RETENTION, ACHIEVEMENT, AND FEEDBACK:

APPLYING RESEARCH IN MUSIC EDUCATION TO

PIANO PEDAGOGY

by

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ABSTRACT

Piano pedagogy is often viewed as distinct from music education, when in fact these

disciplines inform each other. While more research currently exists in music education than in

piano pedagogy, this disparity is shrinking. As more universities offer PhD's in Piano Pedagogy,

research in the area is growing and improving. The aim of this document is to explore a curated

sample of music education research in order to demonstrate relevance to private piano teachers in

the areas of retention, achievement, and feedback.

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CHAPTER 1: INTRODUCTION

Piano pedagogy has a long tradition. For centuries, master teachers and pedagogues have attempted to document sound teaching techniques and to codify keyboard instruction into concise and accessible methods. Current teachers continue to draw inspiration from these sources, as well as from more recent ideas.

The 20th century introduced the subject of music education as an academic discipline, thus creating a need for research on teaching techniques and strategies.[1] Studies of both one-on-one and classroom instruction have attempted to determine the effectiveness of various teaching practices, but the majority of these studies have been classroom-based. Because less research has been geared toward private settings, the aim of this document will be to examine relevant studies in this area, thus to glean useful pedagogical principles relevant to private piano instruction.

Since the terminology involved in educational studies can be confusing, some important definitions will now be presented. One common misconception is that positive and negative reinforcements are the same as approvals and disapprovals. In fact, reinforcements are related to reward systems, whereas approvals and disapprovals deal solely with negative and positive communication. For example, a disapproval might include telling a student he or she is playing "too fast." On the other hand, an instance of negative reinforcement would be a student staying on his or her best behavior to avoid being reprimanded by his or her parents. Other important

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[1] Oberlin College and Conservatory. https://new.oberlin.edu/conservatory/departments/music-education/mission.dot (accessed July 19, 2017).

terms include *appropriate* and *inappropriate* approvals and disapprovals, which are related to on- and off-task behaviors. Behaviors in line with teacher instruction are considered on-task, and all others are defined as off-task. For example, in an elementary classroom, a student praised for doing math homework during an English lesson would be said to have received *inappropriate* approval. Both approval of *on-task* behavior and disapproval of *off-task* behavior are considered *appropriate*, whereas approval of *off-task* behavior and disapproval of *on-task* behavior are both considered *inappropriate*.

An important issue to most piano teachers is student retention. The first section of this document addresses ideas and research that explore the many variables that impact student attrition. For example, Richard Klinedinst, a leader in instrumental music education research, has found evidence that students who achieve little in the first years of piano lessons are more likely to drop out. Low levels of preliminary achievement in music study correlate with early dropout of music participation.[2] Through this research, I will address ways to improve initial achievement levels in piano study to prevent student dropout. However, seemingly contradictory research shows that achievement-driven lessons may also push students to drop out.[3] Balancing this dynamic in private music lessons and creative ideas for lowering pressure within lessons will be discussed. Lastly, further research points to approval-seeking among students as a risk-factor in relation to student dropout rates.[4] While accomplishments should be recognized, students with

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[2] Richard Klinedinst, "Predicting Performance Achievement and Retention of Fifth-Grade Instrumental Students," *Journal of Research in Music Education* 39 (1991): 225.

[3] Eugenia Costa-Giomi, Patricia 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 (2005): 234.

[4] Ibid.

above-average need for attention may be at higher risk to drop out. Recognition and handling of individual student needs will therefore be examined.

The second section of this document focuses on achievement. Past research has attributed achievement to one of four causes—task difficulty, effort, ability, and luck.[5] However, achievement is more complex than that. High achievers often show high self-esteem, are non-confrontational, and are surrounded by many loved ones.[6] Yet these findings are not universally accepted, as conflicting research shows that successful musicians may actually be more prone to act confrontationally.[7] Research on the personality of achievement will be explored, and ideas on teaching students of various personalities will be discussed.

Additionally, several studies have supported the idea of students teaching each other. Research on the use of student-tutors has been shaped in many ways. Certain studies have shown that tutoring benefits not only the student-tutor but also the student-tutee.[8] Further evidence shows that students who study together regardless of their ability will make significant progress.[9] Benefits of using peer-to-peer learning as a supplement to private music lessons is one of many applications relevant to enhancing student accomplishment.

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[5] Bernard Weiner, "A Theory of Motivation for Classroom Experiences," *Journal of Educational Psychology* 71 (1979): 3.

[6] Edward Asmus, "Student Beliefs About the Causes of Success and Failure in Music: A Study of Achievement Motivation," *Journal of Research in Music Education* 34 (1986): 262.

[7] Reynold Kruger, "An Investigation of Personality and Music Teaching Success," *Bulletin of the Council for Research in Music Education* 47 (1976): 16.

[8] Linda Devin-Sheehan, "Research on Children Tutoring Children: A Critical Review," *Review of Educational Research* 46 (1976): 355.

[9] Erik Johnson, "The Effect of Symmetrical and Asymmetrical Peer-Assisted Learning Structures on Music Achievement and Learner Engagement in Seventh-Grade Band," *Journal of Research in Music Education* 65 (2017): 163.

The third and final chapter concentrates on studies surrounding the implementation of feedback in a structured manner. Teachers who improvise classroom lessons find lower student achievement in comparison to those who plan meticulously, and the benefits of private lesson planning will be examined.[10] The form of feedback students encounter is another important consideration. Although discarding the use of a private teacher is not recommended, similar benefits to private instruction have been observed using self-assessment.[11] Technology such as iPads and cell phones may also be useful feedback tools for students outside the studio. Research shows that students imitate opinions expressed by teachers about music, so conveying interest and excitement to young students in the lesson is advantageous.[12] Teachers who use high rates of positive feedback may also find higher rates of retention, achievement, and musicianship in students.

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[10] Pamela Pike, "The Differences Between Novice and Expert Group-Piano Teaching: A Case Study and Comparison of Beginning Group Piano Classes," *International Journal of Music Education* 32 (2014): 213.

[11] Jessica Napoles, and Judy Bowers, "Differential Effects of Instructor Feedback vs. Self-Observation Analysis on Music Education Majors' Increase of Specfic Reinforcement in Choral Rehearsals," *Bulletin of the Council for Research in Music Education* 183 (2010): 39.

[12] Kevin Droe, "The Effect of Teacher Approval and Disapproval of Music Performed in a Rehearsal Setting on Music Preferences," *Journal of Research in Music Education* 56 (2008): 267.

CHAPTER 2: STUDENT RETENTION

Introduction

A common concern among piano teachers is student retention. Even in grade school,

piano teachers have to compete with other extracurricular activities with students. And while the

study of music has been considered a core subject since Classical Antiquity, strains on education

budgets have put secondary music education at risk.[13] In some geographical areas, piano lessons

may be students' only opportunity for music lessons.

This chapter surveys a wide range of research devoted to the factors surrounding student

retention, providing suggestions for how this research might be applied to the private piano

studio. Researchers have explored many reasons why students ultimately quit music lessons;

factors such as musical aptitude, academic achievement, intelligence, attitude, and

socioeconomic status have all been linked to student retention.[14] Additionally, and unfortunately,

many students only start music lessons because their parents want them to.[15] Not surprisingly,

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[13] Wikipedia contributors, "Quadrivium," *Wikipedia, The Free Encyclopedia,* https://en.wikipedia.org/w/index.php?title=Quadrivium&oldid=819693717 (accessed March 13, 2018)

[14] Thomas Lewis Morehouse, "The Relationship of Selected Attitudinal Factors to Dropout and Retention in Beginning String Students" (EdD diss., University of Houston, 1987), 57.

[15] Robert Duke, Patricia Flowers, and David Wolfe, "Children Who Study Piano with Excellent Teachers in the United States," *Bulletin of the Council for Research in Music Education* 132 (1997): 51.

children who start music lessons for non-musical reasons are more likely to quit.[16] On the

contrary, students who independently profess a desire to study music are more likely to continue

lessons and have a greater chance of success.[17]

The dynamics of student retention are important for piano teachers to consider from all

angles. Handling students who have expressed a desire to quit lessons is a situation that teachers

dread, but strategies can be used with students who want to drop out. Furthermore, using test

scores to recruit music students has proven successful.[18] Students with high scores are generally

less likely to quit and often attain a high level of proficiency.[19] Other factors that may affect

retention include motivation and parental involvement.[20] While parents sometimes discontinue

lessons when children lose interest or become discouraged,[21] it is also true that students who do

not practice may be more at risk.[22] Strategies for dealing with such circumstances will be

discussed below alongside the survey of research.

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[16] Stephanie Pitts, Jane Davidson, and Gary McPherson, "Models of Success and Failure in Instrumental Learning: Case Studies of Young Players in the First 20 Months of Learning," *Bulletin of the Council for Research in Music Education* 146 (2000): 51.

[17] W. E. Mawbey, "Wastage from Instrumental Classes in Schools," *Psychology of Music* 1 (1973): 33.

[18] Willie Hill, "A Comparison of Factors Related to Participation and Achievement in Instrumental Music at the Middle School Level in Denver Public Schools" (PhD diss., University of Colorado at Boulder, 1987), 77-81.

