Creativity, Student-centered

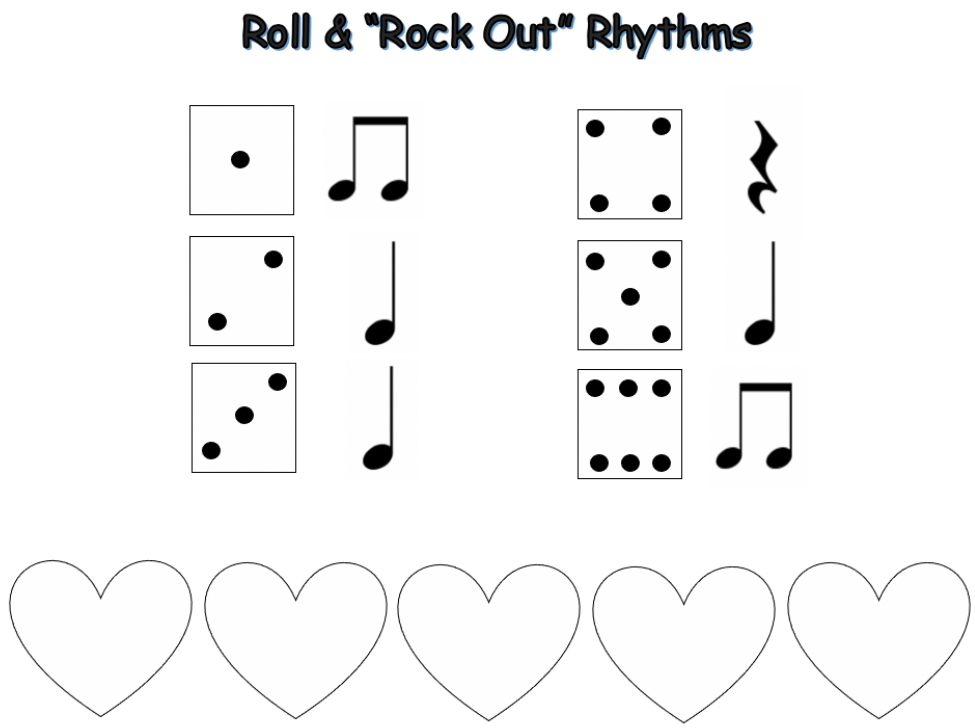

Figure 11. Roll and Rock Out Rhythm Worksheet

Singing

Climb Up the Tree (Solfege Singing)

Goal: Be able to sing intervals from a 2nd to 5th.

Precursor: Familiarity with solfege and intervals.

Material: Solfege tree and flashcards.

Method:

1. The materials should be placed on the board so that everyone in the group can see.
2. Sit in a circle so that everyone can be included.
3. The instructor leads the group first and sings the solfege in order (from do to sol) with a hand gesture (a hand gesture that shows the leap.) The group follows the instructor and sings with a hand gesture. Use movable do to accommodate the singing range of the group.
4. When the group is familiar with singing in solfege, each student leads the class taking turns. Each member must take turns to lead the class by picking "do" and another desired solfege for the rest of the group to sing.

This activity encourages each member to become a class leader, a listener, and an active participant, giving everyone an equal opportunity to contribute to class learning. Students are not forced to sing what the teacher thinks they need to sing. Instead, the teacher provides a parameter that students can think about, choose, and implement. When students are asked to choose "do" and another solfege for rest of the class to sing, it will naturally create a constructive competition as students try to choose a better solfege than their peers. However, there are no right or wrong answer as there are no "better" solfege notes in the first place. Moreover, during this activity student will experience the different distances of an interval by singing and with a hand gesture.

Keywords: Equal opportunity, Positive Interdependence, Leadership skill, Creativity, Constructive competition, Kinesthetic, Student-centered, Active involvement, Cooperation, Singing

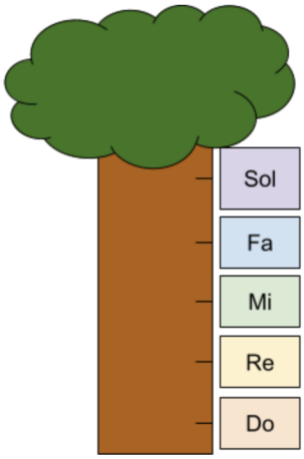

Figure 12. Solfege Tree and Flashcards

Listening/ Dictation

Happy or Sad? (Identify Major and Minor Chords)

Goal: Be able to sing identify major and minor chords.

