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The Effects of a Cooperative Learning Environment on Preservice Elementary Teachers' Interest in and the Application of Music into Core Academic Subjects

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THE EFFECTS OF A COOPERATIVE LEARNING ENVIRONMENT ON PRESERVICE ELEMENTARY TEACHERS' INTEREST IN AND THE APPLICATION OF MUSIC INTO CORE ACADEMIC SUBJECTS

DISSERTATION

A dissertation submitted in partial fulfillments of the requirements
for the degree of Doctor of Philosophy in the
College of Fine Arts
at the University of Kentucky

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2014

ABSTRACT OF DISSERTATION

THE EFFECTS OF A COOPERATIVE LEARNING ENVIRONMENT ON PRESERVICE ELEMENTARY TEACHERS' INTEREST IN AND THE APPLICATION OF MUSIC INTO CORE ACADEMIC SUBJECTS

The purpose of this study was to examine the effect of cooperative learning on preservice elementary teachers' interest in, and the application of music into, core academic subject lesson plans. Participants (N = 59) were preservice elementary teachers enrolled in four class sections of a music method course designed for elementary education majors at a large southern university. All members participating in the study were placed by section for eight weeks in one of two groups-an individualistic learning group or cooperative learning group.

During the first 6 weeks of the study, participants worked on the *Music Integration Project*. The purpose of the project was to develop academic lesson plans with the integration of music. Each *Music Integration Project* consisted of a: (a) title page, (b) table of contents, (c) a rationale citing 2 primary sources, and (d) 10 lesson plans integrating music into core subject lesson plans. At the conclusion of the 6 weeks, participants turned in their projects, which were scored by the primary investigator using the *Music Integration Project* Rubrics developed by the researcher. The *Integrated Music Project* Rubrics consisted of three sub-rubrics: (a) Organization Rubric, (b) Rationale Rubric, and (c) Lesson Plan Rubric. During the last two weeks of the study, all of the participants were videotaped teaching an integrated music lesson. Tapes were analyzed *post-hoc* and the participants' scores were recorded by using the *Integration of Music Observation Map.* This *Map* assessed each of the participant's microteaching on ten different criteria: (a) teacher, (b) pupils, (c) process, (d) element, (e) atmosphere, (f) purpose, (g) authenticity, (h) expression, (i) degree, and (j) range. Participants also completed a pre and post-*Integrated Music Project Interest Survey.*

The independent variable used in this study was learning environment, cooperative learning and individualistic learning. The dependent variables were the participants' scores on the *Integrated Music Project* Rubrics (organization, rationale, and lesson plan), scores from the *Integration Music Observation Map*, and scores from the pre/post interest survey. Interjudge reliability consisted of 20% of the scores from each learning groups'

Integrated Music Project and microteaching. Interjudge reliability was calculated as a Pearson product-moment correlation and found to be high with a range of r = .82 to .96.

An alpha level of .05 was set for all tests of significance. Results from the *Music Integration Project* showed cooperative learning participants scoring statistically significantly higher on the organization rubric, lesson plan rubric, and total scores than participants in the individualistic learning group. For the microteaching component, participants in the cooperative learning environment scored statistically significantly higher on the *Integration Music Observation Map* in the areas of: (a) pupils, (b) atmosphere, (c) purpose, (d) authenticity, and (e) degree. On the pre and post *Integrated Music Project Interest Survey*, participants in the cooperative learning group rated all areas (attention, relevance, confidence, and satisfaction) statistically significantly higher than participants in the individualistic learning environment.

Keywords: Cooperative Learning, Individualistic Learning, Preservice Elementary Teachers, Music Integration

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Student's Signature

November 11, 2014

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For my family.

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Chapter One: Introduction

Background

Higher education institutions face a great challenge in building a learning environment that is beneficial for a wide range of students. Typically, they create classroom environments where a teacher-centered approach is the primary method for delivering instruction. However, research has shown that a teacher-centered pedagogical approach is not suitable for many types of learners (Bransford, Brown, Cocking, 2000). Furthermore, it has been suggested that the traditional lecture classroom setting establishes an environment where students only retain information for a limited amount of time (Finkel, 2000). This failure to expand beyond the traditional classroom environment has become a more glaring issue in recent years. According to the U.S. Census Bureau (2012), there are approximately 20 million students enrolled in higher education institutions; this surge in student population presents faculty members with a corresponding increase in the quantity of diverse learners (Millis, 2010).

In order to effectively reach a diverse group of students, instructors must try a variety of approaches to deliver content. Studies show that utilizing an active learning approach is one of the most effective ways to engage the majority of students (Bonwell & Eison, 1991; Meyers & Jones, 1993; Silberman, 1996). The National Survey of Student Engagement concludes that "student engagement has a 'compensatory effect' on grades and students' likelihood of returning for a second year of college, particularly among underserved minority populations and students entering college with lower levels of achievement" (Wasley, 2006 p. 39).

One pedagogical approach that promotes active learning is the implementation of a cooperative learning environment (McTighe & Lymann, 1988; Jones & Steinbrick, 1991; Almasi, 1995; Gambrell, 1996; Sapon-Shevin, 2004). Cooperative learning offers students the advantage of working jointly with other peers in the classroom, thus advancing toward a common project goal more quickly through the exchange of opinions, content knowledge, and resources. Several researchers have found that the implementation of a cooperative learning environment benefits student comprehension of subject matter (Cooper & Mueck, 1989; Cooper, Robinson, & Ball, 2003; Johnson, Johnson, & Smith, 1991; Millis, B. J., 2002, 2005, 2006; Millis & Cottell, 1998). Kaplan and Stauffer (1994) state that cooperative learning alters the learning emphasis from the "glorification of the individual (competition) to the success of the group (cooperation)" (p. 4). Vygotsky (1978) emphasizes that, "what the child is able to do in collaboration today he will be able to do independently tomorrow" (p. 211).

Taken together, this evidence suggests that students have the capability to develop higher cognitive processing skills in a collaborative setting, and therefore retain the information more effectively. This higher level of comprehension also provides an encouraging learning environment (Vygotsky, 1978). Bruner (1985) suggests that the collaborative learning process improves problem-solving skills due to the personal interpretation each individual brings to the group. Working within an encouraging learning environment gives the individual the opportunity to utilize cognitive processes that create higher-level thinking skills (1985).

Importance of the Study

Cooperative learning is found in music environments at many educational levels, including ensembles (quartet or quintet), K-12 music classrooms, instrumental classes, choirs, and private studios. It is also often used within higher-education music courses to enhance the learning experience of students. The effectiveness of collaborative learning environments has been explored throughout many types of higher education music classrooms, including music theory (Zbikowski & Long, 1994), music appreciation (Smialek & Boburka, 2006; Holloway, 2004), performance (Natale & Russell, 1995), and music method courses (Hwong, Caswell, Johnson, & Johnson, 1992).

In a general music method course, required for many preservice elementary teachers, cooperative learning could be used by students working in small groups to aid in the comprehension and composition of music fundamentals. Some examples include: (a) recorder ensembles, (b) composition using barred instruments or non-pitched percussion, and (c) body movement to express musical form. Cooperative learning creates an environment where preservice elementary teachers work together to enhance their understanding of music.

Statement of the Problem

At many higher education institutions, music method courses are a requirement for elementary education majors (Battersby & Cave, 2014; Berke & Colwell, 2004; Gauthier & McCrary, 1999; Price & Burnsed, 1989). The purpose of this type of course is to prepare future classroom teachers with basic music skills and to provide them with a variety of approaches to incorporate music into academic core subjects. Typically, instructors of this course teach students who have a wide variety of musical ability; some

students have little to no musical background, while others are fluent in musical concepts (Berke & Colwell, 2004).

The present study examines the effects of a cooperative learning environment on preservice elementary teachers' interest in, and application of, music into core academic subjects. Participants in this study completed a project that involved the creation of lesson plans using music to enhance the learning process. Additionally, participants developed a 7- to 10-minute lesson that was developed from the original project. The purpose of the project was to demonstrate their current understanding and level of music integration within the elementary curriculum. Two groups, cooperative and individualistic, were used in this study to determine whether the learning condition changes the final product or affects the evaluation of a participant's final teaching of a music-inclusive lesson.

Operational Terms

The following definitions are provided to clarify variables and important terms used in this study:

1. **Active Learning –** An environment where students are active participants when learning subject matter. Bonwell and Eison (1991) describe active learning as "doing" and "reflecting" (p. 10).
2. **Competition** – "A social situation in which the goals of the separate participants are so linked that there is a negative correlation among their attainments; when one student achieves his or her goals, all others with whom he or she is competitively linked, fail to achieve their goals' (Johnson & Johnson, 1999, p. 229).

3. **Cooperative learning** – "Employs a structured form of small group problem solving skills that incorporates the use of heterogeneous teams, maintains individual accountability, promotes positive inter-dependence, instills group processing, and sharpens social and leadership skills" (Millis & Cottell, 1998, p. 12).
4. **Cohort** – A group that consists of two or more students working to achieve a common goal over an extended period of time.
5. **Individualistic learning** – Occurs when a single student works independently on a task given by the instructor (Johnson & Johnson, 1999). This type of learning indicates the level of comprehension and intellectual proficiencies of the student (Saloman & Perkins, 1998).
6. **Integrated Music Observation Map (IMOM)** – The *Integrated Music Observation Map* was adapted from Wang and Sogin's (2010) "Arts-In-Education Observation Map". The purpose of the *IMOM* is to measure musical activities in a music methods course designed for preservice elementary teachers. The observation map documents the following: (a) teacher preparedness, (b) student interest, (c) process, (d) specific musical elements, (e) classroom environment, (f) overall purpose, (g) authenticity, (h) expression, (i) degree of connection, and (j) range of musical experience.
7. **Microteaching** – a training technique that is used in the educational field. In this setting, an individual presents a short lesson to their peers. The purpose of microteaching is to prepare the educator to teach the lesson to his or her students.

8. **Positive Interdependence** – A situation in which participants in a cooperative learning group rely on one another to accomplish a task assigned by the instructor (Johnson & Johnson, 1999).
9. **Processing** – Also known as *self-assessment*, processing occurs when students evaluate their individual progress as well as that of other group members. During processing, students reflect on both 'strengths and weaknesses' (Cornacchio, 2008, p. 4).
10. **Teaching Music in the Elementary Grades** – A music method course designed for elementary and special education majors. This course introduces the students to basic elements of music, the importance of music in the curriculum, and the methods and materials appropriate for teaching music in elementary and special education classrooms.

Delimitations of the Study

The operational definitions above serve to clarify variables as they are used in the present study. Results from this study are generalizable only to the extent that the operational definitions are interpreted exactly as they have been defined. Other definitions for these terms exist in the cooperative learning research literature, and readers should exercise caution when making comparisons between research studies that use different definitions.

This study was designed specifically to analyze the effect of collaborative learning among elementary education majors enrolled in a music method course. However, it is useful to consider cooperative learning not only as a component of higher

education, but also as a valuable tool within primary and secondary education settings.

Chapter 2: Literature Review

Definition & Characteristics of Cooperative Learning

Cooperative learning is described as a structured classroom environment where students work together in a heterogeneous group to accomplish a common goal (Adams & Hamm, 1990, 1994; Dyson, Linehan, & Hastie, 2010; Johnson & Johnson, 1981a, 1981b, 1999; Johnson, Johnson, Johnson, & Anderson, 1976; Johnson, Johnson, & Holubec, 1998; Kaplan & Stauffer, 1994; Kassner, 2002; Marr, 1997; Wiggins, 2000). Teachers utilize this environment to foster student collaboration on assignments and projects. This type of environment aids students' development in: (a) responsibility, (b) interdependence, (c) group processing skills, (d) communication skills, and (e) leadership abilities (Cottell, 2010).

Cooper (1990) concluded that the most critical component of cooperative learning is organization. Having a systematized classroom environment promotes successful active learning by all students (Therrien, 1997). In addition to organization, Johnson and Johnson (1990, p. 27) described five important characteristics essential to producing a cooperative learning environment:

1. Clearly perceived positive interdependence.
2. Considerable promotive (face-to-face) interaction.
3. Felt personal responsibility (individual accountability) to achieve the group's goals.
4. Frequent use of relevant interpersonal and small-group skills.
5. Periodic and regular group processing (p. 27).

Wiggins (2000) further explained that students in a cooperative learning setting should

justify their decisions by considering and documenting their goals for the final product. This practice ensures that students have thoroughly reflected upon and synthesized the process.