[19] James Froseth, "An Investigation of the Use of Musical Aptitude Profile Scores in the Instruction of Beginning Students in Instrumental Music," (PhD diss., University of Iowa, 1968), 21.

[20] Manny Brand, "Relationship Between Home Musical Environment and Selected Musical Attributes of Second-Grade Children," *Journal of Research in Music Education* 34 (1986): 111.

[21] Duke, Flowers, Wolfe, "Children," 51.

[22] Gary McPherson, and Jane Davidson, "Musical Practice: Mother and Child Interactions During the First Year of Learning an Instrument," *Music Education Research* 4 (2002): 141.

"The Band Played On"

Barry Corenblum's[23] article, "The Band Played On: Predicting Students' Intentions to Continue Studying Music,"[24] concerns measuring student retention by testing prediction variables. Results indicate that socioeconomics may predict interest in music study. Also the attitudes of authority figures may predict continued music study. Finally, student-reported interest in music does not correlate with intentions to study music. Using these generalizations, I will provide thoughts on mitigating student dropout.

Summary

In this study, 243 ninth grade students in the St. James-Assiniboia school district of Winnipeg, Canada participated in a survey to determine what factors may contribute to students' intentions to re-enroll in a high school band class. A questionnaire was developed addressing certain variables including each student's socioeconomic level, outside musical activities, perceived school support, perceived parental support, earned grades both in band and other areas, and intentions to stay in band. Additional questionnaires were developed and given to each student's teacher and parents assessing perceived achievement and support. In total, seven schools participated, each including one participating teacher. The average age of students was approximately 14.5, and girls outnumbered boys approximately 3:2.

Questionnaires were designed with four hypotheses in mind:

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[23] Barry Corenblum is a professor of psychology at Brandon University in Manitoba, Canada. He is a published researcher in the areas of music education, childhood development, cognitive development, and minority group issues.

[24] Barry Corenblum, "The Band Played On: Predicting Students' Intentions to Continue Studying Music," *Journal of Research in Music Education* 46 (1998): 128-140.

1) Socioeconomic levels would predict outside musical activities, parental attitudes, and student re-enrollment intentions;

2) Perceived school support would predict teacher attitudes, student attitudes, and student re-enrollment intentions;

3) Teacher evaluations would predict student re-enrollment intentions;

4) Teacher evaluations and grades would predict student-reported reasons for success.

Each questionnaire was pilot-tested for clarity and to ensure it could be completed within one class period. Students were told the questionnaire was being administered to study why students do well in band class, and each was given the freedom to leave questions blank.

Results confirmed most of the hypotheses. Socioeconomic levels of students were found to be a predictor of intentions to stay in band. Although some students left questions about their parents' occupation blank, enough of the other socioeconomic questions (e.g. how many instruments the family owned) were answered to provide reliable data on students' socioeconomic levels. Socioeconomic level was also found to be a predictor of parental support and outside musical interests. Interestingly, parental support was found to be a negative predictor of outside musical activity. For example, the more strongly parents supported their child's participation in band, the less likely that child would participate in other musical activities such as private piano lessons.

The perceived enthusiasm of the school administration was found to predict teacher attitudes, and further, teacher attitudes predicted student attitudes. Surprisingly, student attitudes inversely predicted intentions, i.e. if a student expressed interest in continuing with band, he/she

was actually *less* likely to reenroll the next year. Additionally, socioeconomic level was found to be a predictor of the perceived enthusiasm of the school administration. Teacher evaluations predicted not only student intentions to stay in band, but also students' perceived attitudes about band. The more highly a student was rated by their teacher, the more likely he/she was to express intentions to stay in band and to express belief that their parents supported the program. Finally, student-reported reasons for success were predicted by teacher evaluations. The more highly a teacher rated a student, the less likely the student would express that their success came from external factors such as luck, a good rehearsal, or circumstance. Students that liked band were more likely to attribute their good grades to their own effective learning strategies.

Discussion

Perhaps the strongest finding of this study is that socioeconomics predicted not only student intentions to re-enroll in band class but also the perceived attitudes of both teachers and parents. Unfortunately, socioeconomics influence a larger culture, which values education and success. Thus, those from privileged backgrounds often implicitly value education and can financially support such pursuits.[25] While this is an uncomfortable reality for many, it is important to acknowledge because music teachers should be sensitive to recognize when students' potential may not fall in line with their parents' perceived financial possibilities. Highly talented students come from every financial background, and a teacher may be able to better control potential dropout scenarios through developing a sensitivity to possible financial

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[25] Desmond Sergeant and Gillian Thatcher, "Intelligence, Social Status, and Musical Abilities," *Psychology of Music* 2 (1974): 32-57.

constraints within families. Every student should have the opportunity to own their potential and not be limited by the restraints of socio-economic status.

Another important conclusion from this study is that perceived attitudes of teachers and parents predict re-enrollment intentions. The implications of this are two-fold. First, when students are supported in their endeavors, they are more likely to continue. And second, evidence shows that students' perceptions of their parents' and teachers' attitudes do not correlate with their parents' and teachers' *actual* attitudes. This means students are more likely to behave in relation to how they *believe* their parents and teachers feel versus how they *actually* feel. This is a highly significant distinction. As a piano student develops beliefs about his/her own playing, it is more important how the student *perceives* his/her teacher's opinions than his/her teacher's actual opinions. A teacher may believe a student to be highly talented, but if lessons are spent only administering corrections, the student may believe his/her teacher thinks poorly of his/her playing and therefore may believe his/her playing to be poor. This can affect confidence at the keyboard and slow the learning process. Likewise, lessons that maintain an optimistic and encouraging atmosphere are more likely to produce enthusiastic learning. Even less talented students may accomplish more if they believe they have the support of their parents and teachers.

Lastly, it is interesting to note that the attitudes of students themselves were not a valuable predictor of intentions to re-enroll in band class. This means that even when students expressed enjoyment or dissatisfaction with band class, these attitudes did not correlate with their intentions to re-enroll. There are several possible reasons for this. First, attitudes can vary dramatically over a short time span, and a student's opinion of band may change slightly even from week to week. Second, from a psychological standpoint, being questioned on both attitude

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and intentions simultaneously may have affected students' responses slightly. This is known as a suppressor variable. It would also be valuable to explore the correlation between intentions to re-enroll and actual re-enrollment, and similar surveys could be designed for piano student intentions and re-enrollment.

"Predicting Performance Achievement and Retention"

The article, "Predicting Performance Achievement and Retention of Fifth-Grade Instrumental Students"[26] by Richard Klinedinst,[27] concerns predicting student achievement and retention, which in turn affects student recruitment. This study showed that students who perform well on standardized tests may be more predisposed to musical success. Additionally, physical characteristics such as hand size and height do not have an effect on achievement or retention. I suggest the use of standardized tests to recruit students with the caveat that test scores alone are not enough to predict long-term achievement or retention.

Summary

A study was conducted to determine the effect of eleven different variables on criteria such as student performance, achievement, and retention among beginning music students. Students were tested in areas of reading achievement, mathematical achievement, musical background, musical self-concept, socioeconomic status, motivation, scholastic ability, musical

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[26] Richard Klinedinst, "Predicting Performance Achievement and Retention of Fifth-Grade Instrumental Students," *Journal of Research in Music Education* 39 (1991): 225-238.
[27] Richard Klinedinst is a retired elementary music teacher in the Cumberland Valley School District, outside Harrisburg, Pennsylvania. He is a published researcher in the areas of music student retention and achievement in elementary schools.

aptitude, attitude, music teacher rating, and physical characteristics. Scores for these criteria came from standardized tests such as the Stanford Achievement Test and tests designed by the author. After thirty-two weeks of instrumental instruction, students were tested on three etudes, written and vetted by the author—one prepared with teacher instruction, one prepared without teacher instruction, and one sight-read. Results were assessed by outside adjudicators and compared to variables for conclusions.

Results indicated a correlation between music achievement and reading achievement, mathematical achievement, and scholastic ability. Additionally, a correlation was found between student retention and socioeconomic status, self-concept in music, scholastic ability, mathematical achievement, and reading achievement. Of the original 205 students, fifty students had stopped instruction by the end of the study, leaving only 155 students (76%). Although no direct correlation was found between retention, achievement, and other factors, some inter-relational correlations were found. For example, a high correlation was found between the factors of musical background, musical self-concept, and attitude. Additionally, no correlation was found between musical achievement, retention, and physical characteristics. Data collected could predict retention reliably with 97% accuracy. Dropout rates were less predictable.

Discussion

Results from this study are relevant to the private piano teacher for a number of reasons, the first being the recruitment of students. Students who perform highly on reading and mathematical standardized tests could have more potential for success in musical achievement. When possible, teachers are encouraged to use standardized test scores to recruit students. Those

with high scores in mathematics and reading are likely to be successful music students as well. These students are also more likely to study music longer. Additionally, students from families with higher socioeconomic statuses are more likely to stay in lessons longer. Therefore, the teacher may consider developing incentive programs to encourage long-term retention among students from lower perceived socioeconomic backgrounds.