Precursor: Five finger pattern in major and minor.

Method:

1. Students take turns playing five-finger pattern on white keys in major and minor. (Black keys too, if possible, but this is not necessary. The students should be familiar with the pattern and the sound).
2. The group goal is to concur with the same answers. When group members hear a major chord, they should smile and when they hear a minor chord, they should make a sad face expression. The teacher facilitates the group by providing examples on the piano.
3. When students are familiar with the activity, each student takes turns to lead the class by playing a major or minor chord.

Cooperative activities like this puts less pressure on individuals and allows everyone to participate with greater confidence. Even if individual students are not spotlighted, individual participation is required to achieve the common goal. Students become engaged in the activity while having a sense of belonging to the group. Each student has a chance to become the leader by demonstrating a chord for the group to make a face expression.

Keywords: Cooperation, Psychological health, Confidence, Reinforcement of material, Symbolic thinking, Pair-check

Traffic Lights (Identify Step/Skip)

Goal: Listen to three pitches and be able to identify the pitch direction.

Precursor: Familiar with playing steps and skips on the keyboard.

Material: Colored papers with numbers and staff paper.

Method:

1. The instructor plays three pitches going up or down (skill level can be adjusted adding skips).
2. After playing, all students sing the three pitches with a hand gesture. This process allows students to experience what they have heard. Repeat playing if needed.
3. Students organize the cards to match what they have heard. Ex: CDE – 123, CEE – 133. Repeat step 2 if needed.
4. The instructor lets students know the first pitch and students draw the notes on the staff paper.

This activity allows students to experience steps and skips through singing and making hand gestures. There should be multiple instances of singing before the students organize the cards to

match what they have heard and sang. Singing motivates students and triggers them to concentrate. The instructor should adjust the level of difficulty to match the group.

Keywords: Reinforcement of materials, Equal participation, Cognitive development, Pair-check, Singing, Kinesthetic

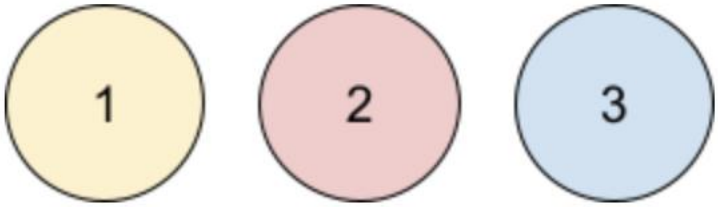

Figure 13. Colored Papers with Numbers

Rhythm Hunt (Rhythmic Dictation)

Goal: Be able to listen and create a rhythm pattern.

Precursor: Familiar with tapping and counting the rhythm in 4/4 and 3/4.

Material: Blank paper with time signature and a bar line and Rhythm Cards.

Method:

1. The instructor groups the students so that one person is responsible for one specific measure. The level of difficulty can be adjusted by increasing the measures and adding note values.
2. The instructor chooses one pitch on the keyboard and plays the rhythm after counting off.
3. Students listen to the rhythm and fill in the measure that they are assigned to.
4. The instructor plays the rhythm in segments (e.g., play the first measure two times and second measure two times).

5. The instructor plays the whole rhythm and students check their rhythm by counting silently.

Rhythmic dictation is one of the fundamentals in music and is often difficult for some students. To decrease pressure on individuals, each person is only responsible for one specific measure (the difficulty level can be adjusted). Each student should have a teammate with whom they can discuss the answer. Each person is responsible for one measure, which allows everyone to contribute to the group goal.

Keywords: Equal opportunity, Active participation, Positive interdependence, Cognitive development, Psychological health, Communication skill, Pair-check, Student-centered, Leadership skill

Figure 14. Giant Blank Paper with Time Signature and Bar Lines

Hocus Focus (Articulation/ Dynamic Dictation)

Goal: Be able to identify articulation and dynamics.

Precursor: Familiarity with articulation and dynamic symbols and their meanings.

Material: Worksheet (sample below).

Method:

1. Review the names, articulation and dynamic symbols and their meanings as a class.

2. Help students become familiar with the tune. Sing the tune using letter names or numbers. The level of difficulty can be adjusted by adding articulation and dynamic symbols. If needed, sing each option with dynamics and articulation.
3. The instructor plays the tune with dynamics and articulation. Students choose the correct option after listening to it a couple of times.
4. When students are comfortable, allow students to demonstrate the example for the group to answer.

