THE EFFECT OF DAILY ORCHESTRAL INSTRUCTION OF SIXTH-GRADE BEGINNING ORCHESTRA STUDENTS ON MUSIC APTITUDE SCORES

By

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A PROJECT IN LIEU OF THESIS PRESENTED TO THE COLLEGE OF FINE ARTS
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MUSIC

UNIVERSITY OF FLORIDA

2010

ACKNOWLEDGEMENTS

Thank you to the 2009-2010 summer masters of music education faculty and staff for your dedication to this program and to my colleagues for your support and many memories from the past two summers. Thank you to my family who instilled and nurtured in me a love of music, for the countless trips to music lessons, and for creating opportunities for success in all avenues in which I dared to venture. Finally, thank you to Hanif for your encouragement in beginning this program in the first place and your continual support of all my endeavors.

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LIST OF DEFINITIONS

Audiation	"the foundation of music aptitude is the ability to hear and to comprehend music for which the sound is not physically present (as in recall), is no longer physically present (as in listening,), or may never have been physically present (as in creativity and improvisation)" (Gordon, 1995).
History	internal invalidity from students taking the same test as a pre-/post-test as they would have learned from the pre-test
Music aptitude	"a measure of a student's *potential* to learn music" (Gordon, 1986).
Music achievement	"a measure of what a student has *already* learned in music" (Gordon, 1986).
Independent Variable	"a variable whose value determines the value of other variables" (American Heritage Science Dictionary, 2002)
Dependent Variable	"a variable whose value is determined by the value of an independent variable" (American Heritage Science Dictionary, 2002)

Summary of Project Option in Lieu of Thesis
Presented to the Graduate School of the University of Florida
in Partial Fulfillment of the Requirements
for the Degree of Master of Music

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December 2010

Chair: Russell L. Robinson
Member: Silvio dos Santos
Major: Master of Music

The purpose of this study was to determine the effect of daily orchestral instruction on music aptitude scores of sixth-grade beginning orchestra students. The study was guided by the following questions: Does extra, daily music instruction over the course of two months affect the music aptitude scores of sixth grade students? Will music aptitude change due to history in the control group students? The study compared *Music Aptitude Profile* scores of all beginning sixth-grade orchestra students in the researcher's class, as well as selected sixth-grade students not in the orchestra or any other music performance-based class and was conducted over the course of the first twelve weeks of the 2010-2011 school year. All students participated in a preliminary survey to collect individual music education experience and a pre- and post-test *Music Aptitude Profile* to attain score data. Data was then compared among individual student pre- and post-test scores and between orchestra and non-orchestra students to determine potential change due to orchestral instruction. Results indicated significant correlations between certain music aptitude subtest and composite scores of the Experimental group and an increase in mean scores of both the Experimental and Control groups. How much of an effect orchestral

instruction has on music aptitude scores is inconclusive from this study. The researcher plans to continue this study over a longer period of time, track results of the same groups of students, and compare them to this study's pre- and post-*MAP* scores.

CHAPTER ONE
INTRODUCTION

The link, if there is one, between musical involvement and both music and academic achievement has been a heated debate for years and "will continue to attract the attention of researchers in the future (Abeles, Hoffer & Klotman, 1995). Studies are constantly done to try to "prove" that playing a musical instrument or singing in a choir (of a certain level) will make people smarter in their academic life. Though results are still inconclusive at this point in time, many educators resolve that there are commonalities between music achievement and academic achievement (Froseth, 1974; Radocy & Boyle, 1988). With the rise of emphasis placed on standardized test scores and with continually waning school budgets; however, many music programs are seeing cutbacks, or are cut altogether from the public schools. In the spring of 2009, a central Florida middle school decided to cut the orchestra program from its curriculum; fortunately, after enough parental outcries the program was reinstated later that summer.