Evaluations such as those presented in this study may be administered to students to assess their potential achievement in music. Lessons and curricula should be tailored to address student strengths and weaknesses. Teachers need not worry about physical characteristics, such as hand size or height, as far as musical achievement and retention are concerned. Encouraging listening to classical music in the home will improve students' musical background, thus potentially improving students' self-concept and thereby increasing the chance for retention.

At the same time, a few cautions may be needed. For instance, results from this study may not apply as accurately to students over long periods of time. The results may also vary depending on the age at which a student begins playing piano. And finally, factors affecting dropout rates are numerous and difficult to quantify, including competing activities, household stresses, and peer pressure. As a teacher builds their studio, they may find it advantageous to recruiting and attract students with characteristics that predict interest in music. Additionally, developing an awareness of risk factors for student attrition may help the teacher find more uniform success in the recruitment and retention of a diverse studio population.

"Piano Lessons of Beginning Students Who Persist or Drop Out"

The article, "Piano Lessons of Beginning Students Who Persist or Drop Out"[28] by Eugenia Costa-Giomi,[29] Patricia Flowers,[30] and Wahaka Sasaki,[31] concerns student behavior over a three-year period and offers insight into reasons beginning students may drop out. Factors such as approval-seeking and low levels of achievement may affect retention, and I will present creative ways to handle such problems.

Summary

Costa-Giomi, Flowers, and Sasaki studied a collection of beginning piano students over the course of three years to identify behavioral differences between students who continued lessons for three years and those who dropped out. Students were surveyed, tested, and later paired based on similar levels of musicianship, academic achievement, socioeconomic status, and age. Each student was provided an acoustic piano, free of charge, as well as three years of piano tuition. At the end of the study, students who dropped out before the three-year period were paired and compared with students who remained in lessons for three years. Twenty-eight

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[28] Eugenia Costa-Giomi, Patricia Flowers, and Wahaka 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 (2005): 234-248.

[29] Eugenia Costa-Giomi is a professor of music education at Ohio State University and former professor of music at the University of Texas at Austin. She is an extensively published researcher and an expert in the fields of music education, music perception, and cognition with a specialty in the non-musical benefits of music instruction for children.

[30] Patricia J. Flowers is the dean of the School of Music at the Florida State University and former professor of music at Ohio State University. Her work both in conducting and reviewing research earned her the 2012 senior researcher award from the National Association for Music Education.

[31] Wakaha Sasaki is an elementary music teacher in Bangkok, Thailand, and a published researcher in the area of piano pedagogy.

students were paired. Of the fourteen students who dropped out before the end of the experiment, eight dropped out after one year, and six dropped out after two years. Students included both boys and girls in Grades 4, 5, and 6.

Aside from initial surveys and testing, students' lessons were videotaped after twelve to fifteen weeks of instruction and again after twenty-seven to thirty weeks of instruction. Although technique, scales, and theory were reviewed in most lessons, researchers concentrated on ten-minute segments from each lesson for the purposes of this experiment, during which prepared pieces were included as part of the review. Observed and recorded behaviors included playing the piano (both teacher and student), self-correction, approval seeking, verbal approval, verbal corrections, verbal cues, and direction of progress.[32] Finally, collected data were analyzed to find behaviors more prevalent in students who dropped out versus those who continued lessons for three years.

It was found that, in general, students who dropped out achieved less than students who continued for three years. Students who dropped out also scored lower on piano exams and needed more verbal cues during lessons. For both students who continued and those who dropped out, more than 50 percent of each lesson was utilized by student playing, and negligible time was spent in teacher demonstration. Around 20 percent of each lesson was considered "forward progress." Significant differences were found between students who dropped out after one year, students who dropped out after two years, and those who continued for three years.

Those who dropped out after two years were distinguishable from their more persistent peers in several ways. Second-year dropouts were found to have significantly lower piano exam

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[32] The percentage of the lesson spent introducing new goals, reviewing old goals, or reinforcing current goals.

scores, less teacher approval, more teacher cues, and less forward progress within lessons. However, differences between first-year dropouts and students continuing for three years were far less pronounced. Although first-year dropouts did receive less teacher approval, the difference was not significant. Also, no significant differences were found between first-year dropouts and students completing three years in the areas of piano exam results, corrections, forward progress within lessons, and verbal cues. The only area in which first-year dropout behavior was significantly different from students who completed lessons for three years was in approval seeking. Students who dropped out after one year sought teacher approval at a rate of approximately three times that of the students who persisted. Seeking approval included verbal questioning as well as soliciting eye contact.

Discussion

Results from this study can be interpreted in several ways. First, data seem to imply that, not surprisingly, students most at risk for dropout also score more poorly in other areas of achievement. While this observation may be accurate, it does not mean that lower achieving students will drop out or that high achieving students will continue lessons.

More interesting is that first-year dropouts and students continuing lessons for three years were largely indistinguishable statistically. This may be because first-year dropouts tend to quit for a wider range of reasons including, but not limited to, outside stresses, competing activities, and home life. These uncontrollable factors may effectively rob promising students of a quality musical education. In contrast, second-year dropouts were markedly different than students who continued for three years. Lower piano exam scores, a need for more verbal cues, less forward

progress within lessons, and fewer goals accomplished were all characteristics of second-year dropouts. Although achievement may not be the most reliable factor determining dropout, it does appear to play a role. Students continuing through two years of lessons may be less affected by factors such as competing activities, home life, and other outside stresses. At this point in the study, achievement may become a stronger predictor of dropout.

Remarkably, approval-seeking was the single factor that distinguished first-year dropouts from students who persisted through three years of lessons. It is possible that if teachers were more sensitive to individual student needs, dropouts may be more likely to continue lessons rather than to allow competing activities to take precedence. Otherwise, it may be that these students needed a level of attention the teacher was unaware of or unable to provide. Regardless, teachers aware of first-year students who exhibit high levels of approval-seeking should note that these students may be at a higher risk for dropout. Teachers are advised to address approval-seeking by determining if any student needs are not being met. These needs could include clarification of information or instruction, approval of accomplishments, or interest in non-musical activities.

Because low levels of accomplishment may present a risk factor for early dropout, certain measures may be taken. Simplifying goals may allow students to feel a greater sense of accomplishment. Also, assigning easier pieces may provide lower achieving students with manageable goals. Using supplemental materials with popular arrangements or familiar melodies may generate undiscovered interest. And finally, not requiring festival or competition participation of lower achieving students may prevent discouragement and/or frustration.

Because most music students will not develop into professional musicians, nurturing a deeper

appreciation for making music is a fundamental goal for all music teachers.

CHAPTER 3: ACHIEVEMENT

Introduction

Achievement is an objective for any teacher. The more a student learns, the more

rewarding a teacher's job can be, and achievements, like rewards, can be measured in a variety

of ways. Researchers have attempted to quantify some forms of achievement, and objective

measures can be persuasive arguments for both successful teaching techniques and the overall

effectiveness of teachers.

The use of approval and disapproval is one of many factors that may affect the

achievement of a student. Studies show that the use of approval alone may benefit the academic

success of students.[33] Additionally, presenting a variety of teaching strategies rather than a single

approach can foster effective teaching practices.[34] This section of the document focuses on a

select group of studies that address levels of student achievement and explores how insights from

these studies may be applicable to piano pedagogy.

Students who feel behind in their studies may seek tutors to bolster their understanding of

a subject. Teachers have also found that students may help each other when paired together. This

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[33] Douglas Greer, "Collateral Gains and Short-Term Maintenance in Reading and On-Task
Responses by Inner-City Adolescents as a Function of Their Use of Social Reinforcement While
Tutoring," *Journal of Applied Behavior Analysis* 15 (1982): 123.
[34] Pike, "Differences," 213

can be an efficient use of classroom time,[35] and there is evidence that this kind of tutoring is

equally beneficial to both students.[36] The articles surveyed below address this kind of tutor

relationship, offer ideas on how students might be paired, and examine what other factors may

affect the success of a tutor/tutee relationship.

Achievement reflects not only the progress of a student but also the effectiveness of the

teacher and his/her teaching strategies. It is overly simplistic to assume that success or failure is

only a matter of effort.[37] On the other hand, it is equally misleading to credit achievement to

innate ability, as is common among students.[38] Achievement is more likely a combination of

several factors including gender, socioeconomic status, intelligence, and personality traits.[39]

Additionally, evidence of objective achievement may not reflect subjective opinions about

students and teachers. Gaining insight into how achievement is recognized and perceived may

help piano teachers in their interactions with students, help parents in the selection of piano

teachers, and help piano teachers better understand their own success.

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[35] Arthur Robin, "Behavioral Instruction in the College Classroom," *Review of Educational Research* 46 (1976): 313.

[36] Devin-Sheehan, "Research," 355.

[37] Asmus, "Student Beliefs," 262.

[38] Carol Ames, "Achievement Attributions and Self-Instructions Under Competitive and Individualistic Goal Structures," *Journal of Educational Psychology* 76 (1984): 478.

[39] Daniel Bar-Tal, "Causes of Success and Failure and Their Dimensions as a Function of SES and Gender: A Phenomenological Analysis," *British Journal of Educational Psychology* 54 (1984): 51.