Through this systematized and cooperative teaching approach, students maximize their learning potential by interacting with classmates (Williams, 2002). To understand the full scope of cooperative learning's benefits, however, it is helpful to consider the five characteristics listed above in greater depth. Cooperative group learning's first distinguishing characteristic is *positive interdependence*. When positive interdependence is in play, a student feels that his or her contribution is important in order for the group to succeed (Knight & Bohlmeyer, 1990). If a student believes their contribution to the group is not needed, this creates a potential risk of diminishing efforts by the student (Kerr, 1983; Kerr & Bruun, 1981; Sweeney, 1973). If group construction lacks the presence of positive interdependence, it is considered an individualistic learning environment (Johnson & Johnson, 1999).

The second characteristic is the *face-to-face interaction of peers*. Through this collaboration, students are reassured and assisted by other members of the cooperative group. Promotive interaction occurs when students: (a) contribute guidance to other students, (b) contribute knowledge and materials, (c) offer feedback to other students, (d) promote higher-order thinking skills by asking questions about other students' conclusions, (e) share a desire to achieve the same outcome, (f) depend on one another, (g) influence each other to accomplish their goals, (h) demonstrate inspiration to complete the assignment or project given by the teacher, and (i) have fewer apprehensions about completing the project (Johnson & Johnson, 1990).

The third characteristic of cooperative learning *is individual accountability*. If individual accountability is being successfully achieved, students feel responsible for completing their portion of the assigned task. Johnson and Johnson (1990) described individual accountability as a situation in which a student has a sense of responsibility to ensure that their involvement and accountability is equal to that of the other group members. The student has a sense of duty regarding "completing one's share of the work and facilitating the work of other group members and minimally hindering their efforts, in other words, for doing as much as one can toward achieving the group's goals" (p. 31).

The fourth characteristic of cooperative learning is the *development of social skills and interpersonal relationships among group members.* The success of this attribute depends on how the educator sets up the cooperative groups. Johnson and Johnson (1990) concluded that the teacher develops students' social skills and interpersonal relationships before placing students in a cooperative setting. Once interpersonal skills are developed, students have a higher chance of success in a cooperative learning environment (Johnson & Johnson, 1990).

Group processing is the final characteristic of cooperative learning. It is achieved when all members of the cooperative group are effectively working to attain their goals. Individually and as a whole, it is essential that all group members reflect on the process and outcomes of the work produced within the cooperative group. The purpose of group processing is to improve the quality and efficiency of each individual in the group (Johnson & Johnson, 1990). To accomplish this characteristic, students should: (a) "describe what member actions were helpful and unhelpful, and (b) "make decisions about what actions to continue to change" (Johnson & Johnson, 1990, p. 32).

Historical & Theoretical Background of Cooperative Learning

Until the late 1960s, the primary approaches in the classroom were competitive and individualistic learning. Johnson and Johnson (1991) explained that a competitive classroom "exist when one student's goal is achieved, while all other students fail to reach that goal" (p. 10). Competitive learning was primarily centered on social Darwinism; education was based on the premise of surviving our evolving society. Ultimately, competitive learning was replaced by a trend toward individualistic learning (Johnson & Johnson, 1999). Individualistic learning occurs when "the learning or achievement of one student is independent and separate from the achievements of other students in the class" (Johnson & Johnson, 1991, p.82). As education progressed into the late twentieth century, the construction of cooperative learning was developed based upon the failures of competitive and individualistic learning. It was not until the mid-1970s that researchers began to conduct studies on cooperative learning in the classroom.

Johnson and Johnson (1999) discussed four learning theories that grounded cooperative learning during its development: (a) social interdependence, (b) intellectual conflict, (c) behaviorism, and (d) cognitive development. *Social interdependence* occurs when group members form a "dynamic whole in which the interdependence among members could vary" (Johnson & Johnson, 1994, p. 39). Kurt Koffka, one of the founders of the Gestalt School of Psychology, suggested this theory as an essential component of cooperative learning. Kurt Lewin, a graduate student of Kurt Koffka, hypothesized that groups who work toward the same goal create social interdependence and inspiration between all members. Building upon Koffka and Lewin's theories, Morton Deutsch concluded that group work also created a cooperative yet competitive

atmosphere (Tindale, 2002). This competitive atmosphere has also been described as the utilization of *intellectual conflict* in the classroom (Johnson & Johnson, 1974).

Burrhus Frederic Skinner's work on behavior modification referred to the behaviorist element of cooperative learning. In a behaviorist paradigm, observations of a person or study participant are made based on their actions. The idea of *behaviorism* "is the elaborate relationships of stimulus and response in the brain. Behaviorism gave the work the first glimpse into the fact that something was happening in the brain based on observing people's actions" (Muhammad, 2010, p.17). Furthermore, Ormrod (2004) stated, "from a behaviorist of point view, rewards for group's success are consistent with the operant conditioning notion of group contingency" (p. 413).

The final theoretical viewpoint to consider in studying cooperative learning is *cognitive development*. This idea is grounded in Jean Piaget's theory and centers around Lev Vygotsky's theory on the zone of proximal development (Tindale, 2002). In cognitive development theory, the presence of social interactions creates an atmosphere where students are creative, which in turn develops problem-solving skills (Johnson & Johnson, 1974). Through this zone of proximal development, students show their ability of achievement with or without assistance from the instructor. Vygotsky (1978) suggested that educators should utilize a cooperative learning environment to help less proficient students work with other classmates who are more advanced. Cooperative learning should be directed within the zone of proximal development.

Types of Cooperative Learning

During the 1970s, Johnson and Johnson developed a system of cooperative learning. The primary question associated with cooperative learning during this time was

how to effectively implement this structure of active learning in the classroom. Since then, research has brought forth several different types of structured cooperative learning settings. Each method approaches active learning from a different point of view; however, all are considered cooperative learning (Knight & Bohlmeyer, 1990). These distinct methods include: (a) the Jigsaw Method, (b) Student Teams – Achievement Divisions (STAD), (c) Teams-Games-Tournaments (TGT), (d) Team-Assisted Individualization (TAI), and (e) Group Investigation.

The Jigsaw Method. The Jigsaw Method, developed by Aronson, Blaney, Stephan, Sikes, and Snapp (1978), is initiated when students work together on a project or assignment about which the instructor provides each person only a portion of the information. Students must then teach their specific segment to the group. Once all sections are explained, the cooperative group combines these resources to create a complete work. The purpose of the Jigsaw Method is to ensure that all students in the group are accountable for their portion of the activity (Aronson et al., 1978).

Further research by Walker and Crogan (1998) investigated the effects of the Jigsaw learning environment on students' academic performance, self-esteem, liking of school, liking of peers, and racial prejudice for students in grades 4 to 6. Participants (N = 103) were students from two separate private schools. Two intact classes at each school were labeled as the cooperative learning group or Jigsaw learning group. At one school, the experimental group received the Jigsaw learning environment treatment for 90 minutes each day, twice a week, for four weeks. At the second school, the experimental group received the Jigsaw learning environment treatment for one hour per day, five days a week, for three weeks. Academic performance was measured by averaging students'

test scores during the first and last weeks of treatment. To measure students' self-esteem and feelings toward school, the researchers used Piers-Harris Children's Self-Concept Scale (CSCS, 1984). To measure racial prejudice and liking of peers, participants "rated each of their classmates according to how much they would like to work with and how much they would like to play with, him/her (1 = a little, 5 = a lot)" (p. 386). The results showed that Jigsaw-treatment participants' scores statistically increased during the four-week study. In regards to self-esteem, feelings toward school and classmates, and racial prejudices, participants exhibited no statistically significant differences.

Karacop and Doymus (2013) explored the effects of the Jigsaw learning method and animation technique in an undergraduate chemistry course in Turkey. Participants (N = 114) were divided into three different groups: Jigsaw group (experimental group), animation group (experimental group), and traditional teaching method (control). During the five-week study, participants worked on the concept of chemical bonding. Participants in the Jigsaw learning environment were given different topics on chemical bonding and asked to research them and retrieve information for their group. Animation group participants used an interactive computer program that informed participants about the chemical bonding process. Results indicated that participants in both experimental groups achieved statistically significant higher scores on a chemical bonding test than participants in the traditional teaching method group. In addition, students in the animation group showed a higher understanding of chemical bonding than those in the other two learning environments (Karacop & Doymus, 2013).

Since the development of the Jigsaw method in 1978, there have been two adaptations of this approach. The first is Jigsaw II, developed by Slavin in 1980. In this

setting, groups participated in a competition, the winner of whom was to receive a reward. In order to receive the reward, all students in the cooperative group had to increase their performance scores on quizzes and/or tests given during class (Slavin, 1980). The second adaptation, Jigsaw III, was developed by Kagan (1986). This design is specifically for classrooms where multiple primary languages are present. In the Jigsaw III method, each group contains three students with varying levels of language. For example, it could include one English-speaking student, one non-English-speaking student, and one student who is bilingual. To complete the assignment or project, the instructor creates materials that are both in English and non-English languages (Kagan, 1986).

Student Teams-Achievement Division. The Student Teams-Achievement Division (STAD) is defined as a cooperative group that competes against other groups in the classroom for a reward. In the STAD approach, classmates prepare each of their teammates for a competition to be held at the end of the unit. The purpose of this design is for students to build encouragement among all members of the cooperating group. At the end of the competition, a reward is given to the cooperating group with the highest points. In an elementary school setting, an example of the reward could be recognition in the school newsletter (Slavin 1980, 1983).

Vaughan (2002) studied the effects of STAD on 5th grade students' achievement in and attitudes toward mathematics. During the twelve-week study, students participated in the STAD method during math class. Due to limited class numbers within the school, only one intact class was utilized. The design used a single-group pretest/posttest design. The dependent measures used were the computation and

application sections of the California Achievement Test and Penelope Peterson's Attitude Toward Mathematics Scale for Grades 4 to 6. Results were computed by comparing one pretest and four posttest scores using a one-factor analysis of variance (ANOVA) repeated measures design. Statistically significant differences were found between pretest and posttest 1, pretest and posttest 2, and pretest and posttest 3. There were no significant differences between posttest 1 and posttest 2. After the implementation of the STAD method, students had statistically significant higher scores for attitude towards mathematics from pretest to posttest.

Teams-Games-Tournaments. Teams-Games-Tournaments (TGT) shares similar characteristics with STAD. Like STAD, it utilizes feelings of competition and responsibility within cooperative groups of students to spur on productivity; however, all groups in the TGT setting compete against each other for the reward. In the competition or tournament, different cooperative groups compete against another cooperative group from the same class (DeVries & Slavin, 1978).

Van Wyk (2011) studied the effects of TGT on undergraduate economic students' achievement levels and attitude toward learning environment conditions. The study used two intact classes, one being a traditional lecture (control group) and the other a TGT classroom environment (experimental group). All participants (N = 110) were given a pretest and posttest that consisted of a Test of Economic Literacy and a test to measure students' attitude toward their classroom environment. Results indicated that participants in the TGT learning environment scored statistically significantly higher on the achievement test than participants in the traditional lecture environment. Participants also rated the TGT learning environment statistically significantly higher on the attitude

survey than participants in the traditional lecture environment.

Wodarski, Adelson, Todd, and Wodarski (1980) studied the effects of the TGT learning environment in an elementary and secondary nutrition classroom setting. A pretest was given prior to the treatment of participants. Once the pretest was scored, participants were placed in their cooperative groups. Each group had two high-scoring students and two low-scoring students. In the elementary nutrition classroom, three weeks were given for the implementation of TGT, while in the high school nutrition class four weeks were given. At the conclusion of the treatment, students were given a posttest, comprised of 60 true/false questions, which covered the concepts about nutrition taught in class. Results showed that all classes scored statistically significant increases from pretest to posttest.

Team-Assisted Individualization. Team-Assisted Individualization (TAI) "was designed to combine the motivational incentive of group rewards with an individualized instructional program appropriate for the level of skills possessed by each student" (Slavin, 1985, p. 5). In the TAI setting, cooperative groups are comprised of students of varying levels of skill. Before students are allowed to work in their cooperative groups, they must complete an individual assignment. The cooperative group then meets and discusses the problems of the assignment. The objective, then, is for the cooperative group to ensure that all members are prepared for the competition (Slavin, 1985).