Dynamics and articulation are easily forgotten by students when they focus on playing the correct notes and rhythms. Attentive listening and singing with designated dynamics and articulation allows them to experience the differences between them. Allowing students to become the class leader will motivate them to participate and be attentive. Each student has an equal opportunity to become a leader and an active participant.

Keywords: Creative learning, Singing, Leadership skill, Positive interdependence, Reinforcement of material, Cognitive development

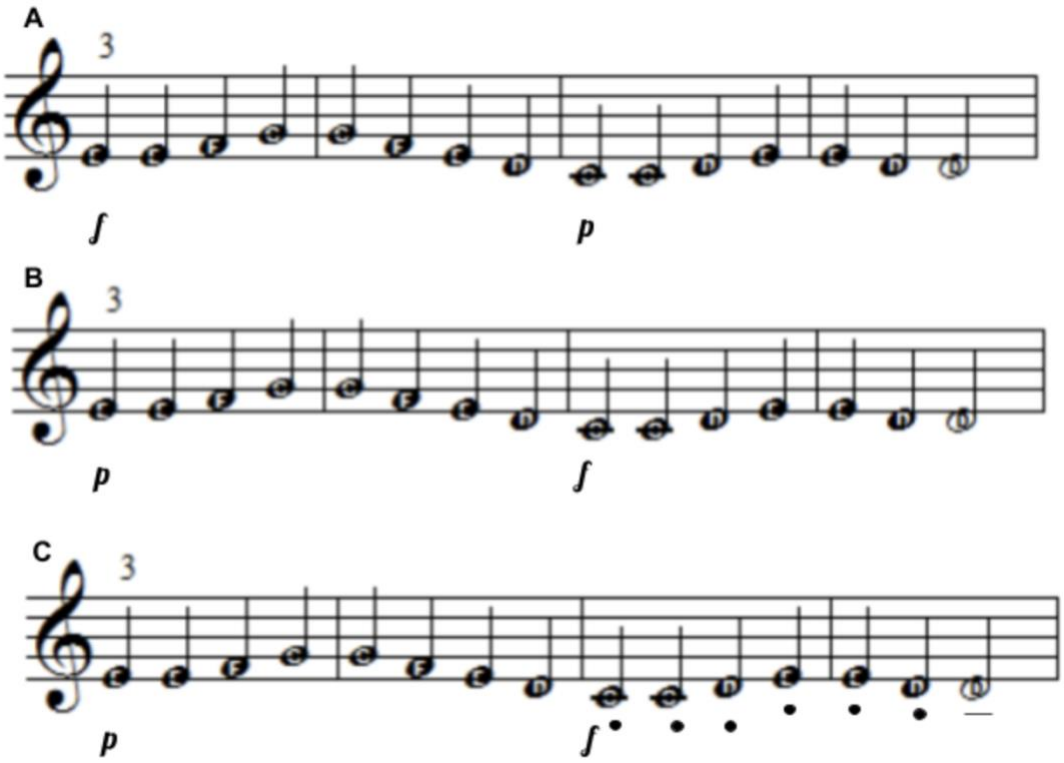

Figure 15. Sample Worksheet for Articulation and Dynamic Dictation

CHAPTER 5

CONCLUSION

The benefits of cooperative learning have been widely acknowledged by researchers across fields, especially through the connection to motivation, psychological, cognitive, and social development. Positive outcomes of cooperative learning are recognized by psychologists and scholars, and many teachers in diverse fields are applying cooperative learning. Similarly, music scholars have been advocating group learning as it provides a learning environment that allows instructors to deliver a more creative and motivating music curricula, which allows students to be more active in their learning while challenging them to discover, discuss, and implement new ideas.

Group piano helps students to prolong their motivation by placing creative and fun music study in a social setting. Some students gradually lose their enthusiasm when practicing alone or as they reach learning plateaus. For these students, varied learning methods using creativity, body movement, singing, and crafts can make the learning atmosphere more enjoyable. Diverse activities can also help students to reinforce the same concepts without decreasing their interest levels. As such, creative group activities may put forth continuous effort, which will in turn be rewarded by increased mastery.