"The Effect of Symmetrical and Asymmetrical Learning Structures"

The article, "The Effect of Symmetrical and Asymmetrical Peer-Assisted Learning Structures on Music Achievement and Learner Engagement in Seventh-Grade Band"[40] by Erik Johnson,[41] addresses student achievement in terms of peer-assisted learning. Students of similar and dissimilar ability were paired as study partners, and researchers examined differences in outcome. Comparable improvement was found in both types of pairs, and only motivation was negatively affected by asymmetrical pairing. I encourage peer-assisted learning in the piano studio and recommend symmetrical matching.

Summary

A study was conducted to analyze the difference in effectiveness between two types of Peer-Assisted Learning (PAL). A total of 261 seventh-grade band students from one school district in the Rocky Mountain area were selected to participate. These students were given pre-tests in the areas of sight-reading, music theory, and learner engagement. Pre-tests were written by researchers to be in line with students' current curriculum. Additional surveys were given to assess participating students' socioeconomic status and their motivation orientation. Ninety-two percent of participating students reported band as their only musical activity.

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[40] Erik Johnson, "The Effect of Symmetrical and Asymmetrical Peer-Assisted Learning Structures on Music Achievement and Learner Engagement in Seventh-Grade Band," *Journal of Research in Music Education* 65 (2017): 163-178.

[41] Erik Johnson is Associate Professor of Music Education at Colorado State University. He is an award-winning conductor, researcher, and educator. His areas of expertise include music teacher identity development, music theory pedagogy, and the effect of music education on students with Autism Spectrum Disorder.

After the pre-experimental tests and surveys, students were split into two groups—

symmetrical and asymmetrical PAL groups. Students in the symmetrical group were paired with

students with the next highest average pre-test score. Students in the asymmetrical group were

paired with the next highest scoring student below the median. The purpose was to determine if

students with similar knowledge and ability were able to study more effectively together or if

students with dissimilar knowledge and ability worked more effectively together. Students were

given free rein as to which student would act as teacher and which would act as student. Students

swapped roles as they wanted, and students were given freedom to pace lessons as they wanted

and which topics to cover.

Students met three times a week for four weeks. Each session consisted of five minutes of

prep and twenty minutes of teaching for a total of 240 minutes of teaching. Teachers were given

three hours of PAL training before the experiment, and students were given thirty minutes of

training prior to the experiment. After the four weeks of PAL, post-tests were administered to

participating students. Post-tests were also written by researchers to be similar in difficulty to

pre-tests and in line with the current curriculum. Results of the post-test were computed, and

comparisons were made between pre- and post-tests to find correlations.

Students showed significant improvements in the areas of sight-reading and music theory

for both symmetrical and asymmetrical groups. However, there were no significant differences

between these two groups in terms of rate of improvement. Additionally, no significant change

was found for either group in learner engagement, defined as the personal connection held by

students to the material covered. Learner engagement was assessed through written surveys

administered both before and after the experiment.

Although there was no significant change overall to learner engagement, there did seem to be a weak, inverse correlation between socioeconomic status (SES) and change in learner engagement pre- and post-experiment. In general, the higher a student's SES, the more learner engagement would *decrease* during the experiment. Conversely, the lower the student's SES, the more learner engagement would *increase* across the experiment. Although learner engagement seemed to be affected by SES, improvements in the areas of sight-reading and music theory knowledge did not.

Discussion

Students in PAL showed improvement in sight-reading ability, music theory, and learner engagement in both symmetrical and asymmetrical environments. This provides strong evidence that PAL is an effective learning strategy. The SES of students was also considered, and while it did not affect improvements in areas of sight-reading ability and music theory, it did significantly affect results in learner engagement in asymmetrical contexts. Students with higher SES showed decreases in motivation, while those with lower SES gained motivation in this context. It may be that students with higher SES may not be able to maintain reciprocal learning arrangements with students of lower SES. No analysis was made of pre-test achievement levels in relation to SES, but if a correlation between pre-test ability and SES were to be found, the argument would be persuasive. Prior studies have found correlations between SES and achievement, but the explanations behind these results are complex and beyond the scope of this

study.[42] Additionally, students paired with other students of equal SES may find PAL less intimidating, but it can be difficult to sensitively and accurately assess SES in the private studio. Therefore, pairing students from the same school may be a suitable compromise.

In addition to SES, another factor concerning student achievement is the phenomenon known as *reactivity*, which may have affected the study's results. When subjects are aware that their performance is being observed, it can influence subjects to change their behavior. In this case, it may have caused subjects to work harder in an effort to please researchers. Blind studies usually account for such threats to internal validity.

It is also interesting to note that the researcher anecdotally observed that students remained interested in PAL for several sessions before any evidence of disinterest presented itself. The researcher further postulated that a decrease in the frequency of PAL sessions might prolong interest in the covered material.

The study's sample size, while sufficient, was limited in some regards. A relatively uniform sample population was created by only drawing subjects from one grade, all of whom had only one year of previous instrumental music education. While this made the sample population more uniform, more may be learned about PAL by enlarging the sample pool to include a wider range of ages and abilities. It is also worth pointing out that all material covered in PAL pairings was previously introduced by teacher-led instruction. It is not known if PAL is an effective learning strategy for the introduction of new concepts. From this study, it is only

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[42] James McCarthy, "Individualized Instruction, Student Achievement, and Dropout in an Urban Elementary Instrumental Music Program," *Journal of Research in Music Education* 28 (1980): 59.

suggested that PAL is effective in reinforcing and deepening understanding of previously introduced material.

Applications to piano pedagogy include pairing similarly capable piano students for ensemble work. This can increase mutual understanding of musical techniques and repertoire as well as enhance music-making in general. Rehearsals, both teacher-led and self-directed, can improve musical communication and time management in addition to being a rewarding musical experience.

Additionally, students working on such concepts as sight-reading and music theory might find this type of collaborative learning beneficial. Meeting one to four times a month with a peer to work on theory or sight-reading may improve both students' grasp of these concepts. Students may be paired with similarly or divergently matched abilities; however, because it may be slightly more effective, it is the writer's recommendation to use symmetrical arrangements. Additional performance opportunities, recitals, and lifelong friendships are all potential benefits of these pairings.

One final observation relates to the reciprocal nature of this study. The researcher suggests that the study's success may be partially due to the freedom allotted students to construct study sessions entirely on their own. While most students tended to "assign duties" rather than working cooperatively throughout the process, this tendency waned over the course of the study. The process may have strengthened individual students' independent study skills as well.

"An Investigation of Personality and Music Teaching"

The article, "An Investigation of Personality and Music Teaching Success"[43] by Reynold Krueger,[44] concerns the relationship between student achievement and their teacher's professional reputation. By analyzing factors such as motivation and intelligence, findings show that teacher personality traits useful in motivating students may, in turn, adversely affect esteem among colleagues. I recommend that teachers analyze their own and their students' motivations to better tailor lessons and to be wary of criticism against their own or their peers' teaching skills because objective and perceived effectiveness are not interdependent.

Summary

The researcher requested participation from 500 music educators across the country for a study designed to determine 1) if there were a relationship between objective success and subjective success of music teachers and 2) what factors of personality and motivation affect both objective and subjective success of music educators. Complete participation and data was collected from 209 music educators and 73 student music teachers. The sample represented 80 secondary school districts and seven schools of higher education across 16 states.

Students from the 282 subjects were given researcher-designed pre- and post-tests in areas of achievement prescribed by the *Musical Achievement Test* (MAT) designed by Richard

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[43] Reynold Krueger, "An Investigation of Personality and Music Teaching Success," *Bulletin of the Council for Research in Music Education* 47 (1976): 16-25.

[44] Reynold Krueger is music education professor emeritus at the University of North Dakota, where he also served as chairman of the Department of Music. During his tenure he published research and scholarly material on music achievement, aptitude, preferences, and participation in public school systems and rural, ethnic communities.

Colwell. Sixteen weeks of instruction occurred between the pre- and post-tests. Subjects were also given tests and questionnaires to determine characteristics of personality (e.g., intelligence, imagination, confidence, introversion/extroversion) and motivation (e.g., need for recognition, achievement, social status, competition).

Scores from pre-tests were subtracted from scores on post-tests to calculate improvement, or gains [G]. Teachers whose students received the highest [G] scores were considered the most objectively successful. These scores were calculated against personality and motivation scores to find correlations. Additionally, the students, colleagues, and supervisors of the subjects were given questionnaires to determine how successfully each subject was perceived. These scores were tallied to give each subject a subjective rating [R]. The personality and motivation of each subject were weighed against the subjects' scores in the following ways: 1) [G] objective score alone; 2) [R] subjective score alone; 3) [G+R] total score; 4) [G-R], or the discrepancy between how objectively successful a teacher was versus how successful the subject was perceived.

No significant correlations were found between experimental variables (personality and motivational scores) and [R] or [G+R]. However, significant correlations were found for both [G] and [G-R] against experimental variables. Objectively successful teachers, or those with high [G] scores, scored highly on intelligence, assertiveness, defensiveness and argumentativeness. They also tended to be homebodies, have a low need for social approval, and a low need for social status.