Group Investigation. The final method associated with cooperative learning is Group Investigation. In this method, cooperative groups gather and analyze data about a different topic given by the instructor. The instructor must select a topic that gives the students a relatively large time frame to complete the assignment (Sharan & Hertz-

Lazarowitz, 1980); this allows students to analyze and divide up the research needed to complete the assignment. Six stages occur in the Group Investigation method:

1. The teacher delineates a general topic area, and subtopics are identified through class discussion. Students then form small groups of two to six students. Group formation is based upon student interest in a particular subtopic, but heterogeneity of gender, ethnicity, and ability level is strongly encouraged.
2. Students collaborate in planning how to carry out the investigation of their subtopic. Division of labor is encouraged to promote interdependence and individual accountability to the group.
3. Students implement their plans. The teacher arranges a wide variety of informational sources, both within and outside of school.
4. Students collaborate in analyzing and evaluating the information they have gathered.
5. Groups present in summary of the results of their investigation to the rest of the class.
6. Reports, presentations, and individual learning are evaluated (Sharan & Sharan, 1976, pp. 6-7).

Sharan, Ackerman, and Hertz-Lazarowtiz (1980) studied the effects of group-investigation on elementary students' academic achievement. Participants (N = 217) were from five intact elementary classrooms ranging from grades 2 to 6 that implemented a cooperative learning environment during the last three weeks of class. A second elementary school, which utilized regular classroom instruction, was used as a control group. At the conclusion of the treatment, students were assessed using an achievement

test that was grade-level appropriate for each classroom. Scores were then analyzed and compared to the scores of students at the school who received regular classroom instruction. Results indicated that students in the cooperative learning (group-investigation) environment scored statistically significantly higher than those who received standard classroom instruction.

Sherman (1989) investigated the effects of the Group Investigation model versus the individual competitive goal structure in two high school biology classrooms. Each classroom received a pretest and posttest that had been created for the unit currently being studied in class. During seven weeks of treatment, participants from intact classes interacted in either the individual competitive structure or the group investigation classroom environment. A two-way within-subjects ANOVA was used to test the differences between the groups' pretest and posttest scores. Both groups received statistically significant higher scores on the posttest; however, no statistical differences were found between the learning group environments.

The previous section provides research-based examples of different types of cooperative learning environments. The variety of cooperative learning methods available makes it easier for instructors to tailor their teaching style to a wide range of classroom settings. The research above has proven each cooperative learning environment method to be effective for students at all levels of education.

Advantages & Disadvantages of Cooperative Learning

As previously discussed, studies have found that there are advantages of utilizing cooperative learning in the classroom. Additionally, cooperative learning enhances academic achievement, promotes positive feedback from students, amplifies enjoyment

of the specific subject area studied, and increases social skills (Johnson & Johnson, 1999; Shachar & Sharan, 1994). Cuseo (1996) presented a list of advantages that accompany the utilization of cooperative learning in the classroom. It notes that cooperative learning (a) enhances the learning process, (b) encourages the utilization of peer groups to increase academic achievement, (c) promotes self-regulating learning, (d) develops reflection and critical thinking skills, (e) develops communication skills, (f) appears helpful to most special learners, and (g) increases leadership abilities. Other researchers add that cooperative learning also (a) increases attendance, (b) improves the learning environment, (c) creates positive interpersonal relationships, (d) and develops advanced cognitive and social skills (Johnson & Johnson, 1999).

However, the research has also uncovered some disadvantages of cooperative learning. Kagan (1996) points out that some students do not like to work in groups. Some reasons for this may be that (a) grading is unfair, (b) there is lack of motivation to complete tasks, (c) students receive the wrong answers from other peers, and (d) there is no individual accountability. Pitt (2000) also listed five disadvantages to cooperative learning in the classroom:

1. Any method of selecting groups and allocating projects, whether random or systematic, in general will give some groups advantages and some a disadvantage.
2. Giving all students the same mark means that a sensible group strategy would involve having the weaker students contribute less.
3. Although the allocation of marks is a motivator, factors such as teamwork and contribution to the group are hard to define and essentially impossible to assess

fairly.

4. Rating students on some perceived performance has as much to do with perception as performance and may sometimes be unfair; for example, the student who contributed least to the problem solving may give the most confident presentation.
5. Some assessment factors can actually promote dishonesty and competition (pp. 239-240).

Since 1898; there have been numerous studies on the effects of cooperative learning in the classroom. A meta-analysis of 521 studies was conducted on cooperative learning from 1898 to 1989 (Johnson & Johnson, 1989). In this study, 54% of the research was done in the K-12 setting and 44% in higher education. The researchers divided the studies into three different groups: cooperative versus competitive, cooperative versus individualistic, and competitive versus individualistic (Johnson & Johnson, 1989). Half of the studies concluded that cooperative learning had a positive effect on students' achievement. In addition, Johnson and Johnson (1989) concluded that the results from the meta-analysis showed that a cooperative learning environment has the ability to create higher-achieving student outcomes when compared to an individualistic learning environment.

Selected Dependent Measures of Cooperative Learning

Race. Weigel, Wiser, and Cook (1975) studied ethnic relationships between 7th and 8th grade students. Students (n = *168*) in the experimental group utilized a cooperative learning environment for a length of 7 months. The control group (n = 156) had students in a regular classroom environment without the implementation of a

cooperative learning environment. Participants (N =324) consisted of 231 white students, 54 black students, and 39 Latino students. Each cooperative group was formed of 3 white, 1 black, and 1 Latino student. Results concluded that the cooperative learning environment had a positive effect on white students' relationships with Latino students but not with black students. Latino students did not change their relationship status with black students but did experience a change with white students. Finally, black students' opinion did not change toward either white students or black students.

Slavin and Oickle (1981) investigated the effects of a cooperative learning environment on race interactions for students in grades 6 through 8. Four intact classes received approximately 12 weeks of a cooperative learning environment treatment, while six different classes experienced only regular classroom instruction. Results showed that statistically significant differences were found between the cooperative learning and regular classroom environments when looking at race interactions among students. White students in the cooperative learning environment were more accepting of black peers than black students in the regular classroom.

Self-Evaluation, Peers, and Motivation

Moskowitz, Malvin, Schaeffer, and Schaps (1983) studied the effects of cooperative learning on 5th and 6th grade students' attitude toward themselves, peers, and the school they currently attended. For this study the investigators used 8 different elementary schools that were randomly assigned to an experimental group (Jigsaw cooperative learning environment) or control group (traditional classroom environment). Teachers in the experimental group were offered two hours of cooperative learning training sessions once a week for nine weeks. They were paid $200 and offered graduate

credit if they completed the training. The investigators looked at process evaluation, student self-reports, and student records as measurements. In terms of process evaluations, surveys and weekly reports utilizing the Jigsaw method were recorded. Students also self-reported, using a pretest and posttest consisting of Stenner & Katzenmeyer's Self Observation Scales and a student questionnaire. Scores from the reading and mathematics portion of the Stanford Achievement Test were used as student academic records. Results concluded that teachers who attended the training sessions were highly satisfied with the instructor. Teachers who implemented the Jigsaw learning environment averaged a use of 2 hours per week over a 24-week period. For student self-reports, both male and female students in the experimental group rated statistically significant improved attitudes toward school and self-esteem than male and female students in the control group. In the analysis of student achievement, male participants in the Jigsaw learning environment scored statistically significantly higher on math scores than male participants in the traditional classroom environment. There were no significant differences between females and males in either classroom setting.

Leikin & Zaslavsky (1997) studied the effects of student interactions in a cooperative learning mathematics classroom setting. The study lasted for 12 weeks using four intact low-level 9th grade classes. Each class alternated every two weeks between a regular classroom instruction and a cooperative learning environment. After each 2-week treatment, students were assessed according to the dependent measures. For this study, the investigator used observations (on- and off-task), a student self-report questionnaire, and a student attitude questionnaire as dependent measures. Results illustrated that students in the cooperative learning environment showed statistically significant higher

on-task behavior and interaction between students than in the control group. In terms of the self-report and attitude questionnaires, students' preferred the cooperative learning environment to regular classroom instruction.

Hancock (2004) investigated the effects of a cooperative learning environment on graduate students' achievement and motivation. Participants who ranged between high and low peer orientation were enrolled in a 15-week graduate education research course. To assess self-peer orientation, the investigator used the Learning Style Inventory (LSI). The LSI assesses each person by having him or her rank 12 sentences about learning modes. These include sentences based on concrete experience, reflective experience, abstract conceptualization, and active experimentation. At the conclusion of the study, participants' achievement and motivation were assessed. For participants' achievement, there were no significant differences between high and low peer orientation. For motivation, participants with high peer orientation had higher motivation, at a statistically significant level, than students with low peer orientation.

Application and Findings in the Higher Education Classroom

Numerous studies on the effects of cooperative learning have been done within the collegiate course level setting. Previous research has shown that the utilization of cooperative learning can increase students' test grades, confidence, and attitude toward subject areas (Millis, 2010). Klein and Pridemore (1992) investigated the effects of cooperative learning on undergraduate education majors' performance, on/off-task behavior, and attitude. Subjects enrolled in an educational psychology course were randomly assigned to a cooperative group or individualistic group structured learning environment. During the study, each cooperative group or individual watched seven 30-

minute instructional videos related to instructional theories. After each video was completed, all students answered questions that were related to the video. To measure the performance component, all students were given a posttest that consisted of 15 questions that assessed knowledge retention and application of content. On/off-task behavior was measured by writing the time spent on each exercise (Klein & Pridemore, 1992). Finally, attitudes of the participants were documented by using the Instructional Materials Motivation Scale developed by Keller (2010). Results indicated that students who were in the cooperative learning environment spent more time working on questions related to the video and had a more positive attitude toward the subject area. Additionally, students who worked individually scored significantly lower than students in the cooperative learning environment (Klein & Pridemore, 1992).

Cairy (1997) studied the effects of cooperative learning on the attitudes, social skills, and processing of undergraduate nursing students. In this study, all students (N = 43) were randomly assigned into eight different groups and received fifteen weeks of instruction in a structured cooperative learning environment. Observations and testing were conducted before and after the cooperative learning intervention, while attitudes were measured three times throughout the study. Results showed that nursing students' attitude, social skills, and level of comfort in a cooperative setting increased significantly from the beginning to the end of the semester.

Using an undergraduate psychology class as participants, Peterson and Miller (2004) compared a cooperative learning environment to large-group instruction. To achieve this comparison, the researchers disrupted classes twice during the semester while students were either engaged in cooperative group work or large group instruction

to give them an adaptive questionnaire from the Experience Sampling Method (Csikszentmihalyi, Rathunde, & Whalen, 1993). The purpose of the questionnaire was to measure students' perception of their experience during a cooperative learning setting and a large group setting. The results from the study showed that students' learning experience during a cooperative learning setting was higher than when they were in a large group instruction setting. Other results showed that when students were in a cooperative setting had: (a) better cognitive ability, (b) more involvement, (c) higher expectations, (d) higher levels of challenge and skill, and (e) better attention to detail.

A mixed-method study observed the effects of cooperative learning intervention on mathematics achievement outcomes and attitudes of non-science majors (Muhammad, 2010). Participants in the study were undergraduate students enrolled in four class sections of a college-level math course. Two course sections, taught by the investigator, were placed in the cooperative group. The two remaining sections, which were taught by a different instructor and utilized a traditional method of teaching, made up the control group. For the quantitative component of the study, Muhammad (2010) collected data from: Pre/Post Mathematics Attitude Survey and Pre/Post Mathematics Achievement Test. Qualitative data collected were observations, interviews, a group tracking form, and a virtual learning environment survey. The results of the study showed that students in a cooperative learning environment had statistically significant higher mathematic achievement scores, better attitudes toward the math course, and better attitudes toward the virtual learning environment than students in the traditional classroom setting (Muhammad, 2010).

The Music Classroom & Cooperative Learning

Since the late 1970s, research conducted on the effects of cooperative learning in elementary, middle school, and high school music classrooms has shown positive outcomes in musical achievement and listening skills (Bradley, 1974; Haack, 1969; Smithee, 1989). Additional studies have shown that cooperative learning also affects students' music-making process and level of creativity. The results of these and other studies suggest that cooperative learning is an effective instructional means of teaching music (Bryce, 2001; Cameron & Bartel, 2000; Claire, 1993; Enz, 2013; Inzenga, 1999; Kaschub, 1996; Kassner, 2002; Smialek & Boburka, 2006; Wiggins, 2000; Cornacchio, 2008).

Wheeler (1997) studied the effects of cooperative, competitive, and individualistic learning on the musical achievement of middle school and junior high school instrumental students. The study utilized 12 different middle school and junior high instrumental band programs, with a final population of 314 students. The study had 12 instrumental directors teach their classes using a cooperative, competitive, or individual setting. Each director alternated weekly between different learning environments over a three-week period. Each week, directors would teach their students 2 etudes composed by the primary investigator of the study. On the final day of each week, students were audio-recorded and assessed based on criteria developed by the primary investigator. Statistically significant differences were found between the three structured learning environments. Students in the cooperative learning environment scored the highest, followed by competitive and then individual learning. Results showed that no differences were found when students received individualistic instruction. Additionally, significant

differences were found between male and female instrumental performers, with comparisons showing that females performed better than males. The author of the study concludes that cooperative learning offers students high levels of performance achievement.