Cooperative works have been found to promote interaction among students, especially when students promote each other's successes. As opposed to competitive learning, cooperative learning fosters better psychological health and higher self-esteem. Group piano shares similar principles with those promoted by cooperative learning advocates. During group piano, students are given the opportunity to share ideas and solve problems together, reduce anxiety and build

confidence. Supportive peers in a cooperative setting can build self-esteem as participants feel accepted while contributing to group success.

As students cooperate to work towards the same group goal, cognitive conflicts may occur. During this process, students are given the opportunity to learn to accept diversity and provide constructive feedback. Group discussion allows students to exchange ideas that may promote higher level thinking and modes of thought beyond what the instructor presents. Creative group games using crafts, body movements, pictures, and singing may stimulate young children in symbolic thinking, which will later develop into logical thinking. Reinforcement of the same material with a variety of activities can help students to internalize the information.

Because students in group settings need to interface with different perspectives and personalities, groups can promote stronger communication, emotional intelligence, and self-discipline among individuals. Group settings thus provide opportunities for students to practice these critical life skills. Due to the nature of groups, students will meet students with different ethnicities, personalities, and perspectives. During cooperative group activities, students will learn to trust each other, communicate appropriately, accept diversity, and resolve conflicts constructively. This helps students learn valuable social skills.

This document does not intend to quantify the benefits or success of group piano for young beginning students, and there is certainly room for future empirical study in this area. Instead, this document explores the connection between existing research on cooperative learning and how it can further enhance our understanding of group piano. While there is plenty of literature on college learning, this document focuses on cooperative learning in ages five to eight, which is under-researched. Games and activities that apply these ideas were presented as examples of activities that can help teachers increase motivation along with psychological,

cognitive, and social development. Future research might conduct experimental studies to measure and quantify specific effects of group piano on young students.

REFERENCES

Amabile, Teresa M. "Within You, Without You: Towards a Social Psychology of Creativity and Beyond." In *Theories of Creativity,* edited by Mark A. Runco and Robert S. Albert, 50-116. Newbury Park: Sage, 1990.

Austin, James R. "Competitive and Non-competitive Goal Structures: An Analysis of Motivation and Achievement among Elementary Band Students." *Psychology of Music* 19, no. 2 (1991): 142-48.

Bedard, Chloe, Hanna S, Cairney J. "A Longitudinal Study of Sport Participation and Perceived Social Competence in Youth." *Journal of Adolescent Health* 66, no. 3 (2020): 352-359. https://doi.org/10.1016/j.jadohealth.2019.09.017.

Boswell, Jacquelyn. "Human Potential and Lifelong Learning." *Music Educator Journal* 79, no. 4 (1992): 38-40. https://doi.org/10.2307/3398529.

Chronister, Richard. *A Piano Teacher's Legacy,* edited by E. Darling, 1-298. New Jersey: The Frances Clark Center for Keyboard Pedagogy, Inc., 2005.

Clark, Frances. "Thoughts and Attitudes about Teaching." In *Questions and Answers: Practical Advice for Piano Teachers,* edited by Louise Goss, 6-21. Northfield: The Instrumentalist Company, 1992.

Cohen, Elizabeth. "Restructuring the Classroom: Conditions for Productive Small Groups." *Review of Educational Research* 64, no. 1 (1994): 1-35. https://doi.org/10.3102/00346543064001001.

Costa-Giomi, Eugenia, Patricia J. Flowers, and Wakaha Sasaki. "Piano Lessons of Beginning Students Who Persist or Drop Out: Teacher Behavior, Student Behavior, and Lesson Progress." *Journal of Research in Music Education* 53, no. 3 (Autumn 2005): 234-247. https://doi.org/10.2307/3598682.

Coyle, Daniel. *The Talent Code: Greatness Isn't Born. It's Grown. Here's How.* New York: Random House Publishing Group, 2009.

Damon, William. "Peer Education: The Untapped Potential." *Journal of Applied Developmental Psychology 5* (1984): 331-343.

Deutsch, Morton. "A Theory of Co-operation and Competition." *Human Relations* 2, no. 2 (April 1949): 129-152.

Deutsch, Morton. "Cooperation and Trust: Some Theoretical Notes." In *Nebraska Symposium on Motivation,* edited by M. R. Jones (1962): 275-320.

Duckworth, Angela. *Grit: The Power of Passion and Perseverance.* New York: Scribner, 2016

Duckworth, Guy. “Group Dynamics.” In *Proceeding from Pedagogy Saturday* III, edited by M. Lorince, 78-79. Cincinnati: Music Teachers National Association, 1999.