Interestingly, those teachers with much higher objective [G] scores than subjective [R] scores had similar correlations in addition to dissimilar ones. Subjects with high discrepancy tended to avoid social situations, have a low need for career satisfaction, and were less likely to

avoid onerous duties. Additionally, no correlation or connection was found between subjects' objective and subjective scores. Females differed from males only in that their need for social approval was higher.

Discussion

Findings show that a teacher's perceived success does not necessarily reflect their objective effectiveness. Effective teachers are less likely to value social acceptance, to value career satisfaction, and to avoid onerous duties. Further, teachers whose students are high achievers tend to be homebodies, are defensive and hostile in nature, and have a lower need for admiration/competition. These personality traits may adversely affect professional reputation.

Factors such as motivation and personality influence a teacher's abilities. In fact, the researcher concluded that between 12 and 17 percent of students' improvement is attributable to a teacher's motivation and personality. Because motivation factors are considered malleable,[45] teachers are advised to surround themselves with other effective teachers. The company of expert colleagues provides opportunity for professional discourse which may close educational gaps. Further, this camaraderie may align motivations which may sharpen studio techniques. While education is important in any career, the benefits of a strong, professional network cannot be overemphasized.

Using these observations, it is possible to make some generalizations. First of all, private instructors are advised to assess the personality and motivations of both themselves and their students. Understanding a student's motivation is better for understanding the student. Moreover,

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[45] Matthew Schatt, "Achievement Motivation and the Adolescent Musician: A Synthesis of the Literature," *Research and Issues in Music Education* 9 (2011): 7.

identifying personal strengths and weaknesses allows teachers to better prepare to handle

students in the classroom and studio. A stronger understanding of motivations could provide

more individually tailored lessons, which are designed to encourage higher rates of achievement.

Although experience may generate high achieving students, teachers may disregard unsolicited

criticism concerning their own teaching. Furthermore, teachers may be wary of opinions

regarding the abilities of other teachers. Teachers with poor reputations may actually produce

high achieving students. High achieving students are the result of highly effective teachers, not

necessarily highly regarded teachers.

The aggressiveness that the researcher postulates is conducive to a successful music

career may, in fact, adversely affect a teacher's professional reputation. While interpersonal

skills are helpful in relationships between colleagues, they may be less necessary in the teaching

of students. Still, due to the threat of dwindling arts programs, a combative spirit may be

valuable in maintaining music support, and aggressive teachers may inspire students to reach

levels of excellence in music.

"Peer Tutoring Effects in the Music Performance of Tutors and Tutees"

The article, "Peer Tutoring Effects in the Music Performance of Tutors and Tutees"[46] by

Lucille Alexander[47] and Laura Dorow,[48] addresses student achievement in peer review and peer-

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[46] Lucille Alexander, and Laura Dorow, "Peer Tutoring Effects in the Music Performance of Tutors and Tutees in Beginning Band Classes," *Journal of Research in Music Education* 47 (1976): 33-47.

[47] Lucille Alexander is a researcher and former band director from Edina, Missouri. She completed her masters and doctoral degrees in music education from Teachers College of Columbia University and has taught across the country including in St. Louis, Manhattan, and

tutoring. Under two experimental conditions, results indicated that students in peer-tutoring relationships showed more improvement than students in group teaching situations. Additionally, evidence indicated that approval was a more effective teaching strategy than disapproval. I advocate the use of approval based peer-assisted learning in the piano studio due to its low cost and high potential for increased achievement.

Summary

The researchers designed a set of two experiments to answer two questions. 1) Would beginning band students improve more from peer tutoring or group lessons? 2) How would approval versus disapproval affect results?

In the first experiment three elementary schools were selected, each having a beginning band class consisting of fourth-grade students. Fifty-four students from the three schools were selected randomly and given a researcher-designed pre-test. The pre-test consisted of sight-reading requiring both note and rhythm reading. Each student was tested individually, and each test was audio-recorded and graded by two independent observers for reliability (= 0.87).

Students with scores in the upper 50th percentile were designated as tutors, and students in the lower 50th percentile were designated tutees. The tutors and tutees were paired randomly, and tutors were also given approval, disapproval, or control assignments. Nine pairings were created for each of the approval, disapproval, and control groups.

Puerto Rico. In addition to research, she has published band arrangements and was a founding member of the National Woman Band Directors Association.

[48] Laura Dorow is professor emerita in education at Utica College. A former professor at Teachers College, Columbia University and SUNY New Paltz, with over twenty-seven publications. Her research interests include behavioral education and geriatric therapy.

Approval and disapproval tutors were given additional training. Approval tutors were instructed to give only positive feedback on items ranging from intonation to posture to promptness. Disapproval tutors were instructed to provide only error correction during sessions. Both approval and disapproval tutors modeled passages they were assigned to teach.

Each tutor/tutee partnership met for thirty minutes, once a week, for five weeks. Each session was independently observed to assess reliability. Control tutors and tutees did not meet in pairs, but instead met for thirty minutes, once a week, for five weeks in a group lesson. In group lessons, instructors led students through the same exercises covered in student pairings and provided both approval and disapproval.

At the end of five weeks, all participating students were given a researcher-designed post-test. Improvements in scores were noted and compared for analysis. Results indicated that all groups showed improvements except the control tutees. Improvements of both approval and disapproval tutees were significantly greater than of control tutees. Approval, disapproval, and control tutors all improved significantly and comparably. No significant difference was found between improvements from approval versus disapproval.

The second experiment was similar to the first, with certain modifications designed to improve results. Three elementary schools were chosen, each providing fourth and fifth grade beginning band students. A pre-test was administered containing two sections, one for pitch and one for rhythm. Each student was responsible for executing one element of music at a time, which made reliability of grading stronger (reliability = 0.97).

Students in the top 50th percentile were designated tutors, and the lower 50 percent were designated tutees. Students this time met for six weeks instead of five, and sessions lasted thirty-

five minutes instead of thirty minutes. During training, tutors were asked to record feedback. A reward system allowed tutors to earn points based on feedback given, and tutees earned points based on exercises successfully completed. Control tutors and tutees then met in group lessons for thirty-five minutes, once a week, for six weeks.

At the end of six weeks, all students were given a researcher-designed post-test in which students were tested individually on pitch and rhythm. Test results showed significant improvements by approval, disapproval, and control tutors, with approval tutees improving significantly more than control tutees. No significant difference was found between disapproval tutees and control tutees. A correlation was found between improvement and the number of approvals given, but no such correlation was found between disapproval and improvements.

Discussion

While results from this experiment strongly suggest that peer tutoring is a helpful teaching strategy, it is useful to look more closely at the many factors contributing to the advantages of such an approach. An initial point worth mentioning is that tutors in all three groups from both experiments experienced significant gains from pre- to post-test. This is likely due to several reasons. Tutors often demonstrated passages for their tutees, and the additional practice, pressure, and accountability from this activity could account for improvements in approval and disapproval tutors though not for control tutors. Since tutors were selected as the highest pre-test achievers, it is reasonable to assume they were already the most intelligent and motivated students so it not surprising that their skills continued to improve in all conditions.

More interesting is the difference in improvements among tutees. In experiment one, tutees in approval and disapproval conditions greatly improved pre- to post-test whereas control tutees made no significant improvements. This demonstrates a clear advantage to individual attention versus group lessons. Even though tutors were far less knowledgeable than group class instructors, results showed higher gains in tutor-tutee conditions.

In experiment two, however, results showed differences in approval versus disapproval conditions. Only the approval tutees made significant improvements under these conditions. Disapproval tutees made observable but ultimately insignificant improvements; the control tutees also made only scant improvements pre- to post-test. This lack of improvement could be because of changes made to the pre- and post-tests in the second experiment. Tutors were also instructed to tally their approvals and disapprovals, which may have increased feedback, and this potential increase in feedback may have amplified the differences in effectiveness. Finally, subjects may have been less likely to give negative feedback due to potential discomfort in criticizing peers.

While the results from this experiment were not entirely conclusive, some principles can be applied to piano pedagogy. It seems likely that developing tutor relationships would greatly benefit not only beginner piano students but also their teachers and families. This low-risk, potentially high-reward system would incur no additional financial burden on the individuals involved. More advanced students stand to gain valuable teaching experience, while less advanced students benefit from additional individual attention. Opportunities for duets and ensemble performance also increase under this system, and students in ensembles enjoy a camaraderie that private piano students sometimes do not experience. Teachers can offer extra direction to tutor/tutee pairings without additional lessons, for instance by assigning repertoire,

recordings to explore, and other materials to address deficiencies and encourage interests. Materials such as theory or history books are also suggested. Teachers are advised to train student-tutors to give positive feedback since its benefits outweigh disapproval.

CHAPTER 4: STRUCTURED FEEDBACK

Introduction

A central component of the interaction between a teacher and student is feedback.

Feedback is the first evidence a student has that he/she is meeting a teacher's goals. It is

therefore important for teachers to be mindful of the feedback given to students, including its

frequency, appropriateness, timing, and tone.