Problem of the Study

In many cases, students entering middle school in the sixth grade have had little-to-no music education in their elementary school years, since many music programs have been cut from the curriculum. This fact poses a threat to the middle and high school ensemble programs, undergraduate music majors, new music educators, and performers, deeply impacting the field of music in America today.

A large body of research studies pioneered by the prolific Edwin Gordon is rooted in assessing music aptitude and relating it to child development at various ages. According to Gordon's research children are born with a level of music aptitude that is in a developmental stage until approximately age nine. The level of exposure to and involvement in musical activities can significantly affect that music aptitude of children prior to age nine. After age

nine, Gordon says, children's music aptitude stabilizes and can no longer be significantly affected (Gordon, 1967, 1970, 1986, 1995).

Music aptitude is similar to Intelligence Quotient: just as a person's IQ reveals *potential* to succeed academically, so, too, does one's music aptitude reveal *potential* to succeed musically; however, in both cases, *potential* may not translate to *achievement*. A student with an above-average IQ must still be taught basic mathematic functions in order to gain competence and succeed in mathematics. Without training, the potential may lay dormant and the child could end up unfulfilled in an area where s/he could have excelled. Likewise, a student with an above-average music aptitude must be taught basic music skills in order to gain competence and succeed in music *as well as academics* – if you are one who subscribes to the theory of the positive correlation between music achievement and academic achievement. Without training in music skills, students with above-average music aptitude could have untapped potential and, in turn, music (or academic) achievement may be unrealized.

Significance of the Study

Children, prior to the age of nine, must be exposed to music as much as possible, giving the child the utmost advantage to increase music aptitude while still in the developmental stage. Schools that cut elementary music programs from their education curriculum hinder their students' music aptitude and rely on parental guidance and other outside sources to develop the child's potential for success in their district's middle and high school ensemble programs and music in general. One who believes music achievement and academic achievement are related would also argue that the school's failure to provide musical experiences to students could hinder their chances of success in the academia. Though students are typically three years past the developmental music aptitude stage by grade six (middle school), in many cases *Beginning*

Orchestra is their introduction to music education as a daily curriculum. If daily music instruction in *Beginning Orchestra* can increase music aptitude in grade six, perhaps public middle schools would be more inclined to keep their music ensemble programs. If a positive connection does exist between music achievement and academic achievement, music aptitude can play an important role in students' academic achievement and the school's overall success.

Purpose of the Study

The purpose of this study was to determine the effect of daily orchestral instruction on music aptitude scores of sixth-grade beginning orchestra students. This study was guided by the following questions:

- Does extra, daily music instruction over the course of two months affect the music aptitude scores of sixth grade students?
- What effect did history have on the results of this study?

Delimitations

The following was not accounted for in this study: Gender, ethnicity, and socioeconomic background of the students participating in the study.

CHAPTER TWO
REVIEW OF LITERATURE

Introduction

The review of literature begins with philosophical and theoretical views of music education as they pertain to the two-month daily orchestral instruction aspect of this study. The philosophical rationale relays the three main philosophical approaches to education and includes the ideals of Lowell Mason and John Dewey. The theoretical rationale reviews three learning domains. Research studies include both relative and supportive cases to this study.

Philosophical Rationale

Philosophical rationales have a special importance to educators. Teachers' philosophies drive their approaches to education in the first place: without knowing why a subject is important, a teacher will not implement effective teaching practices, nor develop an advocacy for the subject – both of which become quickly apparent to students in the classroom. The three philosophical schools of thought include Rationalism, Empiricism, and Pragmaticism. The author favors a combination of the Empiric and Pragmatic philosophies of education, as together they focus on practical and realistic (Empiric) goals, as well as a "guide on the side," student-based education in which students are taught how to learn (Pragmatic) (Abeles, Hoffer & Klotman, 1995). Once a student knows how to learn, the halls of academia is his/hers to decorate. In 1861, the "father of music education," Lowell Mason, championed Pragmatic approaches to education, saying, "the pupil knows not because his teacher or anyone else has told him, and not because he had learned from a book, but because he has heard tones produced by others…. and had himself also produced them" (p. 104, Keene, 1982). Likewise, John Dewey demonstrated "child-centered" education, whereby the "interests of the children determined the curriculum" (Shehan, 1986).