Inzenga (1999) investigated the effects of cooperative learning on a middle school choir's sight-reading skills. Students were divided into groups of four and worked on assignments that taught both note names and rhythm. Each cooperative group met for fifteen minutes per day. At the conclusion of the study, results showed that students' musical comprehension of fundamentals was statistically significantly higher when compared to a class with teacher-led instruction.

Similar results apply in elementary settings. Cornacchio (2008) studied the effects of cooperative learning on elementary music students' composition, on/off-task interactions, and acceptance of peers. The five-week study consisted of two intact fourth grade classes placed into either an experimental group (cooperative) or a control group (individualistic). All students received the same 10 minutes of instruction at the beginning of each class period. Once the instructional period concluded, students would then work on assignments in either a cooperative group or individually. To measure students' musical achievement and acceptance of peers, a pre/posttest was given. For on/off-task behaviors, two outside observers watched video recordings of the cooperative group and individual group. Results showed a statistically significant difference from pretest to posttest on all students' musical achievement; however, there were no statistically significant differences between the groups. Regarding acceptance of peers, the researcher again found no differences. For on/off-task behaviors, statistically

significant differences were found between and within the two groups. Students in the cooperative group remained on task better than students in the individual group, but both groups improved their on-task behavior over the five-week study.

At the collegiate level, investigations on cooperative learning have been conducted on students enrolled in music appreciation courses (Enz, 2013) and method courses designed for elementary education majors (Hwong, Caswell, Johnson, and Johnson, 1992). Other research conducted on cooperative learning looked at the effects of music-listening skills, performance skills, and attitudes of students (Hwong, Caswell, Johnson, and Johnson, 1992; Hosterman, 1992; Holloway, 2004). Hwong, Caswell, Johnson, and Johnson (1992) examined the effects of cooperative and individualistic learning on preservice elementary teachers' musical achievement and attitudes. In this study, participants (N = 43) enrolled in an elementary education music method course were randomly assigned to either a cooperative learning or individualistic learning environment. Within the 10-week experiment, participants would divide into either a cooperative group or individual setting and work on a final assessment given at the end of the study. Participants were evaluated on achievement, on/off-task behavior, individual musical performance, and attitudes. To measure achievement, participants completed the following: (a) create five music lesson plans, (b) write three concert reviews, (c) take an open-book final examination, (d) play five-note F scale on the soprano recorder, (e) play "Joyful, Joyful" on soprano recorder, (f) clap and speak the rhythms of "This Old Man", and (g) sing "Old Joe Clark" while using Kodàly syllables and hand signs. For on/off-task behavior, trained observers observed live classroom time during the first, third, fifth, and eighth week of the experimental study. Finally, a Teaching Music in the Elementary

School instrument, constructed by the investigators, was used to assess attitude (Hwong, Caswell, Johnson, & Johnson, 1992). The instrument included questions that assessed student's attitude toward (a) the instructor's verbal responses, (b) goal interdependence, (c) resource interdependence, (d) fairness of grading, (e) the instructor's academic support, (f) the instructor's personal support, (g) peer expectations, and (h) helpfulness of feedback. A comparison of the cooperative versus individualistic settings showed that students in a cooperative setting scored statistically significantly higher in written assignments, off-task behaviors, goal interdependence, resource interdependence, fairness of grading, instructor's academic support, instructor's personal support, peer expectations, and helpfulness of feedback from the instructor.

Hosterman (1992) studied the effects of the cooperative vs. lecture-based learning environment in an undergraduate music appreciation class. The study compared four different areas: (a) history, (b) musical elements, (c) listening, and (d) attitudes. The investigation concluded that no significant differences were found when comparing groups' knowledge of elements or historical aspects. However, students in the cooperative group scored statistically significantly higher in the area of musical listening. The researchers concluded that cooperative learning should be utilized to improve listening skills in undergraduate music appreciation classes (Hosterman, 1992).

A similar study investigated the use of cooperative learning to increase undergraduate music appreciation students' listening skills (Holloway, 2004). During a 15-week semester, the investigator used a cooperative learning environment (experimental group) in a music appreciation class while another university utilized a traditional (control group) teaching method. The participants were given a pre- and

posttest based on the *Hevner Test for Music Concepts*. Participants in the cooperative group received numerous activities throughout the semester that utilized music listening exercises. In addition, participants in the cooperative group composed melodies using ABA form while writing traditional chord progressions over the composed melody. At the conclusion of the semester, students took a posttest that evaluated melody, form, meter, timbre, and modality. Of the five elements, participants in the cooperative group scored higher in melody, meter and modality. At the conclusion of the study, the investigator distributed a questionnaire to all the participants in the cooperative learning environment. The majority, 83%, agreed that "they preferred hands-on activities over the lecture method" (Holloway, 2004, p. 88).

Smialek and Boburka (2006) studied the effects of cooperative learning exercises on the critical listening skills of undergraduate students enrolled in an introductory course on western music. At the beginning of the fall and spring semester, the researchers asked students to voluntarily participate in the study. The study consisted of one control group and two experimental groups. Participants in the control group received a traditional lecture, while participants in the first and second experimental groups received four 50-minute class sessions of cooperative listening exercises. Additionally, participants in the second experimental group took part in group exercises informing them about the characteristics of Renaissance, Baroque, Classical, Romantic, and Twentieth Century musical styles. The researchers used ANOVA to determine if the participants of all conditions scored differently on meter, texture, compositional genre, musical style period, and composer identification. Results showed a statistically significant difference between groups on the elements of texture, composition genre, and musical style period. The

group that scored significantly higher than the rest was the experimental group, who received an additional characteristic assignment of musical style.

Preservice Elementary Teachers

Previous researchers have investigated preservice elementary teachers' attitudes and confidence levels regarding integrating music into core academic subjects (Abril & Gault, 2005; Auh, 2004; Berke & Colwell, 2004; Hash, 2010; Hennessy, 2000; Oreck, 2004). With respect to attitude, it was found that previous musical experiences can have a positive effect on a teacher's willingness to advocate for music in the elementary curriculum (Berke & Colwell, 2004; Giles & Frego, 2004). However, teachers generally feel that music is not as important as other subject areas (Abril & Gault, 2005).

Auh (2004) investigated the confidence levels of preservice elementary teachers enrolled in a music methods course. This 10-week course dealt with a variety of musical activities, including (a) singing, (b) instrumental playing, (c) composing, and (d) listening. Participants were given a questionnaire at the start of the semester and again at the conclusion of the course. The questionnaire consisted of a Likert scale that assessed (a) confidence in teaching music, (b) liking of music, (c) formal music experience, (d) and informal music experiences. When comparing pre- and post-course scores on the questionnaire, participants rated statistically significant higher levels of confidence in integrating music into academic core lessons. Other findings concluded that participants' confidence and liking of music increased due to having the opportunity to teach music lessons in front of their classmates.

In a similar study, Berke and Colwell (2004) investigated perceptions of preservice elementary teachers' musical ability, attitude, and feelings toward addressing

the National Standards for Arts Education (MENC, 1996) within academic core subjects. The study compared participants' scores on a survey distributed during the first and last day of class. The survey was comprised of four areas that assessed (a) music experience, (b) ability and attitude, (c) teaching music objectives, and (d) integrating music into academic core lessons. Results of the study showed scores that were statistically significantly higher in all areas at the end of the semester.

The previous research studies demonstrate that in-service and preservice elementary education teachers can have low confidence scores and experience when it comes to integrating music into academic core lessons. Through training and positive experiences with music, teachers' level of experience and confidence can increase over time.

Purpose Statement

The purpose of this study is to examine the effects of two learning conditions, cooperative learning and individualistic learning, on preservice elementary education majors' interest in, and application of, music integration into core academic subjects. The study was guided by the following research questions.

Research Questions

1. What are the effects of different learning environments on participants' scores from the project-based integration of music in an elementary classroom curriculum?
2. What are the effects of different learning environment on participants' scores from the microteaching of an integrated music lesson?
3. What are the effects of learning conditions on participants' self interest in the

utilization of music in the elementary curriculum?

Research Hypotheses

1. Cooperative learning participants will produce higher scores on the *Music Integration Project* than participants in the individualistic learning environment.
2. Cooperative learning participants will produce higher scores on the microteaching of a music-integrated lesson as measured on the *IMOM* than participants in the individualistic learning environment.
3. Cooperative learning participants will score higher on the interest survey about the *Music Integration Project* than participants in the individualistic learning environment.

Variables

The study is designed to examine the following independent and dependent variables:

Independent Variables

- Learning Environment
    - Cooperative learning
    - Individualistic learning

Dependent Variables

- Individual scores from the integrated music final project
- Individual scores from microteaching an integrated music lesson
- Individual scores from a self-interest survey

Chapter 3: Methodology

Introduction

In music education, the practice of cooperative learning can be applied to different learning situations and curriculum within music classes. However, the research on its effects in the music classroom is limited. The purpose of this study was to examine the effects of two learning conditions, cooperative learning and individualistic learning, on preservice elementary education majors' interest in, and integration of, music into the elementary curriculum through project-based learning.

Participants

Participants in this study were students from four of the five sections of a music methods course designed for elementary and special education majors. The course introduces students to the basic elements of music, the importance of music in the curriculum, and the methods and materials appropriate for music teaching in the elementary and special education classroom. The course emphasis is placed on acquiring musical skills through active music-making experiences as well as group reflections. Students enrolled in the course were notified verbally and in writing at the beginning of the semester about their possible involvement in the study. Descriptive statistics of all demographic data are outlined in Table 3.1. Descriptive statistics for each learning environment (cooperative and individualistic) are found in Tables 3.2 and 3.3.

Table 3.1
Descriptive Statistics of Combine Groups

	Frequency	%	M	SD
Age			20.02	1.33
Gender				
Male	6	10.2		
Female	53	89.8		
Primary Major				
Elementary Education	50	84.7		
Special Education	9	15.3		
Student Classification				
Freshman	1	1.7		
Sophomore	36	61		
Junior	19	32.2		
Senior	3	5.1		
How many years have you participated in school band?			.78	1.96
How many years have you participated in school orchestra?			.41	1.21
How many years have you participated in school choir?			1.72	2.79
How many years have you had of private musical study?			1.03	2.61
Are there any other types of musical experiences you have participated or currently participate in?				
Yes	23	39		
No	36	61		

Table 3.2
Descriptive Statistics of Cooperative Learning Participants

	Frequency	%	M	SD
Age			19.80	.85
Gender				
Male	3	10		
Female	27	90		
Primary Major				
Elementary Education	27	90		
Special Education	3	10		
Student Classification				
Sophomore	23	76.7		
Junior	7	23.3		
How many years have you participated in school band?			.37	1.03
How many years have you participated in school orchestra?			.37	1.10
How many years have you participated in school choir?			1.50	2.49
How many years have you had of private musical study?			.67	2.44
Are there any other types of musical experiences you have participated or currently participate in?				
Yes	9	30		
No	21	70		

Table 3.3
Descriptive Statistics of Individualistic Learning Participants

	Frequency	%	M	SD
Age			20.24	1.68
Gender				
Male	3	10.3		
Female	26	89.7		
Primary Major				
Elementary Education	23	79.3		
Special Education	6	20.7		
Student Classification				
Freshman	1	3.4		
Sophomore	13	44.8		
Junior	12	41.4		
Senior	3	10.3		
How many years have you participated in school band?			1.21	2.54
How many years have you participated in school orchestra?			.45	1.35
How many years have you participated in school choir?			1.97	3.10
How many years have you had of private musical study?			1.41	2.77
Are there any other types of musical experiences you have participated or currently participate in?				
Yes	14	48.3		
No	15	51.7		

Research Design

This study used a nonequivalent control group design. Due to class scheduling, randomization of participants was not possible. Subjects were placed either in the control or in experimental group from four intact class sections of approximately 16 students per class. Two course sections served as the experimental (cooperative group) group and two sections served as the control (individualistic) group. A total of fifty-nine subjects (N = 59) completed the study with (*n* = 29) subjects in the control group and (*n* = 31) subjects in the experimental group. In this quasi-experimental design, both the experimental (cooperative) group and control (individualistic) group were given a pretest and a posttest to intact classes (Campbell & Stanley, 1963). Figure 3.1 is an example of the nonequivalent control group design.