Duke, Robert, Patricia J. Flowers, and David E. Wolfe. “Children Who Study Piano with Excellent Teachers in the United States.” *Bulletin of the Council for Research in Music Education,* no. 132 (1997): 51-84.

Dweck, Carol. *Mindset: The New Psychology of Success.* New York: Ballantine Books, 2016.

Fisher, Christopher. *Teaching Piano in Groups*. New York: Oxford University, 2010.

Gipson, Ann Milliman. “Group Lessons = Positive Results.” *American Music Teacher* 55, no. 3 (2006): 18-21. https://www.jstor.org/stable/i40140940.

Gonzales, A. “Classroom Cooperation and Ethnic Balance” Paper presented at the Annual Convention of the American Psychological Association, New York, 1979.

Gordon, Edwin. *Learning Sequences in Music: Skill, Content, and Patterns*. Chicago: GIA Publications, 1993.

Guddal, M. H., S. O. Stensland, M. C. Smastuen, M. B. Johnsen, J. A. Zwart, and K. Storheim. “Physical Activity and Sport Participation among Adolescents: Associations with Mental Health in Different Age Groups. Results from the Young-HUNT Study: A Cross-Sectional Survey.” *BMJ Open* 9, no. 9, (2019).

Haines, D., and W. McKeachie. “Cooperative versus Competitive Discussion Methods in Teaching Introductory Psychology.” *Journal of Educational Psychology* 58, no. 6 (1967): 386-390. https://doi.org/10.1037/h0020046.

Hendricks, Karin S., Tawnya D. Smith, and Jennifer Stanuch. “Creating Safe Spaces for Music Learning.” *Music Educators* 101, no. 1 (September 2014): 35-40. https://doi.org/10.1177/0027432114540337.

Laal, Marjan, and Seyed Mohammad Ghodsi. “Benefits of Collaborative Learning.” *Procedia-Social and Behavioral Sciences* 31 (2012): 486-490. https://doi.org/10.1016/j.sbspro.2011.12.091.

Lahey, Jessica. *The Fight of Failure: How the Best Parents Learn to Let Go So Their Children Can Succeed.* New York: Harper Collins, 2015.

Legette, Roy M “In-Service Teacher Beliefs about the Causes of Success and Failure in Music,” *Bulletin of the Council for Research in Music Education* 192 (Spring 2012): 75-81. https://doi.org/10.5406/bulcoursemusedu.192.0075.

Lights, R. *The Harvard Assessment Seminars*. Cambridge: Harvard University Press, 1990.

McLeod, S. A. "Jean Piaget's Stages of Cognitive Development." *Simple Psychology*, June 6, 2018. https://www.simplypsychology.org/piaget.html.

Johnson, David W., and Roger T. Johnson. "An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning." *Educational Researcher* 38, no. 5 (2009): 365-379. http://www.jstor.org/stable/20532563.

Johnson, David W., and Roger T. Johnson. *Cooperation and Competition: Theory and Research*. Edina: Interaction Book Company, 1989.

Johnson, David W., and Roger T. Johnson. *Learning Together and Alone: Cooperative, Competitive, and Individualistic Learning*. Boston: Allyn and Bacon, 1994.

Johnson, David W., and Roger T. Johnson. "Relationship Between Black and White Students in Intergroup Cooperation and Competition." *The Journal of Social Psychology* 125, no. 4 (1985): 421-428. https://doi.org/10/1080/00224545.1985.9713521.

Johnson, David W., and Roger T. Johnson. "The Impact of Cooperative, Competitive, and Individualistic Learning Environments on Achievement. "In *International Handbook of Student Achievement*, edited by J. Hattie & E. Anderman. New York: Routledge, 2013: 372-374.

Johnson, David W., Roger T. Johnson, and E. J. Holubec. *Cooperation in the Classroom*. Edina: Interaction Book Company, 1998.

Johnson, David W., Roger T. Johnson, and K. Smith. *Active Learning: Cooperation in the College Classroom*. Edina: Interaction Book Company, 1991.

Johnson, David W., Roger T. Johnson, and K. Smith. "Cooperative Learning: Improving University Instruction by Basing Practice on Validated Theory." *Journal on Excellence in College Teaching* 25, no. 3 and 4 (2014): 85-118.

Johnson, David W., Roger T. Johnson, and Mary Beth Stanne. "Impact of Group Processing on Achievement in Cooperative Groups." *The Journal of Social Psychology* 130, no. 4 (August 1990): 507-516. https://doi.org/10.1080/00224545.1990.9924613.