Theoretical Rationale

In this study, where the resulting music aptitude scores could be affected by curriculum implementation of the teacher, it is beneficial to the educator to know the theoretical approaches to listening to and learning about music. The three viewpoints of listening to music are Referentialism, Expressionism, and Formalism. Referentialists educate students on musical stimulus and non-musical referent, Expressionists teach students how to be sensitive to the flow of music, and Formalists isolate and emphasize the basic elements of the music (Abeles, Hoffer & Klotman, 1995). The author will use a blend of Expressionist and Formalist views in the curriculum design.

Educational objects and implementation of the curriculum must coincide with how students learn. Three domains exist according to the varying types of learning. The first domain is the cognitive domain, which centers on "information and understanding" (Hoffer, 2000). In this domain lies Benjamin Bloom's famous Taxonomy of Educational Objectives, in which multiple steps of learning occur, each step becoming increasingly more complex and comprehensive of knowledge. The second domain is the affective domain, which centers on feelings towards the subject – in this case, music. Bloom also aided in creating a taxonomy for this domain where, instead of each step becoming more intellectually demanding, each step required an increasing commitment. The final domain is the psychomotor domain, having more to do with the physical aspect of music – improvising, performing, etc. – than the previous two domains (Marzano, 2007). Shinichi Suzuki's style of teaching initiates with his students operating primarily in this psychomotor domain. One of Suzuki's major theories is that it is best to teach from a "rote-before-note" approach, meaning the students would learn to play correct pitches with accurate intonation by listening to the piece repeatedly and imitating the sound,

rather than learning the printed music notes on the page and reading them one by one. Educators need to be aware that the learning styles of their students are always different from each other and should, therefore, be provided information in a way conducive to each child's individual learning style. This means that teachers will need to rephrase and present information multiple times, in varying manners, to appeal to most students in the class. In this study, all three types of learning will need to be addressed in each lesson to best ensure students are receiving the correct information.

Research Studies

Gordon's *Music Aptitude Profile* was first published in 1965 as an assessment of tonal audiation, rhythm audiation, and expressive/aesthetic audiation, the main elements of music aptitude. According to Gordon (1995), "the *MAP* has one major purpose: to act as an objective aid in the evaluation of students' music aptitudes so that the teacher can better provide for all students' individual musical needs…. When employed with judgment and wisdom, test scores on the *MAP* can be used with confidence for the following purposes:

1. to encourage students with high music aptitude to participate in music activities
2. to adapt music instruction to meet the individual needs of students
3. to formulate educational plans in music
4. to evaluate the music aptitudes of groups of students
5. to provide parents with objective information"

Gordon began a three-year longitudinal predictive validity study on the *MAP* in 1963 and concluded from this study that musical training had no significant effect on music aptitude score.

One main use of the *MAP* is predicting student music achievement. In 1966, Gordon conducted another study to determine music achievement of students "when their teachers

possess and use knowledge regarding their individual musical strengths and weaknesses" – that is, when the teacher already knows their individual *MAP* scores. Results indicated that "when one of two groups of students similar in levels of musical aptitude is taught by a teacher possessing foreknowledge of each student's musical aptitudes, it is possible for this teacher to take advantage of this knowledge to increase mean instrumental music achievement" (Gordon, 1970). A similar study by James Froseth concluding in 1967 also resulted in an increase of student achievement when the teacher knew of the *MAP* scores; however, Froseth warned that though the increase was statistically significant, "it was comparatively small" (Froseth, 1971).