Interestingly, self-assessment has been explored as a viable alternative to teacher

feedback. Research has shown that students often self-assess at rates higher than the frequency of

assessment given by instructors.[49] However, other studies find that students can be more critical

of themselves than their instructors.[50] Despite this inconclusive evidence, self-assessment has

been shown to be effective in improving musicianship skills.[51] To address the question of

whether structured feedback is superior to self-assessment, research regarding this issue will be

surveyed in the first part of this chapter.

Lesson planning is another issue relevant to music education. While lesson planning is an

integral part of the general music education curriculum, it is not yet ubiquitously included in

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[49] Michael Hewitt, "Self-Evaluation Accuracy Among High School and Middle School Instrumentalists," *Journal of Research in Music Education* 53 (2005): 148.

[50] Steven Morrison, "The Effect of a Recorded Model on Band Students' Performance Self-Evaluations, Achievement, and Attitude," *Journal of Research in Music Education* 52 (2004): 116.

[51] Cornelia Yarbrough, "The Relationship of Behavioral Self-Assessment to the Achievement of Basic Conducting Skills," 35 (1967): 183.

piano pedagogy coursework. Effective teachers are skilled at sequencing lessons into structures that set up students to achieve. By breaking down skills into manageable parts, students are more likely to receive deserved positive reinforcements.[52] Students may be desensitized to praise if it is given non-contingently, especially as praise can be seen as less "sincere" than criticism.[53] Research studying the advantages of structured versus unstructured instruction is presented below in the second part of this chapter.

Finally, the allotment of feedback has been the subject of numerous studies. One central theme to the idea of feedback is the general education principles of direct instruction. First introduced as a method for teaching mathematics and reading, the principles associated with it have been applied to music education. As part of a learning cycle, its creators believe it to be the ideal learning pattern.[54] As such, research revolving around the effectiveness of this strategy is explored in the final part of this chapter along with applications to piano pedagogy.

"Differential Effects of Instructor Feedback vs. Self-Observation Analysis"

The article, "Differential Effects of Instructor Feedback vs. Self-Observation Analysis on Music Education Majors' Increase of Specific Reinforcement in Choral Rehearsals"[55] by Jessica

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[52] Jere Brophy, "Teacher Praise: A Functional Analysis," *Review of Educational Research* 51 (1981): 5.

[53] Clifford Madsen and Robert Duke, "Perception of Approval/Disapproval in Music Education," *Bulletin of the Council for Research in Music Education* 85 (1985): 119.

[54] Barak Rosenshine, "Recent Research on Teaching Behaviors and Student Achievement," *Journal of Teacher Education* 27 (1976): 61.

[55] Jessica Napoles, and Judy Bowers, "Differential Effects of Instructor Feedback vs. Self-Observation Analysis on Music Education Majors' Increase of Specific Reinforcement in Choral Rehearsals," *Bulletin of the Council for Research in Music Education* 183 (2010), 39-48.

Napoles[56] and Judy Bowers,[57] examines the effectiveness of teacher feedback in comparison to student self-observation. Both strategies are found to be equally valuable. To incorporate this into lessons, teachers may record lessons and train students in self-observation techniques. Additionally, self-observation and self-assessment using video equipment are recommended components of each private teacher's annual professional development.

Summary

Twenty-seven students were selected from choral techniques classes at two major state universities. Researchers were interested in determining whether feedback from instructors was more, less, or of equal help than self-assessment in increasing the quantity of specific reinforcements among teachers-in-training. Students were divided into two groups: self-assessment and teacher feedback. Each group consisted of male and female students, in a ratio of roughly 2:5 male:female, in either their junior or senior year of college.

Each student ran a brief, preliminary choral rehearsal to determine pre-experimental rates of specific reinforcement. After this pre-test, students in the teacher feedback group were given a detailed script by their instructor containing instances of specific feedback. Students in the self-assessment group watched a video recording of the choral rehearsal and wrote a script detailing their own instances of specific reinforcement. Instructors wrote scripts of these rehearsals as

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[56] Jessica Napoles is a professor of music education at the University of North Texas and former professor of music education at the University of Utah. She is an extensively published researcher currently serving on the editorial board of the *Journal of Research in Music Education*.

[57] Judy Bowers is chair of music education at the University of Louisiana at Monroe and a former professor of music education at Florida State University. Her research and writings have been published in both music education journals and choral textbooks.

well, which were not given to students. When discrepancies were found between student and instructor scripts, instructor script results were used for the sake of this experiment.

This process was repeated three times, totaling four choral rehearsals for each student and three instances of feedback. Over time, students from both groups increased their rates of specific feedback by roughly the same amount. Although rates of specific feedback increased over the span of the experiment, they did not increase in a predictable way. Rates of specific feedback increased after the first rehearsal, dropped after the second rehearsal, and increased the most after the third rehearsal. This trend was similar for both self-assessment and teacher feedback groups. Results from the experiment show that while results from individual students varied greatly, self-assessment seems to be a viable alternative to teacher instruction in the increase of specific reinforcements in choral rehearsals among teachers-in-training.

Discussion

The motivation behind this study, which seeks to determine whether students are able to effectively increase desirable behaviors with or without the presence of a teacher, is admirable. Results offer insight and raise further questions. First, the parameters of the experiment are founded on the idea that increasing the number of specific reinforcements in a classroom setting is valuable. This rests on the assumption that high rates of specific reinforcement demonstrate sound pedagogy and are conducive to increased student learning. While both teacher feedback and self-observation increased the use of specific reinforcement, the experiment did not measure increases in student learning. Regardless, teachers are advised to record student lessons so that they may supplement their private studio time with self-observation.

Additional applications to piano pedagogy are evident. Instructors may demonstrate passages in recorded lessons, which students may use for later reference. Also, I recommend that teachers observe recorded lessons with students to train students in self-observation techniques. Furthermore, students who record and observe practice sessions may see additional benefits. By age 12, most students should have the maturity to use this technique to supplement private lessons. Replacement of private instruction with self-observation, however, is not advised, as students benefit from the education, experience, and highly developed ears of professional performers and teachers.

An interesting observation is that, while students increased desired behavior with both techniques, patterns were unpredictable, and individual student results within each group varied drastically. Some students benefited greatly from the use of self-observation; however, it was far less helpful for other students. In light of this fact, it is advised that piano teachers experiment with the use of self-observation within their studio. For students who find less benefit in the activity, the exploration of other student-centered learning techniques is recommended.

Lastly, although the purpose of this experiment was to assess how teacher feedback compared with self-observation, it should be noted that natural rates of reinforcement tend to fluctuate. Particularly as performances draw near, rehearsals begin to resemble dress rehearsals and specific feedback decreases. Furthermore, while the increase of feedback over time is desirable, reinforcements lose effectiveness if they are non-contingent. Therefore, it is recommended that feedback be dependent upon student behavior, and teachers are advised to record themselves to identify effective feedback strategies in order to increase their usage.

"Proactive versus Reactive Teaching"

The article, "Proactive versus Reactive Teaching: Focusing Observation on Specific Aspects of Instruction"[58] by Robert Duke[59] and Clifford Madsen,[60] focuses primarily on the benefits of hierarchically structured lessons versus non-hierarchical ones. Results indicate that students learn faster with highly regimented lesson plans, and ideas on lesson structure are suggested in the discussion.

Summary

An experiment was designed to compare teaching results from instruction with no structure to instruction following a regimented, twelve-step, hierarchical method. Researchers enlisted 84 students from the University of Texas at Austin and Florida State University to participate. Students were enrolled in a Fundamentals of Music class. The sample was taken to be representative of the student body at each respective school. Students were given twelve weeks of instruction on the guitar and were asked to find a volunteer who would then receive a lesson. Students were to teach a simple, two-chord song to the volunteer, who was required to sing and play.

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[58] Robert Duke and Clifford Madsen, "Proactive versus Reactive Teaching: Focusing Observation on Specific Aspects of Instruction," *Bulletin of the Council for Research in Music Education* 108 (1991): 1-14.

[59] Robert Duke is a professor of music at the University of Texas at Austin. A widely published researcher, his interests span not only music education, but also medicine and psychology. He has developed software, authored books, and is featured on a regular podcast.

[60] Clifford Madsen is a distinguished professor of music education at Florida State University. He has authored and co-authored countless articles and books over his 50+ year career. In addition to his expertise in music education, Dr. Madsen is a champion of music therapy and the psychology of music.

The students were divided into two groups. The first group was given the instructions to be positive and to make the lesson as enjoyable as possible, and that the lesson would be over when the volunteer could successfully sing and play the assigned song. Students in the second group were given a detailed hierarchical sequence of instructions that included specific tasks to teach in a particular order with a suggested amount of time assigned to each step.

Each lesson was audio-recorded and was later analyzed by two graduate students in music education. Two students were used instead of one to increase reliability of results. Lessons were analyzed in the areas of teacher feedback, accuracy of performance, and direction of progress within lessons. Results of lessons from the hierarchical group were compared to lessons without the sequence of teaching for analysis. Because lessons were all of different lengths, percentages of behaviors were compared instead of frequencies of behaviors.

Results indicated some similarities and some differences between the two groups. Groups were similar in terms of the amount of time spent modeling, describing instructions, and giving specific directives. Additionally, no significant difference was found in the amount and usage of approval and disapproval except in one area. Although inaccurate feedback comprised less than one percent of overall feedback within lessons, significantly more inaccurate feedback was found within the non-hierarchical lessons than the hierarchical ones.