Pretest of Intact Class: Experimental Group	Treatment	Posttest of Intact Class: Experimental Group
Pretest of Intact Class: Control Group		Posttest of Intact Class Control Group

Figure 3.1 Nonequivalent Control Group Design (Campbell & Stanley, 1963, p. 47)

The pretest given to both groups was the Gordon's *Advanced Measures of Music Audiation* (*AMMA*). The purpose was to ensure that all groups matched at the same musical ability level. The overall design for understanding can be seen in figure 3. 2.

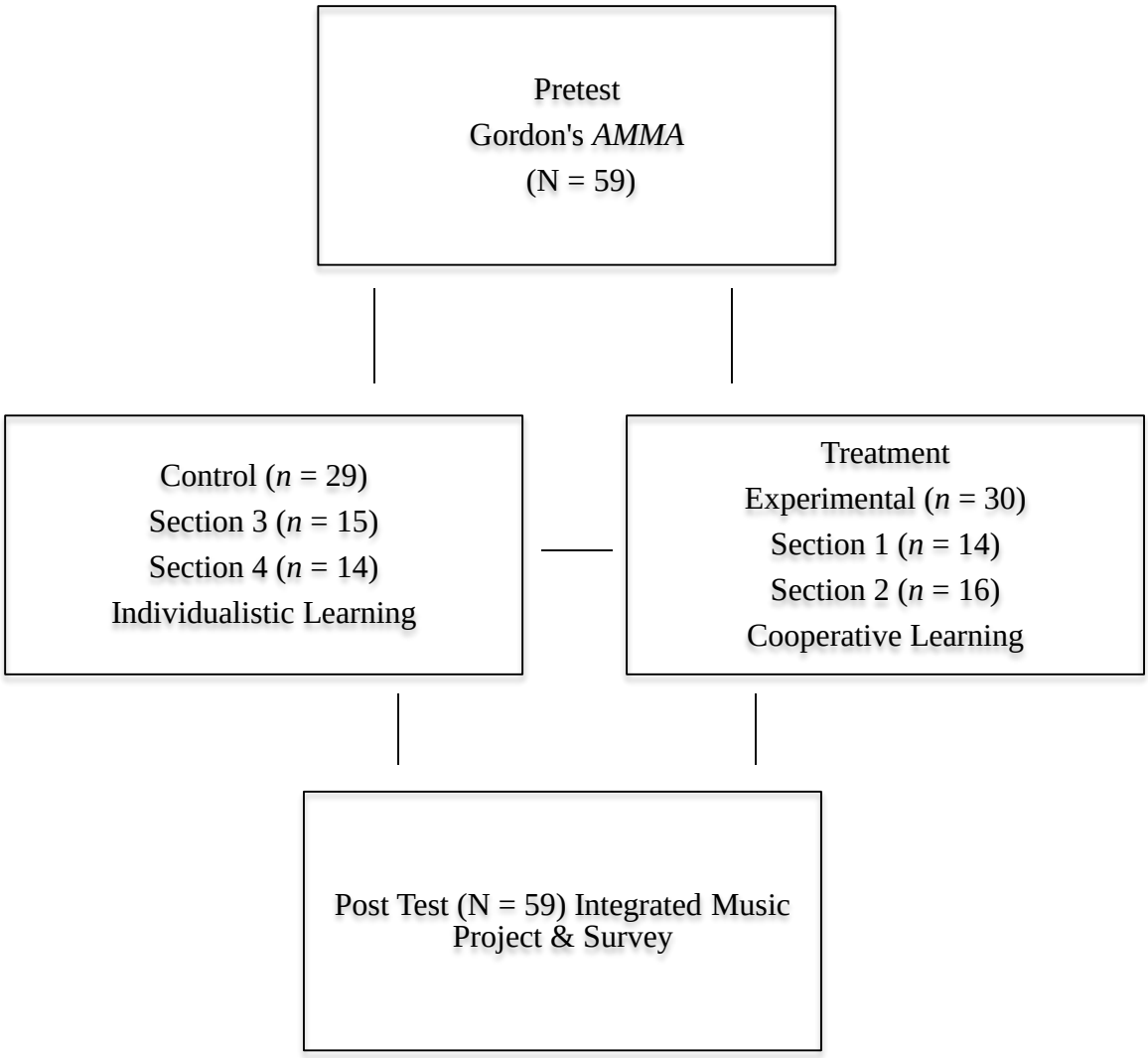


Figure 3.2 Research Study Design Model

Selection of Materials

As a component of this course, students are required to submit a final project. Prior to the start of the semester, the three instructors for the course agreed that students enrolled in the course would create a project that incorporates the application of integrating music into the elementary classroom. The purpose of this project was for students to explore and create lessons that enhance the learning process of subject matter through the utilization of music. The *Music Integration Project* timeline was to be completed in class over a six- week period. As this is a project, time and guidance was needed to complete the work.

Before treatment began, students were asked to fill out the *Music Experience Questionnaire* (*MEQ*). In addition, they were given the *Advanced Measures of Music Audiation*, the *Music Integration Final Project Rubric*, and the *Integrated Music Observation Map*. During the last week of class students were asked to fill out the *Integrated Music Project Interest Survey*. The following sections describe all material used to collect data in this study.

Demographic Information

Music Experience Questionnaire

All participants supplied demographic data describing their prior musical experience by completing the *Music Experience Questionnaire* (*MEQ*) designed by the researcher. This questionnaire included six items that collected the following data from participants: (a) age, (b) gender, (c) primary major, (d) classification, (e) participation in band, choir, and orchestra, (f) years of private musical study and (g) experiences in other musical activities. See Appendix A for the *Music Experience Questionnaire*.

Pretest

Gordon's Advanced Measures of Music Audiation

The *Advanced Measures of Music Audiation* (*AMMA*), developed by Gordon (1989), was utilized as the pre-test for all participants. According to Gordon, there are no prerequisites for participating in this test. The purpose of the pre-test was to establish that all subjects were homogenous with regard to musical ability.

The *AMMA* is a pre-recorded test consisting of 30 questions that takes approximately 15 minutes to complete. The test can be administered individually, in small groups, or in larger groups. The test consists of two subtests, *Tonal* and *Rhythm*. To complete the aptitude test, participants bubble in a space on the answer sheet provided after hearing two short musical phrases. Once the participants hear both musical phrases, they decide whether the musical excerpts are the same, different due to tonal changes, or different due to rhythmic changes. Once the test is complete, the administrator scores each participants answer sheets from a key given in the *AMMA* test packet (Gordon, 1989). At the conclusion of scoring each test, the individual test takers receive three scores that represent their achievement on the *Advanced Measures of Music Audiation* test. These scores represent a participants subtest scores (*tonal* and *rhythm*) and a total score of the combined subtest.

To compare the musical abilities between groups, an independent-sample t-test was conducted with learning environment (cooperative learning or individualistic learning) as the grouping variable and scores (*tonal*, *rhythm*, and *total*) as the testing variable. Results indicated no significant difference in the *tonal* scores for cooperative group ($M = 22.96$, $SD = 3.47$) and individualistic group ($M = 24.14$, $SD = 3.82$)

conditions; t(54) = -1.209, p = .232. For the *rhythm* score, results indicated no significant differences for cooperative group (M = 24.86, SD = 3.67) and individualistic group (M = 25.32, SD = 3.53) conditions; t(54) = -.483, p = .631. Finally, for the *total* score, results indicated no significant differences for cooperative group (M = 47.82, SD = 6.28) and individualistic group (M = 49.46, SD = 6.13) conditions; t(54) = -.990, p = .327.

Music Integration Project

The *Music Integration Project* (*MIP*) was designed for elementary education and special education majors who are enrolled in a music method course. As a learning outcome of the course, students were provided materials to enhance general classroom lesson plans with the implementation of music. This project was designed to be a demonstration of how well preservice teachers could utilize this approach in the general education classroom.

The *MIP* is built upon theme-based learning. The primary focus of theme-based learning is to place emphasis on the connections between subject areas, which allow students to make these connections. In this learning environment, a theme is selected in which all lessons are built. The theme selected for the *MIP* was the "Solar System". This theme was selected because numerous elementary schools learn about the solar system, which primarily happens during the 3rd and 4th grade.

To complete the project all students, in both cooperative group and individualistic group, were asked to write 10 lesson plans for a total of 590 lessons consisted around the theme "Our Solar System". The lesson plans consisted of: (a) 2 History Lessons, (b) 2 Math Lessons, (c) 2 Writing Lessons, (d) 2 Reading Lessons, and (e) 2 Science lessons. Within each lesson, students had to integrate music to enhance the lesson. At the

conclusion of the semester, students submitted their *Music Integration Project* for grading. The project consisted of: (a) title page, (b), table of contents, (c) rationale of the importance of music integration, (d) 10 lesson plans, and (e) rubrics for the final project. Since this was a large project, six-weeks were given for students to prepare their *MIP*. At the conclusion of the six-week project timeline, all students, in both the cooperative and individualistic groups, were instructed to individually microteach one lesson that was created from the ten lesson plans in their project. Since all participants had to microteach individually, participants in the cooperative group were told to microteach a different lesson than was taught by other group members. See Appendix B for the *MIP* handout.

Posttest

Music Integration Final Project Rubric

For the written portion of the post-test, participants were evaluated using the *Music Integration Final Project Rubric*. The rubric was developed by the researcher and used as one of the components for the posttest. The purpose of the rubric was to evaluate and assess all criteria required in each of the participants' final project. Prior to the study, participants were given the *Music Integration Final Project Rubric* to use as they developed their final project.

The *Music Integration Final Project Rubric* consisted of three individual rubrics that assess each of the following criteria: (a) organization of content, (b) rationale, and (c) lesson plan. Each criterion was given a descriptor that identified all of the components needed to receive full credit. The highest possible points participants could receive for each criterion was a score of 4, meaning all descriptors of the criterion were complete. The lowest score the participant could receive was a 0, meaning there was no presence of

the specific criterion. Descriptors of each criterion were given to participants to ensure that all possible points could be achieved. The four criterion were described as follows:

1. *Organization of Content Rubric* – The written final project must consist of the following: (a) title page, (b) table of contents, (c) rationale, (d) 10 lesson plans, and (e) written final project rubric.
2. *Rationale Rubric* – 2 (full) page rationale. Questions answered must:

   (a) Why is music important in schools?

   (b) How is music integrated?

   (c) How does music integration help students learn?

   Must use APA style with correct parenthetical citation. Correct grammar, mechanics, and spelling. This must include at least 2 sources (Journal and/or Book).
3. *Lesson Plan Rubric* – Consist of 10 lessons that are consistent with the theme (solar system). All lesson plans must include: title, theme, subject grade, content area, goals, core academic standards, national music standards, objectives, materials needed, procedure, and assessment. Each lesson must consist of the integration of music. Finally, music content and content from other subject areas is taught equally.

See Appendix C for the *Music Integration Final Project Rubric*.

To establish the validity of the rubric, a panel of three music education experts evaluated the rubric independently. The music experts consisted of a music educator who had 6 years of teaching experience, and two graduate students with an average of 6.5 of years teaching experience. Each expert was informed of the purpose and all components

of the project. They agreed that the *Music Integration Final Project Rubric* were indicative of assessing the participants *IMP*.

Microteaching & Integrated Music Observation Map

As one of the final components of the their project, participants were instructed to microteach one integrated music lesson to the class. Since this was a portion of their grade, participants had to individually complete a microteaching demonstration. The length of the integrated music lesson was approximately 7 to 10 minutes. To assess the individual microteaching of the participants, the *Integrated Music Observation Map* was created. The *Integrated Music Observation Map* was adapted from the *Arts-In-Education Observation Map* developed by Wang and Sogin (2010). The purpose of the *Arts-In-Education Observation Map* is to assess in-service elementary educators use of the arts (dance, drama, music, and visual arts) in the classroom. The observation map was developed as part of a national school project entitled *Different Ways of Knowing* or (*DWoK*). One component of the *DWoK* requires educators to implement instruction and acquiring knowledge through the arts (Peterson, J., Schwager, M., Crepeau, M., & Curry, K., 1998). The *Arts-In-Education Observation* used fifteen trained inter- judges for reliability. The reliability calculated was .87. For the purpose of this study, the *Arts-In-Education Map* was adapted for music integration in a preservice elementary education music method course.