This study was constructed similar to Gordon's original validity study, with the following differences: five lessons per week over two months vs. the original minimum of one lesson per week over three school years; participants group by grade-level, not music aptitude; group lessons using orchestra instruments instead of band instruments. This study was designed to determine if the implementation of these changes impacts student music aptitude scores.

CHAPTER THREE
METHODOLOGY AND PROCEDURES

Introduction

This quasi-experimental action-research study was based on pre-/post-test, non-equivalent group design with a close-ended questionnaire. Student participation was voluntary. The study began in September 2010 and concluded in November of the same year.

Participants

Twenty seven male and female sixth grade students from the researcher's school participated in this study provided they completed a short survey determining his/her current level of involvement in musical activities. The experimental group, chosen by nonrandom purposive sampling of all sixth-grade students enrolled in the beginning orchestra consisted of eight students who never played a string instrument and only received music instruction in their elementary-level general music classrooms. The control group was chosen through purposive random selection (described in more detail below). The sampling frame for this control group included any sixth-grade student at the school who was in a class with a teacher who gave prior approval who was not involved in one of the three music areas of orchestra, band, and chorus, nor extracurricular music activities, such as private/group lessons. Seventeen students were selected for inclusion in the control group.

Data Collection

The independent variable was the presence or absence of music instruction, specifically, string orchestra instruction. The dependent variable was the *Music Aptitude Profile* score. The mediating variable was the amount of time each student spends on musical activities outside of school.

Data was collected in September and November of 2010 and consisted of pre- and post-test *Music Aptitude Profile* scores and pre- and post-questionnaires. Collection took place at the author's school in central Florida.

Permission was obtained from cooperating teachers to pull sixth-grade students from their class two times over the course of this study. From those participating classes, sixth-grade students completed a questionnaire on their level of involvement in music activities. Those students who fit the sample frame described above served as the population from which to randomly sample control-group participants. Sixth-grade students in the beginning orchestra class were given the same music involvement questionnaire and those students who qualified participated as the experimental group.

Students in the experimental group were given Edwin Gordon's entire *Music Aptitude Profile* test during the week of September 13, prior to much music instruction, then given the same test again in November, following music instruction five days a week over the course of two months. Students in the control group were given the Melody and Meter subtests of the *MAP* pretest/posttest on the same days as the experimental group, in the same classroom. (According to Gordon, "if there is not enough time to administer all of the tests, or if an extensive diagnosis is not necessary, then the Melody and Meter subtests may be used to measure students' overall music aptitude" (1986).) The *MAP* was used to measure students' music aptitude as it is part of a highly regarded series of music aptitude tests and, according to Gordon, is the appropriate level for stabilized music aptitude (above ages nine or ten). This test can be obtained from nearly all university music libraries or through GIA Publications, Inc.

Between September and November, the beginning orchestra class (which consists of the experimental group) received daily orchestral instruction for 47 minutes a day, five days a week

from one instructor. The control group returned to their original non-music class and received no music instruction.

In November, the *MAP* test was again administered, this time as the post-test. After the post-test in November, students completed a questionnaire describing their level of musical involvement over the course of the study. Answers from this questionnaire determined students' final eligibility for participation.

Data Analysis

Student test answer-sheets were scored against the given *MAP* template to produce the raw score. Scores from both groups' pre-tests and post-tests were statistically analyzed through the SPSS program using mean raw scores, analysis of variance, and planned comparisons between the groups.

Reliability and Validity Procedures

Extraneous variables were controlled in this study. First, the author was the sole instructor giving the daily music instruction to the beginning orchestra, controlling for variance in instructor style/bias/popularity according to students. Second, only one method book was followed as a supplement to daily lessons to control for potential variance of aptitude scores due to different method books. Third, only one music aptitude instrument was used – the *Music Aptitude Profile* – to control for variance among scores of different music aptitude tests. Fourth, the instrumentation and scoring used for this music aptitude test is completely objective, leaving no room for scoring bias. Fifth, the author monitored all students as they took the pre-test/post-test to discourage any student from stealing an answer from a peer's paper. If such an event occurred, that student's scores became invalid to the study, as they no longer were accurate representations of that student's music aptitude, as measured by the *MAP*. The pre-test/post-test

control group design, as well as the simultaneous testing of both the experimental and control groups and statistical analysis of gathered data provided reliability to this study.