Jutras, Pete. "The Benefits of Adult Piano Study as Self-Reported by Selected Adult Piano Students." PhD diss., University of North Texas, 2003.

Manning, M. Lee, and Robert Lucking. "Cooperative Learning and Multicultural Classrooms." *The Clearing House* 67, no. 1 (1993): 12-16. https://www.jstor.org/stable/30188729.

Palinscar, A.S. "Reciprocal Teaching: Field Evaluations in Remedial and Content Area Reading." Paper presented at the Annual Convention of the American Educational Research Association, Washington, D.C., 1987.

Palinscar, A. S., and A. L Brown. “Reciprocal Teaching of Comprehensive Monitoring Activities.” *Cognition and Instruction* 1, no. 2 (2009): 117-175. https://doi.org/10/1207/s1532690xci0102_1.

Pearce, Elvina. “How We Teach.” In *The Success Factor in Piano Teaching: Making Practice Perfect,* edited by Craig Sale, 10-31. Kingston: The Frances Clark Center for Keyboard Pedagogy, 2014.

Rife, Nora A., Zachary M. Shnek, Jennifer L. Lauby, and Leah Blumberg Lapidus. “Children’s Satisfaction with Private Music Lessons.” *Journal of Research in Music Education* 49, no. 1 (2001): 21-32. https://doi.org/10.2307/3345807.

Roberts, J. Christopher. “Situational Interest of Fourth-Grade Children in Music at School.” *Journal of Research in Music Education* 63, no. 2 (2015): 180-197. https://doi.org/10.1177/0022429415585955.

Rosenshine, B., and C. Meister. “Reciprocal Teaching: A Review of Research.” *Review of Educational Research* 64, no. 4 (1994): 478-530.

Schmidt, Charles P. “Relations among Motivation, Performance Achievement, and Music Experience Variables in Secondary Instrumental Music Students.” *Journal of Research in Music Educa*tion 53, no. 2 (2005): 134-37.

Sheets, Randall. “Class Piano Versus Private Piano: Should We Really Take Sides?” *American Music Teacher* 32, no. 5 (April-May 1983): 35-36. https://www.jstor.org/stable/43543942.

Skalinder, Barbara Kreader. *The Music of Teaching: Learning to Trust Students’ Natural Development.* Milwaukee: Hal Leonard Books, 2016.

Slavin, Robert. *An Introduction to Cooperative Learning.* New York: Longman, 1983.

Slavin, Robert. “Cooperative Learning and the Cooperative School.” *Education Leadership* 45, no. 3 (November 1987): 7-13.

Slavin, Robert. “Research on Cooperative Learning and Achievement: What We Know, What We Need to Know.” *Contemporary Educational Psychology* 21, no. 1 (1996): 43-69.

Snedden, T. R., J. Scerpella, and S. A. Kliethermes. “Sport and Physical Activity Level Impacts Health-Related Quality of Life among Collegiate Students.” *American Journal of Health Promotion.* 33, no. 5 (2019): 675–682. https://doi.org/10.1177/0890117118817715.

Thompson, Michael. “Childhood Development and Early Learning.” In *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation,* edited by LaRue Ellen and Bridget B. Kelly, 85-204. Washington D.C: The National Academies Press, 2015.

Tudge, Jonathan., Paul A. Winterhoff, and Diane M. Hogan. “The Cognitive Consequences of Collaborative Problem Solving with and without Feedback.” *Child Development* 67, no. 6 (1996): 2892-2909. https://doi.org/10.2307/1131758.

Visopoel, Walter P., and James R. Austin. “Constructive Responses to Failure in Music: The Role of Attribution Feedback and Classroom Goal Structures.” *British Journal of Educational Psychology* 63, no. 1 (1993): 110-29.

Vygotsky, L. S. *Mind in Society.* Edited by M. Cole, V. John-Steiner, S. Scribner, and E. Souberman. Cambridge: Harvard University Press, 1978.

Wristen, Brenda. “Demographics and Motivation of Adult Group Piano Students.” *Music Education Research* 8, no. 3 (2005): 1-31. htttps://doi.org/10/1080/14613800600957503.

Xunzi. *Xunzi: The Complete Text*. Reprint ed. Edited by Eric L. Hutton. Princeton: Princeton University Press, 2016.