On the *Integrated Music Observation Map,* participants were scored on ten content areas (teacher, pupils, process, musical elements, classroom atmosphere, purpose, authenticity, expression, degree, and range) on a 4-point scale rubric anchored by 4 (all content was present) and 0 (no content was present). Descriptors of each content area

were given to participants to ensure that all possible points could be achieved. The content areas were defined as follows:

1. *Teacher* – The teacher is well prepared and conducts music related activities with enthusiasm. S/he displays confidence during these activities, uses effective techniques, and actively encourages students to take creative risks in music.
2. *Pupils* – The pupils participate with eagerness to the music experience. There is a positive, attentive, and purposeful response to their task. All students are included in music activities
3. *Process* – The pupils experience a full spectrum of learning through music. They engage in the planning, thinking, doing, and reflecting in various music media. Students are challenged to make better aesthetic judgments about musical works. Student's musical works are preserved on audio or videotapes, portfolios, and other forms.
4. *Elements of Music* – The principles and elements of the music discipline are readily used in the teaching/learning process.
5. *Classroom Atmosphere* – During the music activities, the atmosphere is relaxed. There is a definite sense of enjoyment and purposefulness. There is much interaction between the teacher and students and among students themselves. Mutual respect, support, and openness can easily be detected.
6. *Purpose* – Music is implemented into the classroom teaching for a variety of purposes: To develop non-verbal communication, to create and produce music to convey a point of view, to analyze the various forms of

music, to develop aesthetic sensitivity and critical thinking, to understand musical heritages and cultural diversities. There is evidence that musical activities are on going.

7. *Authenticity* – Appropriate vocabulary, materials, tools and techniques are used in conjunction with activities related to music. Attention is given to perceptual skills development, quality, artistic choices, and technical skills whenever appropriate.
8. *Expression* – Freedom of expression is encouraged. There is evidence of all three levels of expression in the class: Natural expression, creative expression, and artistic expression.
9. *Degree* – The musical component is an integral part of the lesson plan. Its content relates to the core concepts, academic expectations, and other subject areas of the thematic unit in a meaningful way.
10. *Range* - Musical experiences are generally presented in a way, which makes natural connections with the students' life, community, experiences, with other arts, or other cultures.

See Appendix D for the *Integrated Music Observation Map*.

Integrated Music Project Interest Survey

The *Integrated Music Project Interest Survey* was used to assess the participants' interest in developing and completing the Integrated Music Final Project. The *Integrated Music Project Interest Survey* was adapted from the Course Interest Survey Developed by Keller (2010). The Course Interest Survey was designed to "measure students' reactions to an instructor-led instruction" (Keller, 2010, p. 277). The Course Interest Survey

consists of 33 questions that explore students' attention, relevance, confidence, and satisfaction of a course. Reliability for the survey was .95 (Keller, 2010). For the purpose of this study, the Course Interest Survey was used to measure the interest of preservice elementary students on their participation in the final integration music project. The *Integrated Music Project Interest Survey* uses a likert-type scale to assess four categories: (a) students attention, (b) relevance, (c) confidence, and (d) satisfaction. The values range from 1 (not true) to 5 (very true). See Appendix E for the *Integrated Music Project Interest Survey*.

Observations

After the six-weeks allotted to work on the Music Integration Project, participants were given a two-week period to individually microteach an integrated music lesson to the class. During this time, participants were recorded using a Sony HD Camcorder. The purpose of using a video recording was to analyze individual microteachings post hoc using the Integrating Music Observation Map.

Timeline

During this study, 6 weeks of the semester were given to participants to work on the IMP while still receiving regular scheduled course topics. To achieve this, participants would receive 20 minutes each class time to work on the project and 30 minutes for weekly scheduled lectures and music lessons built around the chapters and topics. Figure 3.3 is a representation of the entire duration of the study from the pretest to posttest.

Week	Experimental Group: Cooperative Group	Group: Individualistic Group
Week 1	Pretest Edwin Gordon's Advanced Measures of Music Audiation	Pretest Edwin Gordon's Advanced Measures of Music Audiation
Week 2	30 Minutes of Regular Instruction: Teaching Music Through Singing 20 Minutes working on Integrated Music Project	30 Minutes of Regular Instruction: Teaching Music Through Singing 20 Minutes working on Integrated Music Project.
Week 3	30 Minutes of Regular Instruction: Teaching Music Through Playing Instruments 20 Minutes working on Integrated Music Project.	30 Minutes of Regular Instruction: Teaching Music Through Playing Instruments 20 Minutes working on Integrated Music Project.
Week 4	30 Minutes of Regular Instruction: Teaching Music Through Listening 20 Minutes working on Integrated Music Project..	30 Minutes of Regular Instruction: Teaching Music Through Listening 20 Minutes working on Integrated Music Project.
Week 5	30 Minutes of Regular Instruction: Teaching Music Through Movement 20 Minutes working on Integrated Music Project.	30 Minutes of Regular Instruction: Teaching Music Through Movement 20 Minutes working on Integrated Music Project.
Week 6	30 Minutes of Regular Instruction: Creativity and Music in the Classroom 20 Minutes working on Integrated Music Project.	30 Minutes of Regular Instruction: Creativity and Music in the Classroom 20 Minutes working on Integrated Music Project.
Week 7	30 Minutes of Regular Instruction: Music & the other Arts 20 Minutes working on Integrated Music Project.	30 Minutes of Regular Instruction: Music & the other Arts. 20 Minutes working on Integrated Music Project.

Week 8	All participants turn in the Integrated Music Project; Beginning of individual Microteaching of an integrated music lesson.	All participants turn in the Integrated Music Project; Beginning of individual Microteaching of an integrated music lesson
Week 9	Continue with individual microteaching of an integrated music lesson.	Continue with individual microteaching of an integrated music lesson.
Week 10	All written final projects graded with rubric and give back to participants. Final Interest survey will be handed out to all participants	All written final projects graded with rubric and give back to participants. Final Interest survey will be handed out to all participants

Figure 3.3 Timeline of the study (cont.)

Classroom Design & Equipment

For the purpose of this study the classroom environment was set for either experimental (cooperative learning) or control (individualistic learning) conditions. For the cooperative group, chairs were grouped together by fours. Each cooperative group was spread out so that each cooperative group could discuss the project without disturbing other cooperative groups in the classroom.

Four students were placed in each cooperative group. Participants were instructed to only talk to participants within their cooperative group. All questions that could not be answered by the group were then directed to the instructor of the course. To help establish the cooperative learning environment, all groups were instructed to assign roles for each member of the group. These were the leader/facilitator, recorder, checker/mediator, and the reflector. A detailed description of each role was read to all

participants in the cooperative group. See Appendix H for the instructions read to the cooperative group.

For the individualistic group, the chairs were evenly spaced throughout the classroom. Participants were asked to not talk with other students within the classroom and to direct any questions to the instructor of the course. Since this control group is to examine participants' individualistic achievement, participants were asked to not discuss any components of the final project with other members of the classroom.

Before each class began, the instructor would set up the room depending on the treatment each class receives. Sections 1 & 2 were set up in a cooperative setting and sections 3 & 4 were setup in an individualistic setting. A diagram of the room setup and seating arrangements is provided below in figures 3.4. and 3.5.

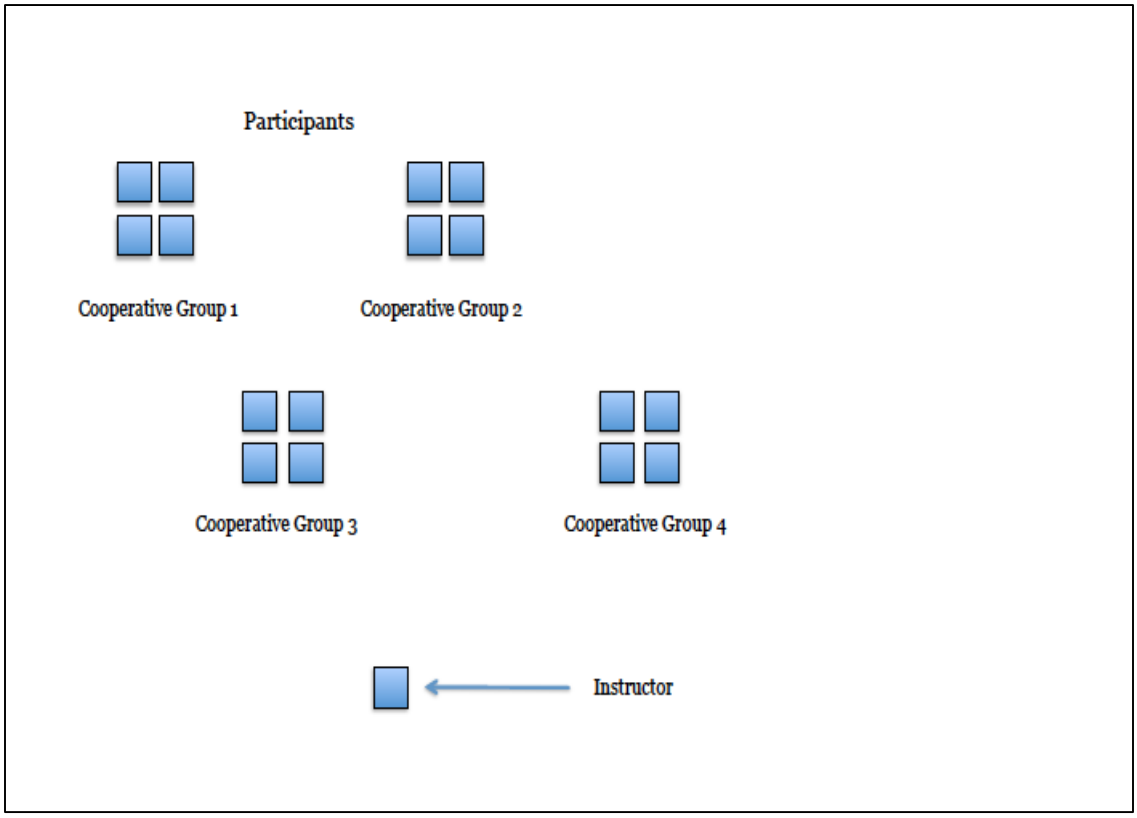


Figure 3.4 *Diagram of Room and Seating Arrangement for Experimental Group Sessions*

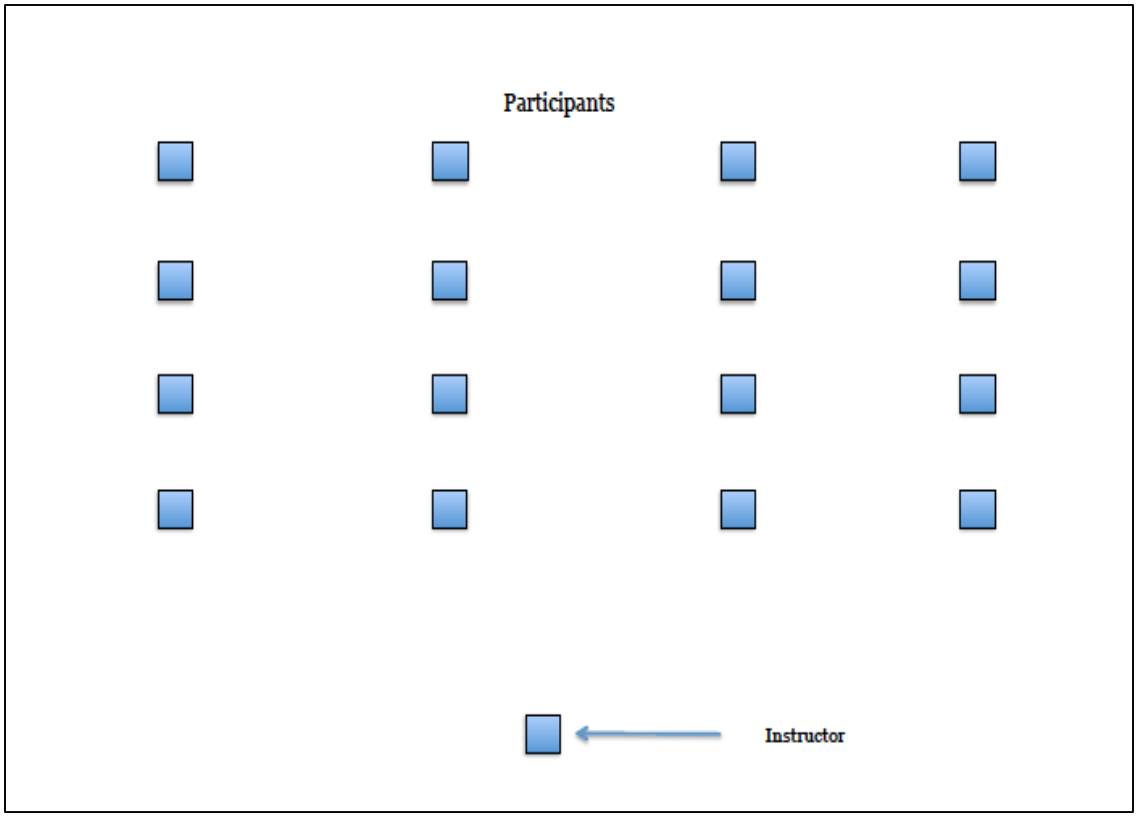


Figure 3.5. *Diagram of Room and Seating Arrangement for Control Group Sessions.*

For this study, a Sony HD Camcorder was used to record the integrated music lesson of each individual. Prior to the microteaching of participants, a video camera was set up in the back of the classroom and recorded each lesson. Upon conclusion of the microteachings, the researcher and reliability observer viewed the videos.