CHAPTER FOUR
RESULTS

Pre- and Post-*MAP* Results of the Experimental Group

Raw score means of the Experimental group scores increased in various subtests between the pre- and post-*MAP* (Table 1). A paired-samples t-test comparison of these scores revealed that only the R1: Tempo subtest was significant at the $p<.05$ level, $p=.023$ (Table 2). A paired-samples correlation of the pre- and post-*MAP* scores of the Experimental group reveals significant correlations at both the $p<.05$ and $p<.01$ levels (Table 3). T: Tonal Imagery correlation between pre- and post- scores was .894 ($p=.003$), R1: Tempo correlation was .790 ($p=.02$), R: Rhythmic Imagery correlation was .838 ($p=.009$), and C: Composite correlation was .802 ($p=.017$).

Table 1. ***Raw Score Means Increases Between Pre- and Post-MAP Scores of the Experimental Group***

	Pre-	Post-
T2: Harmony	43.500	46.000
T: Tonal Imagery	30.875	31.750
R1: Tempo	48.875	54.250
R: Rhythmic Imagery	31.625	32.375
S2: Balance	43.750	44.125

Table 2. ***T-Test Comparison Between Pre- and Post-MAP Scores of the Experimental Group***

		t	*df*	*Sig. (2-tailed) (p)*
	T1: Melody 1 vs. 2	.325	7	.754
	T2: Harmony 1 vs. 2	-0.793	7	.454
T:	Tonal Imagery 1 vs. 2	-1.369	7	.213
	R1: Tempo 1 vs. 2	-2.889	7	.023*
	R2: Meter 1 vs. 2	1.125	7	.298
R:	Rhythmic Imagery 1 vs. 2	-0.655	7	.534
	S1: Phrasing 1 vs. 2	.927	7	.385
	S2: Balance 1 vs. 2	-0.181	7	.861
	S3: Style 1 vs. 2	1.135	7	.294
S:	Musical Sensitivity 1 vs. 2	1.482	7	.182
C:	Composite 1 vs. 2	.741	7	.483

**P<.05*

Table 3. ***Paired Samples Correlations Between Pre- and Post-MAP Scores of the Experimental Group (N=8)***

		Correlation	*Sig. (p)*
	T1: Melody 1 vs. 2	.563	.146
	T2: Harmony 1 vs. 2	.516	.190
T:	Tonal Imagery 1 vs. 2	.894	.003**
	R1: Tempo 1 vs. 2	.790	.020*
	R2: Meter 1 vs. 2	.421	.299
R:	Rhythmic Imagery 1 vs. 2	.838	.009**
	S1: Phrasing 1 vs. 2	.354	.390
	S2: Balance 1 vs. 2	.641	.087
	S3: Style 1 vs. 2	-.505	.202
S:	Musical Sensitivity 1 vs. 2	.512	.195
C:	Composite 1 vs. 2	.802	.017*

*. Correlation is significant at the 0.05 level.
**. Correlation is significant at the 0.01 level.

Pre- and Post-*MAP* Results of the Control Group

Raw score means of the Control group scores increased in both the Tonal and Rhythmic subtests and the Composite between the pre- and post-*MAP* (Table 4). A paired-samples t-test comparison of these scores revealed no significance between scores (Table 5). A paired-samples correlation of the pre- and post-*MAP* scores of the Control group reveals significant correlations at the $p<.01$ levels (Table 6). R2: Meter correlation between pre- and post- scores was .787 ($p=.000$) and C: Composite correlation was .684 ($p=.002$).