Further discrepancies arose with respect to the ratios of inaccurate to accurate performance trials. Volunteers within the non-hierarchical lessons executed a significantly larger percentage of inaccurate performance trials than the hierarchical volunteers. Even within the successful performance trials, students under hierarchical conditions performed with a stronger tone and fewer hesitations than their non-hierarchical counterparts. Significantly more time was

devoted to forward progress in the hierarchical lessons than in the non-hierarchical lessons, and fewer repetitions of directives were found within the hierarchical lessons as well. Additionally, backward progress was found more often within non-hierarchical lessons than in hierarchical ones.

Surveys were given both to volunteers and graduate students at the conclusion of the experiment. The overall responses were positive regarding participation in the experiment, and certain insights from the surveys were particularly enlightening. For instance, volunteers within the hierarchical structure rated lessons as more "frustrating" than did volunteers participating in the non-hierarchical lessons. Additionally, graduate students reported gaining more sensitivity to the process and language of education and believed that their participation in the experiment would make them better teachers.

Discussion

Results indicate that hierarchically structured lessons are preferable to non-hierarchical ones. Students in hierarchical lessons learned more quickly and were subject to less inaccurate feedback. Because private teaching is often expository, teachers have much to learn from this study. Private teachers typically react to what students do as opposed to planning what will be learned in lessons. Students and teachers benefit more from planned lessons than from unstructured lessons.[61] By creating hierarchically structured lessons, teachers may use time more efficiently and increase student achievement. These lessons should be planned so that goals are broken into component parts. Also a suggested time should be given to work on each component.

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[61] Pike, "Differences," 213.

Although the exact hierarchical sequence used for this experiment was not shared, teachers are encouraged to experiment with ways to structure lessons. Breaking music into smaller sections, separating the hands, and isolating difficult passages are all appropriate strategies. Detailed approaches such as these increase student focus and help students perform more successfully. Other benefits include fewer repetitions of instructions and faster student progress.

Ironically, students found the structured lessons more frustrating than the non-structured ones. This could be because the detailed structure put pressure on teachers to achieve results at the expense of non-musical, social interaction. Alternatively, frustration may be a necessary element in learning. Although students did not report dissatisfaction with either type of lesson, sensitivity to students' concerns is important. Additionally, reports by graduate students at the end of the experiment illustrate how participation in research has educational benefits beyond the intentions of the researchers. Graduate students saw first-hand the difference a rubric can make within lessons. Teachers are encouraged to develop and implement simple experiments in their own studios. Planning such an experiment necessitates thoughtful analysis of studio behaviors, which alone may improve techniques.

It is significant to note that while training in lesson planning is included in general music education curriculums, it is sometimes overlooked in piano pedagogy classes, yet it is beneficial to gain experience in developing hierarchical lesson plans even at the undergraduate level to instill the notion of lesson planning from the earliest teaching experiences. The more prepared teachers are, the more polished delivery teachers can offer students, and this is critical to demonstrate from even a child's first lesson.

"Sequential Patterns of Instruction"

The article, "Sequential Patterns of Instruction in Music"[62] by Cornelia Yarbrough[63] and Harry Price,[64] concerns structural feedback in terms of direct instruction outcomes in student learning. Results indicate that the technique is not effectively employed by experienced teachers. Despite its lack of enthusiastic support, it is relevant for use in the private studio because of factors such as its organizational merits. Additionally, I support the increased inclusion of musical information and the use of self-observation to improve the quality of feedback.

Summary

Researchers were interested in studying how much the principles of *direct instruction* were reflected in the teaching patterns of both novice and experienced instrumental and choral teachers. The principles of direct instruction were laid out by B.V. Rosenshine's 1976 article, "Recent Research on Teaching Behaviors and Student Achievement," published in the *Journal of Teacher Education*. This general education article laid out optimal teaching as a three-step process, including 1) teacher introduction of a concept; 2) student response to the concept; and 3)

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[62] Cornelia Yarbrough, and Harry Price, "Sequential Patterns of Instruction in Music," *Journal of Research in Music Education* 37 (1989): 179-187.

[63] Cornelia Yarbrough is a retired professor of music education at Louisiana State University. She is the author of *Competency Based Music Education* and has contributed to numerous articles in professional research journals. A former editor-in-chief of the *Journal of Research in Music Education*, she is a member of a variety of professional organizations including Music Educators National Conference, Louisiana State Music Association, and the American Educational Research Association.

[64] Harry Price is a professor of music education at Kennesaw State University. Former professor of music education at the Universities of Alabama and Oregon, he has served as guest reviewer for both *Psychology of Music* and the *Journal of Research in Music Education*. With over 75 published articles to his credit, his continued interests include expanding research experiments internationally.

teacher reinforcement. According to Rosenshine, this process should be repeated as a cycle within lessons or rehearsals for the highest efficiency of learning.

Yarbrough and Price designed an experiment to test the percentage of time within rehearsals spent successfully using this educational process. Subjects were divided into four categories: freshmen music education majors (N=30), sophomore music education majors (N=19), professional instrumental music instructors (N=15), and professional choral music instructors (N=15). Freshmen were given no pre-experimental training and were videotaped teaching a group of preschoolers a song. Sophomores were trained in the technique of direct instruction and were videotaped teaching their peers. Both professional choral and instrumental instructors were videotaped during regularly scheduled class times with their usual classrooms.

After all classes had been videotaped, verbatim scripts were written for analysis. Scripts included all dialogue and musical excerpts rehearsed, including the order and amount of time spent on each. These results were tested for reliability by an independent observer with a reliability calculated at 0.94. Each event within the scripts was coded either "1" for teacher presentation, "2" for student response, or "3" for reinforcement. Teacher presentation included a wide range of items including giving instructions, counting, and assigning parts to specific students. Student responses included performance episodes and verbal responses. Reinforcement included both academic and social approval and disapproval.

Researchers used the coded scripts to determine how much of the time in each rehearsal was spent in correct direct instruction cycles and how much was spent in incorrect cycles. Correct cycles were only those which followed the 1-2-3 pattern. Cycles were considered incorrect if reinforcement was unrelated to instruction and response at hand; if reinforcement

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was incorrect; if too many instructions were given; or if reinforcement was not given. Results showed that only the untrained freshmen group spent more time in rehearsals in correct direct instruction cycles than incorrect ones. Additionally, for all groups, time spent on teacher presentation and student response far outweighed time spent on reinforcement. All groups generally spent a low but equal amount of time on presenting musical information to students except the sophomores, who spent more time on this area. It was further observed that professional instructors gave a greater amount of disapproval than approval, while the opposite was true for the freshmen and sophomores.

Discussion

The experiment revealed that the process of direct instruction was rarely utilized. Furthermore, researchers were alarmed at the low amount of musical information given during rehearsals. Except for sophomores, no group devoted more than 20 percent of rehearsal time to explaining musical ideas, and it seems critical that teachers consciously increase the amount of musical information included in lessons.

Also, experienced teachers seemed to provide more negative feedback than expected. This is surprising since numerous studies have demonstrated that approval is a more effective teaching technique and that disapproval may in fact be counterproductive.[65] Therefore, it is advisable to include more positive feedback in lessons. It is encouraging that younger teachers

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[65] Mary Nafpaktitis, Roy Mayer, and Tom Butterworth, "Natural Rates of Teacher Approval and Disapproval and Their Relation to Student Behavior in Intermediate School Classrooms," *Journal of Educational Psychology* 77 (1985): 362.

were more positive in their feedback, and it is unknown why experienced teachers were more negative in feedback.

Data from this experiment were taken from the accuracy of teaching sequences. Interestingly, mistakes happened most often in two ways: 1) inappropriate feedback and 2) extraneous directives. I suggest that teachers record lessons in order to determine levels and quality of feedback. While it is easy to inadvertently give inappropriate feedback, with vigilance, levels and quality may both increase. Also self-observation may reveal the use of excessive instructions. Awareness of such habits allows teachers to refine the delivery of their directions. Students are better able to accomplish clearly stated goals.

Although results showed that direct instruction is not commonly used among experienced teachers, I still encourage teachers to incorporate this technique in their private studio. While its long term value is still uncertain, its use will increase the thoughtfulness of feedback. Furthermore, in lieu of negative feedback, teachers may choose to give corrective feedback, examples of which include demonstration and neutral directives. Instructions without connotation may preclude student insecurity. Building confidence in students is an essential element in instructor feedback. Direct instruction provides a means to increase efficiency of language which in turn may improve achievement and build confidence.

"Natural Rates of Teacher Approval and Disapproval"

In coordination with Tom Butterworth, the Los Angeles County Superintendent of Schools, a research project was authored and implemented. The resulting publication, "Natural Rates of Teacher Approval and Disapproval and Their Relation to Student Behavior in

Intermediate Classrooms"[66] by Mary Nafpaktitis[67] and Roy Meyer,[68] concerns the effect of appropriate versus inappropriate feedback. Results show a connection between off-task behavior and inappropriate feedback and, further, on-task behavior and appropriate feedback. The quality of feedback will be improved by formulating detailed lesson goals, which may increase achievement and decrease the misbehavior of young students.