Procedure

Permission for using participants in this study was obtained through the University Office of Human Research Studies during the semester prior to the study (IRB # 14 – 0160 – P4S). Participants were also informed in writing and verbally at the beginning of the semester that class work would be used in an upcoming research study during the course of the semester. See Appendix F for IRB Approval letter.

The pre-test was administered during the third week of the spring semester. The *AMMA* was administered on Friday, two weeks prior to the treatment. The aptitude test took approximately 16 minutes to administer and was given in the music education classroom where all participants meet regularly on a Monday, Wednesday or Friday as a class. The participants took the pre-test at their regularly scheduled class time with no differentiation between the control and treatment group. All participants s were given a blank scoring sheet and asked to wait until all scoring sheets had been given out. Prior to the pre-test, the researcher asked if anyone had questions before beginning. Since the *AMMA* is already scripted and timed on a compact disc there was no need to prepare the participants for the pre-test.

The test consisted of two subtests *Tonal* and *Rhythm*. To complete the aptitude test, participants bubbled in a space on the answer sheet provided to them after hearing two short musical phrases. Once the participants heard both musical phrases, they

decided whether the musical excerpts were the same, different due to tonal changes, or different due to rhythmic changes. Once the test was completed, the administrator scored each participants answer sheet from a key given in the *Advanced Measures of Music Audiation* test packet (Gordon, 1989).

Two weeks after the pre-test was administered, class sections were then labeled into a cooperative group or individualistic group. Due to the unique class scheduling of the course, randomization of participants was not possible. The design used four intact class sections that were paired together and matched. The first paired classes were sections 1 & 2 and the second paired intact classes were 3 & 4. Sections 1 & 2 meet at the same time from 8 to 9:50 a.m. and sections 3 & 4 meet from 10 to 11:50 a.m. Sections 1 & 2 were the experimental group (cooperative learning) and sections 3 & 4 were the control group (individualistic learning). Participants were assigned to a cooperative group by their level of musical ability. To do this, groups were matched based on their *AMMA* scores and *MEQ* given prior to the study.

Prior to the treatment all participants were given information on the *Music Integration Project* and their microteaching assignment. Each participant was handed a Themed Based Learning Project Packet that contained the following: (a) introduction and definition of the final music integration project, (b) rubric assessing their written final project, (c) rubric assessing their teaching of an integrated music lesson, and (d) blank template of a lesson plan. After distributing the Theme Based Learning Project Packet, the instructor asked participants to follow along in their packet as the directions were read to them. See Appendix G of the directions read to participants for the Theme Based Learning Project. After the participants read the information given to them they had over

the weekend to prepare any questions before the start of the project on Monday.

Due to the importance of time spent within a cooperative learning environment, 6 weeks were spent working on the *Music Integration Project*. During this study, 6 weeks of the semester were used for participants to work on the *Integrated Music Project* while still receiving regular scheduled course topics. To achieve this, participants would receive 20 minutes each class time to work on the project and 30 minutes for weekly scheduled lectures and music lessons built around the chapters and topics. Each time the course met, 30 minutes were given towards regular class time instruction and activities, while the remaining 20 minutes were given to participants to work on the final project. The instructor was present at all class meetings for questions and guidance on any questions or problems that may have occurred.

At the conclusion of the six weeks, the participants' *IMP* were collected and scored by independent judges according to the *Music Integration Final Project Rubric*. Once all projects were collected, participants were given the *Integrated Music Project Interest Survey* to complete. For the remaining two weeks of the study, participants in both groups, cooperative and individualistic group, individually taught one 7 to 10 minute integrated music lesson that was created in the *IMP*. It should be noted that all participants, both cooperative and individualistic, received the same amount of time to prepare both the *IMP* and microteaching of an integrated music lesson. All microteachings by the participants were videotaped for post hoc analysis. Each video was then observed and graded according to the *Integrated Music Observation Map* by independent judges.

Pilot Study

A pilot study was conducted in preparation for the present study with preservice elementary education majors (N = 22) who were sampled from a different music method course for elementary education majors. The purpose of the pilot study was to administer a preliminary implementation of the research procedures, to test the utility of the *Music Integration Final Project Rubric* and the *Integrated Music Project Interest Survey*. Changes were made to clarify all grading rubrics according to the committee. A summary of the pilot study including an overview of the results and a description of the modifications made for the present study and is provided in Appendix I.

For the pilot pretest, an independent-samples t-test was conducted to compare the musical ability of the cooperative group (experimental) and the individualistic group (control) conditions. There was not a significant difference at the .05 level in the scores for cooperative group (M=44.33, SD=9.23) and individualist group (M=50.55, SD=6.69) conditions; t(16)=-1.632, p =.122. These results suggest that participants in both cooperative learning environment and individualistic learning environment are equally balanced when pertaining to musical ability.

Chapter 4: Results

Introduction

This study examined the effects of two learning conditions: cooperative learning and individualistic learning, on preservice elementary and special education majors. Participants for this study were preservice elementary education majors enrolled in an established course at the University of Kentucky, *Teaching Music in the Elementary Classroom,* during Spring 2014 semester. Participants in the study consisted of four class sections. Two of the sections were introduced to and placed into a cooperative learning environment while the remaining two sections were placed into an individualistic learning environment. Of the cooperative learning participants, 30 of the initial 32 students completed all parts of the study. Of the individualistic learning participants, 29 of the initial 30 students completed all parts of the study. The three students not completing the course were not included in the analysis.

The study started in the second eight weeks of the semester beginning on 03/10/2014 and ending 05/09/2014. During these eight weeks, participants were to complete their *Integrated Music Curriculum Project* while working in one of the two learning environments. Prior to beginning the study all participants took Gordon's *Advanced Measures of Music Audiation Test* (*AMMA*) to assume equal musical ability between groups. The Independent Variable in this study were the learning environments, cooperative or individualistic. The dependent variables consisted of three different measurements. First to assess *Integrated Music Project* three separate rubrics were used for Organization, Rationale, and Lesson Plan. The second was the *Integration of Music Observation Map* that assessed each participant's microteaching of an integrated music

lesson. Finally the *Integrated Music Project Interest Survey* that was given pre and post to both groups.

In this chapter, descriptive and inferential statistics are presented to show the means, standard deviations, and p values for each group on each of the measurements used in this study. To test the hypotheses, results of inferential statistical tests are presented to report any statistically significant differences between learning environments, thereby rejecting or accepting the null hypotheses. The level of significance for statistical testing was set at $\alpha = .05$.

Statement of Hypotheses

Research Hypotheses

1. Cooperative learning participants will produce higher scores on the *Music Integration Project* than participants in the individualistic learning environment.
2. Cooperative learning participants will produce higher scores on the microteaching of a music-integrated lesson as measured on the *IMOM* than participants in the individualistic learning environment.
3. Cooperative learning participants will score higher on the interest survey about the *Music Integration Project* than participants in the individualistic learning environment.

Descriptive & Inferential Statistics on Gordon's *AMMA*

A pretest was given to each participant using Gordon's *AMMA* to assess participants' musical ability within each learning environment. To compare musical abilities between groups, an independent-sample t-test was conducted with learning environment (cooperative learning or individualistic learning) as the grouping variable and their scores from Gordon *AMMA* (tonal, rhythm, and total) as the testing variable. Results indicated that no significant differences were found for the tonal scores; cooperative group (M = 23.04, SD = 3.51) and individualistic group (M = 24.14, SD = 3.81) conditions; t(53) = -.117, p = .27. For the rhythmic score results, no significant differences were found between the cooperative group (M = 24.93, SD = 3.72) and individualistic group (M = 25.32, SD = 3.53) conditions; t(53) = -.405, p = .69. And finally, for the total score, results indicated that no significant differences were found for the cooperative group (M = 47.96, SD = 6.36) and individualistic group (M = 49.46, SD = 6.14) conditions; t(53) = -.891, p = .38 respectively. When comparing scores from Gordon's *AMMA* no significant differences were found between these two groups and thus concluding that statistically no differences were found in their musical abilities. Descriptive statistics and independent sample t-test of participants' scores on Gordon's *AMMA* are reported in table 4.1.

Table 4.1
Means, Standard Deviations, and p-value for Independent Samples T-Test Comparing AMMA Scores

	Cooperative Learning Mean (*SD*)	Individualistic Learning Mean (*SD*)	Independent-Sample *t*-test	*p*-value
Tonal Score	23.04 (3.51)	24.14 (3.81)	$t(53) = -.117$	.27
Rhythm Score	24.93 (3.72)	25.32 (3.53)	$t(53) = -.405$	.69
Total Score	47.96 (6.36)	49.46 (6.14)	$t(53) = -.891$	.38

Research Hypothesis #1: Cooperative learning participants will produce higher scores on the Music Integration Project than participants in the individualistic learning environment.

The first research question investigated the effect of two different learning environments on participants' scores on their *Music Integration Project*. All projects were scored on three separate rubrics: (a) Organization rubric, (b) Rationale Rubric, and (c) Lesson Plan Rubric. The maximum score participants could receive on each of the rubrics was 20 points. The maximum score participants could receive on the entire project was 60 points. An independent-samples t-test was conducted to compare each rubric and total score for participants in the cooperative learning and individualistic learning environment. For the organization rubric, there was a statistically significant

difference found between scores for the cooperative learning condition (M = 18.25, SD = 1.19) and individualistic learning conditions (M = 17.31, SD = 1.99); t(57) = 2.202, p = .03. For the rationale rubric, there were no significant differences in the scores for cooperative learning conditions (M = 16.48, SD = 1.13) and individualistic learning conditions (M = 16.41, SD = 2.10); t(57) = .159, p = .87. For the lesson plan rubric, there was a statistically significant difference in the scores for cooperative learning conditions (M = 19.42, SD = .41) and individualistic learning conditions (M = 18.76, SD = .93); t(57) = 3.521, p = .00. Finally for the total score of the integrated music curriculum project there was a statistically significant difference in the scores for cooperative learning conditions (M = 54.15, SD = 1.42) and individualistic learning conditions (M = 52.48, SD = 3.71); t(57) = 2.296, p = .03. For the *Music Integration Project* the cooperative learning environment scored statistically significant higher on two out of the three rubrics (organization and lesson plan rubric) as well as the overall total score thus accepting the hypothesis that cooperative learning participants will produce higher scores on the *Music Integration Project.* Table 4.2 reports the mean scores and p-value for the independent-samples t-test for the three grading rubrics (organization, rationale, and lesson plan). Figure 4.1 reports the mean for both the cooperative learning and individualistic learning participants' scores on the *Music Integration Project*.