Table 4. ***Raw Score Means Increases Between Pre- and Post-MAP Scores of the Control Group***

	Pre-	Post-
T1: Melody	47.941	50.941
R2: Meter	41.000	44.701
C: Composite	44.701	48.118

Table 5. ***T-Test Comparison Between Pre- and Post-MAP Scores of the Control Group***

	t	*df*	*Sig. (2-tailed) (p)*
T1: Melody 1 vs. 2	-1.131	16	.275
R2: Meter 1 vs. 2	-1.955	16	.068
C: Composite 1 vs. 2	-1.698	16	.109

Table 6. ***Paired Samples Correlations Between Pre- and Post-MAP Scores of the Control Group (N=17)***

	Correlation	*Sig. (p)*
T1: Melody 1 vs. 2	.463	.061
R2: Meter 1 vs. 2	.787	.000*
C: Composite 1 vs. 2	.684	.002*

*. Correlation is significant at the 0.01 level.

Comparing Experimental and Control Group Pre- and Post-*MAP* Scores

All cumulative raw score means of both groups increased in all subtests and composite scores except for the S1: Phrasing, S3: Style, and S: Musical Sensitivity (taken solely by the Experimental group) which saw decreases in mean scores (Table 7). An Analysis of Variance of pre- and post-*MAP* scores as a function of orchestral instruction was conducted using the Melody and Meter subtests, as these were the only two subtests administered to the Control group, as well as the composite score. Neither subtest revealed significance between scores; however, both the pre- and post- Composite scores showed significance at the $p<.01$ level (Table 8). The pre- Composite score was significant at $p=.000$ and the post- Composite score was significant at the $p=.001$ level.

Table 7. ***Cumulative Raw Score Means of Pre- and Post-MAP***

		Pre-	Post-
	T1: Melody	48.400	50.200
	T2: Harmony	43.500	46.000
T:	Tonal Imagery	42.480	44.800
	R1: Tempo	48.875	54.250
	R2: Meter	42.680	44.120
R:	Rhythmic Imagery	38.000	40.760
	S1: Phrasing	41.125	38.250
	S2: Balance	43.750	44.125
	S3: Style	47.750	43.250
S:	Musical Sensitivity	66.500	62.625
C:	Composite	51.080	53.000

Table 8. ***Analysis of Variance of MAP Scores as a Function of Orchestral Instruction***

	df	*F*	*Sig. (p)*
T1: Melody 1	24	.122	.730
T1: Melody 2	24	.314	.581
R2: Meter 1	24	1.442	.242
R2: Meter 2	24	.149	.703
C: Composite 1	24	26.785	.000*
C: Composite 2	24	13.767	.001*

*. Correlation is significant at the 0.01 level.

Survey Results

Pre- survey results revealed eight students eligible for inclusion in the Experimental group and eighteen students eligible for inclusion in the Control group. Post- survey results revealed one student from the Control group began private instrumental lessons since the start of the study, so that student's scores became ineligible for inclusion in the study. All eight Experimental group students' scores remained eligible for inclusion in the study.

CHAPTER FIVE
DISCUSSION

Introduction

The study began with a survey of the researcher's beginning orchestra class for eligible sixth-grade students to participate in the study as the Experimental group. Principal and colleague permission was obtained to survey sixth-grade students eligible to participate as the Control group. Once both groups were established, the *Music Aptitude Profile* was given to both groups as a pre-test. Over the next two months, the Experimental group students continued in their regular beginning orchestra class while the Control group students returned to their regular non-music class. The post- survey was then given to both groups as a means of controlling extraneous variables – in this case, outside music instruction – and revealed one student ineligible to continue in the study. The rest of the students took the *MAP* once again as a post-test and data results were established as to whether or not orchestral music instruction changed student *MAP* scores.