Summary

A study was conducted to observe natural rates of approval and disapproval in the classroom and to determine if any correlation existed between approval and disapproval rates and student on-task and off-task behaviors. With the aid of a grant from the Los Angeles County Superintendent, sixty-three intermediate schools were contacted in the district for participation. Of the 63 contacted schools, twenty-nine agreed to participate.

The researcher enlisted the help of seven graduate students to serve as classroom observers and data collectors. Three classrooms were selected at random at each of the 29 schools. Only academic classrooms were selected. Within each classroom, six students were selected at random for observation.

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[66] Mary Nafpaktitis, Roy Mayer, and Tom Butterworth, "Natural Rates of Teacher Approval and Disapproval and Their Relation to Student Behavior in Intermediate Classrooms," *Journal of Educational Psychology* 77 (1985): 362-367.

[67] Mary Nafpaktitis is a practicing clinical psychologist in Charlottesville, Virginia. A former psychologist for the Manhattan Beach School District in Manhattan Beach, California, her research interests include teacher appraisal, the psychology of vandalism, and industrial organization.

[68] G. Roy Mayer is professor emeritus at California State University. He currently works at San Diego State University in the Department of Special Education. His research interests include developmental psychology, clinical psychology, and special education.

Students were observed for three behaviors: 1) on-task behavior, i.e., behavior in line with completion of teacher assignments; 2) non-task behavior, i.e., non-disruptive behavior that does not fall in line with teacher assignments; and 3) disruptive behavior, i.e., behavior that is off-task and disturbs other students.

Teachers were observed for three behaviors: 1) appropriate approval, i.e., approval that immediately follows on-task behavior; 2) inappropriate approval, i.e., approval that follows off-task or disruptive behavior; and 3) disapproval, i.e., criticism or punishment.

Classrooms were observed for 30 minutes, of which 15 minutes were devoted to students and 15 minutes were devoted to teachers. Occurrences of behaviors were recorded in ten-second increments. Reliability was assessed through the use of additional data collectors. Each classroom was observed five times. Approximately one week's time lapsed between each class meeting. The first two class meetings' data was not used, which served as an acclimation period to avoid possible reactivity effects.

High correlations were found between off-task and disruptive behavior and both inappropriate approvals and disapproval. Correlations were also found between appropriate approvals and on-task behaviors, although associations were somewhat weaker.

Discussion

Findings indicate that off-task behavior is linked to inappropriate feedback. Moreover, appropriate feedback and on-task behavior are related. It should be noted that correlations do not indicate causation. With that said, it is reasonable to conclude that inappropriate feedback may

influence off-task behavior. Likewise, appropriate feedback may encourage on-task behavior. I

suggest that teachers establish clear lesson goals to ensure high quality feedback.

Lessons with clear goals are taught more efficiently and maintain lower levels of

inappropriate feedback. Additionally, behavioral problems may be avoided when feedback is

appropriate. Student-teacher interactions are reciprocal; therefore, focused students reflect

focused educators. Bearing this in mind may help teachers become more thoughtful in their

interactions with students. Further research could determine how levels of approval/disapproval

influence private lessons.

"The Effect of Teacher Approval and Disapproval"

The article, "The Effect of Teacher Approval and Disapproval of Music Performed in a

Rehearsal Setting on Music Preferences"[69] by Kevin Droe,[70] concerns types of approval and

disapproval and their effects on student learning. Not surprisingly, students' opinions on music

tend to reflect those of authority figures. I encourage outspoken support of classical music in the

private studio and initiatives to promote concert attendance.

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[69] Kevin Droe, "The Effect of Teacher Approval and Disapproval of Music Performed in a Rehearsal Setting on Music Preferences," *Journal of Research in Music Education* 56 (2008): 267-278.

[70] Kevin Droe serves as associate professor of music education and coordinator of the graduate music education program at the University of Northern Iowa. His experience includes teaching middle school band and research in areas such as music preference and score study.

Summary

A study was conducted to assess the effect of a music authority's feedback on middle school band students' musical preferences. Two intermediate-level band pieces were commissioned for advanced ensembles. Eight band directors from across three states rehearsed one or both pieces under specific treatment conditions. These treatment conditions included 1) approval; 2) disapproval; 3) rehearsal with no feedback; and 4) no rehearsal. Ensembles rehearsed commissioned pieces for ten minutes on five separate occasions. The researcher included 25 suggested approvals or disapprovals, depending on the treatment condition, within the directors' score of each piece. The director was not required to use these particular feedbacks but were required to use exactly five instances of appropriate feedback. Rehearsals were video-recorded and assessed for reliability (= 0.97).

At the conclusion of rehearsals, students performed for a mock recording. One week after the ensembles recorded their work, directors administered a listening exam to assess student music preferences. Six excerpts were played for each class, two of which came from the experimental pieces. Other pieces included familiar as well as unfamiliar pieces arranged for college ensemble. Students were asked to rate each piece on a scale of one to five. Results showed that pieces under treatment conditions of "approval" and "rehearsal with no feedback" scored highest. Pieces that were not rehearsed scored the next highest, and pieces rehearsed under the "disapproval" condition fared most poorly. All results were deemed statistically significant.

Discussion

Results reflected the expectations of the researcher; young students' opinions are malleable and tend to reflect ones expressed by authority figures. Previous studies show that feedback from music authorities can affect student *behavior*. However, this demonstrates the effect of authorities' opinions on student *preferences*. Students emulated opinions both on specific pieces and others through generalization, as demonstrated near the end of the experiment.

It was then that students were given the opportunity to provide expository feedback. Comments such as "I liked the Vogel pieces" led researchers to conclude that students extended preferences to pieces with same composer. Once the director expressed approval of one of the experimental pieces, students generalized that all pieces by the commissioned composer were good. Therefore, teachers will more likely yield positive results when expressing of positive preferences to a wide range of music, using specific pieces and composers. Doing so will foster exploration and preferences in students.

Additionally, research suggests that repetition encourages the establishment of preferences in music students.[71] It is possible that familiarity with rehearsed pieces without feedback encouraged higher ratings of preference among tested students. Students preferred both pieces under approval conditions and rehearsed pieces without feedback. Teachers may develop initiatives to encourage young students to attend concerts. Exposure alone may increase curiosities and preferences.

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[71] Ian Bradley, "Repetition as a Factor in the Development of Musical Preferences," *Journal of Research in Music Education* 19 (1971): 295.

Ideally, students will be less afraid to explore new music, and students who enjoy studying music are more likely to perform well. Strong performers set an example to other students, so the advantages of instilling preferences to all types of music are numerous. Teachers may consider voicing strong approval in masterclass settings where expression may be most impactful.

CHAPTER 5: CONCLUSION

Although a diverse body of research exists in general music education, there are

surprisingly few studies focused exclusively on private piano instruction. This survey of

published articles is validation of the relevance of music education research to the field of piano

pedagogy. Aspiring and professional piano teachers more familiar with conducted research may

identify areas in which research is still needed and learn methods to conduct new research.

Many principles can be inferred from this collection of surveyed research. First,

understanding the motivation of students is at the heart of teaching. Researchers have classified

motivation into the following two types: 1) mastery goals, i.e., to build a new expertise or skill;

and 2) performance, i.e., to attain recognition of competence and to avoid negative opinions.[72]

By analyzing both student motivations and their own personal motivations, teachers may better

tailor lessons and repertoire to individual piano students. Private teachers who create lessons

plans, in a manner similar to those of classroom teachers, may also find more focus in lessons

and increases in student achievement. Techniques such as direct instruction should be utilized at

the teacher's discretion to facilitate increased learning.

Second, achievement is affected by levels of approval and disapproval. High levels of

approval may aid in attaining high levels of achievement, and piano students need to feel teacher

and parental support in order to achieve. In fact, providing an environment where students feel

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[72] Schatt, "Achievement Motivation," 3.

they can excel may be more important than whether a teacher actually believes the student can or not. Students' opinions are highly malleable, so it is recommended that lessons be full of positive opinions of a wide range of music, unfamiliar repertoire, and recordings. And importantly, it is advisable that piano teachers be mindful to include large amounts of musical information such as music history, terms, and background in addition to coaching notes, rhythms, and technique.

A third principle is that achievement can also be supported through peer support. Teachers who pair students with duet partners or utilize collaborative learning may see improvements in both high and low achievers. In addition to sparking healthy competition, advanced students may gain early teaching experience while less advanced students may progress faster with the aid of increased individualized instruction. Intermediate to advanced students may also benefit from self-observation. Videotaping lessons, performances, and practice sessions may provide students with supplemental guidance during the week when a teacher is not present.

After exploring results from this assortment of research, teachers will hopefully discover new ideas and understandings. Furthermore, evidence to support or refute familiar principles may reinforce or weaken personal beliefs; thus pedagogical exploration is valuable for educational development. The wider a teacher's scope of knowledge, the further a student's musical interests may reach. With investigation and self-critique, every teacher has skills to gain in the private studio, and teachers familiar with a breadth of music education research may approach private teaching more creatively.

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