Results

Though significant correlations occurred within specific subtests mean scores and the mean Composite scores of the Experimental group, not all individual scores saw consistent increases after two months of orchestral instruction. Both the Experimental and Control group mean scores increased from the pre-*MAP* to post-*MAP*. This suggests that perhaps orchestral instruction was not solely responsible for the increase, as the Control group received no music instruction, but that history may also have affected scores. Prior to taking the pre-*MAP*, students were unaware of the format and length of the test. Students' post-*MAP* experience was, therefore, approached with a prior understanding of format, what was being asked of them, how to listen to the recordings, and the length and amount of attention required to complete the test.

Conclusion

Studies and debates will continue regarding correlations between music aptitude and achievement and academic achievement. Gordon has found that music aptitude develops in children and can increase from outside musical stimulus until approximately age nine. Howard Gardner presents *Musical Intelligence* as one of his seven intelligences in his theory of multiple intelligences. Similar to Gordon's studies in developing music aptitude prior to age nine, Gardner believes that musical intelligence may develop in early years (1983). He also "suggests that different musical roles such as composing, listening, or performing may require different types of different levels of musical intelligence (Abeles, Hoffer & Klotman, 1995). Without training, students with above-average music aptitude may never reach their full musical potential.

Daily orchestral instruction over the course of two months does affect certain aspects of music aptitude *mean* scores of sixth grade students; however, prior knowledge of the music aptitude test may also increase scores. Not all scores of the orchestral students increased in all subtests, showing an inconsistency over two months of instruction. How much of an effect orchestral instruction has on music aptitude scores is inconclusive from this study. Results of this study are not generalizable due to the small participant population. The researcher plans to continue this study over a longer period of time, track results of the same groups of students, and compare them to this study's pre- and post-*MAP* scores.

APPENDIX A
PRE- SURVEY SHEET

Pre-Questionnaire

Name (please print neatly): _____

1. Are you currently enrolled in the beginning orchestra?

   Circle one: Yes No

2. Have you ever played an instrument before in a band, orchestra, or private lessons?

   Circle one: Yes No

APPENDIX B
POST- SURVEY SHEET

Post-Questionnaire

Name (please print neatly): _____

1. Are you currently enrolled in the beginning orchestra?

   Circle one: Yes No

2. In the past 3 months, have you played an instrument in a band, orchestra (other than our beginning orchestra), or private lessons?

   Circle one: Yes No

APPENDIX C
UF IRB PROTOCOL LETTER OF APPROVAL

UF | Institutional Review Board
UNIVERSITY of FLORIDA

PO Box 112250
Gainesville, FL32611-225
352-392-0433 (Phone)
352-392-9234 (Fax)
irb2@ufl.edu

July 27, 2010

TO: Katherine G. Zeng
2001 Virginia Drive
Orlando, FL 32803

FROM: Ira S. Fischler, PhD; Chair
University of Florida
Institutional Review Board 02

SUBJECT: **Exemption of Protocol #2010-U-685**
The Effect of Daily Orchestral Instruction on Music Aptitude Scores in Sixt Grade Beginning Orchestra Students

SPONSOR: None

The Board has classified your protocol as exempt based on category:

> *45 CFR 46.101(b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.*

Should the nature of your study change or if you need to revise this protocol in ar manner, please contact this office before implementing the changes.

IF:dl

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BIOGRAPHICAL SKETCH

A native of New Jersey, Miss Katherine G. Zeng is a graduate of the Robert E. Cook Honors College of Indiana University of Pennsylvania and received her undergraduate degree in Music Education from the university in 2005. She then obtained a position in Orlando, Florida, as General Music and Strings Instructor at Lake Highland Preparatory School, where she began the string program, taught, and coached softball for over three years. Miss Zeng has presented at the Florida Music Educators' Association Annual Clinic-Conference and serves as the Florida Orchestra Association District 8 Chair-Elect. Miss Zeng currently teaches orchestra, music appreciation, and coaches soccer and track and field at Southwest Middle School in Orlando, Florida, for the Orange County Public School system, and resides in Orlando.