Table 4.2 Means, Standard Deviations, and p-value for Independent-Samples t-test Comparing groups on all rubrics and total score of the Music Integration Project

	Cooperative Learning Mean (*SD*)	Individualistic Learning Mean (*SD*)	Independent-Sample *t*-test	*p*-value
Organization Rubric	18.25 (1.19)	17.31 (1.99)	$t(57) = 2.202$	.03*
Rationale Rubric	16.48 (1.13)	16.41 (2.10)	$t(57) = .159$	.87
Lesson Plan Rubric	19.42 (.42)	18.76 (.93)	$t(57) = 3.521$	.00*
Total Score	54.15 (1.42)	52.48 (3.71)	$t(57) = 2.30$	.03*

*sig. at the .05 level

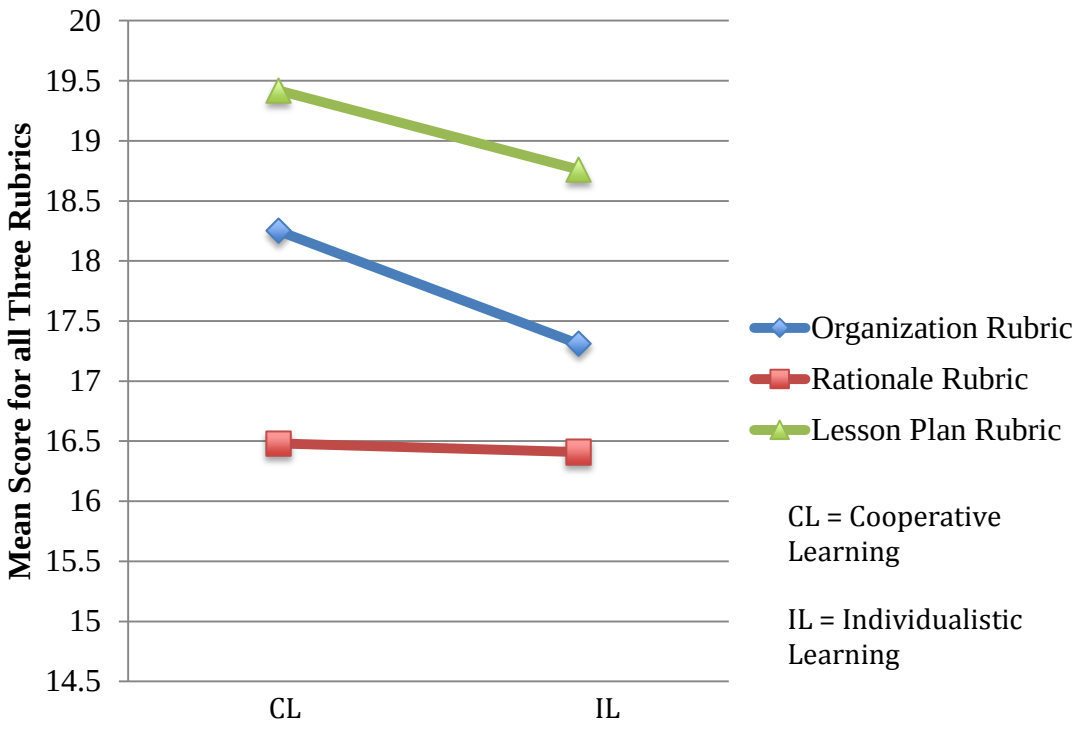


Figure 4.1 Mean Scores of participants in cooperative and individualistic learning environment on Music Integration Project Rubrics

Research Hypothesis #2: Cooperative learning participants will produce higher scores on the microteaching of a music-integrated lesson as measured on the IMOM than participants in the individualistic learning environment.

The second research question examined the effect of different learning conditions on participants' scores of the microteaching of an integrated music lesson. All microteachings were scored according to the *Integrated Music Observation Map* (*IMOM)*. The IMOM consisted of 10 criteria that are organized into four different categories. The first category was process/product that consisted of the following criteria: (a) teacher, (b) pupils, (c) process, and (d) element. The second category environment consisted of the criterion: (a) atmosphere. The third category was

implementation, which consisted of the following criteria: (a) purpose, (b) authenticity, and (c) expression. The final category was integration, which consisted of the criteria: (a) degree and (b) range.

Each criterion could receive a maximum of 4 points and minimum of 1 point. The maximum a participant can receive is 40 points and a minimum of 10 points. For the following section an independent-samples t-test was conducted to compare the 10 criteria, four categories, and total scores of the microteaching from the two learning environments. Each category is scored differently. The first category was Process/Product, had a maximum score of 20 points. The second category was Environment, which had a maximum score of 4 points. The third category was Implementation, which had a maximum score of 12 points. The final category was Integration, which had a maximum score of 8.

An independent-samples t-test was conducted to compare each criteria, category, and total scores for participants in the cooperative learning and individualistic learning groups. For the teacher criterion, there was no statistically significant difference in the scores for cooperative learning ($M = 3.50$, $SD = .68$) and individualistic learning ($M = 3.22$, $SD = .75$); $t(57) = 1.478$, $p = .15$. For pupils criterion, there was a statistically significant differences in the scores for cooperative learning ($M = 3.50$, $SD = .63$) and individualistic learning ($M = 3.05$, $SD = .71$); $t(57) = 2.565$, $p = .01$. For process criterion, there was not a statistically significant difference in the scores for cooperative learning ($M = 2.85$, $SD = .67$) and individualistic learning ($M = 3.02$, $SD = .74$); $t(57) = -.911$, $p = .37$. For element criterion, there were no significant differences in the scores for cooperative learning ($M = 3.40$, $SD = .72$) and individualistic learning ($M = 3.10$, SD

= .90); t(57) = 1.397, p = .17. However for atmosphere, statistically significant differences were found between the cooperative learning (M = 3.48, SD = .75) and individualistic learning (M = 3.09, SD = .77); t(57) = 2.011, p = .05. For purpose, there were statistically significant differences in the scores for cooperative learning (M = 3.30, SD = .47) and individualistic learning (M = 2.93, SD = .88); t(57) = 2.016, p = .05. As well as for authenticity, statistically significant differences in the scores for cooperative learning (M = 3.32, SD = .81) and individualistic learning (M = 2.74, SD = .99); t(57) = 2.444, p = .02. For expression there were no significant differences in the scores between cooperative learning (M = 2.87, SD = .73) and individualistic learning (M = 3.14, SD = .79); t(57) = -1.371, p = .18. For the degree criterion, there were statistically significant differences in the scores for cooperative learning (M = 3.55, SD = .53) and individualistic learning (M = 3.10, SD = .90); t(57) = .118, p = .02. Finally for range criterion, there were statistically significant differences in the scores between cooperative learning (M = 3.47, SD = .68) and individualistic learning (M = 3.07, SD = .84); t(57) = 1.997, p = .05. For the individual microteaching of an integrated music lesson participants in the cooperative learning environment scored statistically significantly higher in the following areas: (a) pupils, (b) atmosphere, (c) purpose, (d) authenticity, (c) degree, and (d) range that participants in the individualistic learning environment. Figure 4.2 reports the mean for cooperative learning and individualistic learning participants' scores on each criterion from the *IMOM*. Table 4.3 reports the mean scores and p-value for the independent-samples t-test for the 10 criteria for the *IMOM*.

Table 4.3 Mean Scores, Standard Deviations, and p-value for Independent-Samples t-test between groups on all rubrics and total score of the integrated music project

	Cooperative Learning Mean (*SD*)	Individualistic Learning Mean (*SD*)	Independent-Sample *t*-test	*p*-value
Teacher	3.50 (.68)	3.22 (.75)	*t*(57) = 1.478	.15
Pupils	3.50 (.63)	3.05 (.71)	*t*(57) = 2.565	.01*
Process	2.85 (.67)	3.02 (.74)	*t*(57) = -.911	.37
Elements	3.40 (.72)	3.10 (.90)	*t*(57) = 1.397	.17
Atmosphere	3.48 (.75)	3.09 (.77)	*t*(57) = 2.011	.05*
Purpose	3.30 (.47)	2.93 (.88)	*t*(57) = 2.016	.05*
Authenticity	3.32 (.81)	2.74 (.99)	*t*(57) = 2.444	.02*
Expression	2.87 (.73)	3.14 (.79)	*t*(57) = -1.371	.18
Degree	3.55 (.53)	3.10 (.90)	*t*(57) = 2.330	.02*
Range	3.47 (.68)	3.07 (.84)	*t*(57) = 1.997	.05*

- Sig. at the .05 level

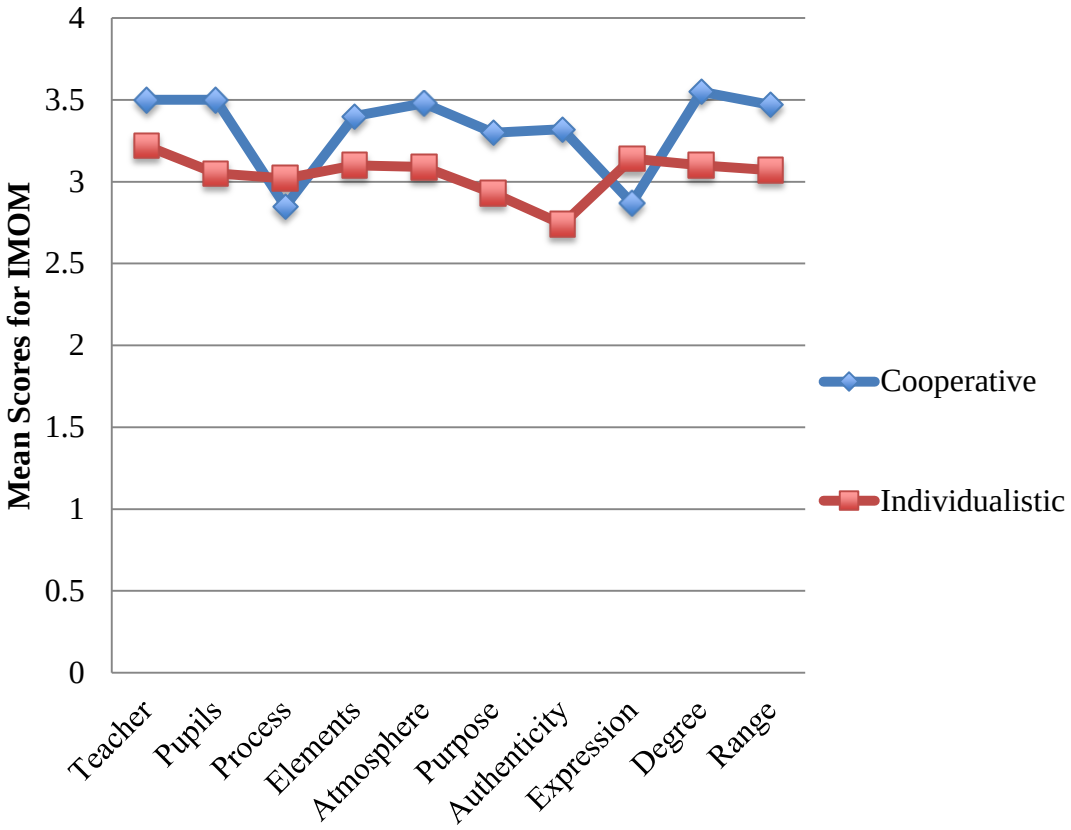


Figure 4.2 Mean scores of participants' scores according to learning environment of each criterion on the IMOM

For each category of the *IMOM* an independent-samples t-test was conducted to compare mean scores for participants in the cooperative learning and individualistic learning environment. For the Process/Product, there were no significant differences in the scores for cooperative learning conditions (M = 13.25, SD = 2.23) and individualistic learning conditions (M = 12.40, SD = 2.36); t(57) = 1.430, p = .16. For the Environment category, there was a statistically significant differences in the scores for cooperative learning conditions (M = 3.48, SD = .75) and individualistic learning conditions (M = 3.09, SD = .77); t(57) = 2.011, p = .05. For the Implementation Category, there were no

significant differences in the scores for cooperative learning conditions (M = 9.48, SD = 1.48) and individualistic learning conditions (M = 8.81, SD = 2.40); t(57) = 1.302, p = .20, and for the Integration category, there was a statistically significant differences in the scores for cooperative learning conditions (M = 6.98, SD = 1.19) and individualistic learning conditions (M = 6.17, SD = 1.58); t(57) = 2.228, p = .03. The participants in the cooperative learning environment scored statistically significant higher in the areas of environment and integration on the individual microteaching of an integrated music lesson. Although the mean scores of the cooperative group were higher in all areas of the *IMOM*, an independent-samples t-test indicated that there were no differences between groups in the areas of process/product and implementation of an integrated music lesson. Table 4.4 reports the mean scores, standard deviations, and p-value for the independent-samples t-test for four categories of the *IMOM*. Figures 4.3 shows the mean of participants' scores on the categories (environment and integration) that were statistically significant from the *IMOM*.

Table 4.4 Mean Scores, Standard Deviations, and p-value for Independent-Samples t-test between groups on the four categories of the IMOM.

	Cooperative Learning Mean (*SD*)	Individualistic Learning Mean (*SD*)	Independent-Sample *t*-test	*p*-value
Process/Product	13.25 (2.23)	12.40 (2.36)	$t(57) = 1.430$	.16
Environment	3.48 (.75)	3.09 (.77)	$t(57) = 2.011$	.05*
Implementation	9.48 (1.48)	8.81 (2.40)	$t(57) = 1.302$	.20
Integration	6.98 (1.19)	6.17 (1.58)	$t(57) = 2.228$	.03*

* Sig. at the .05 level

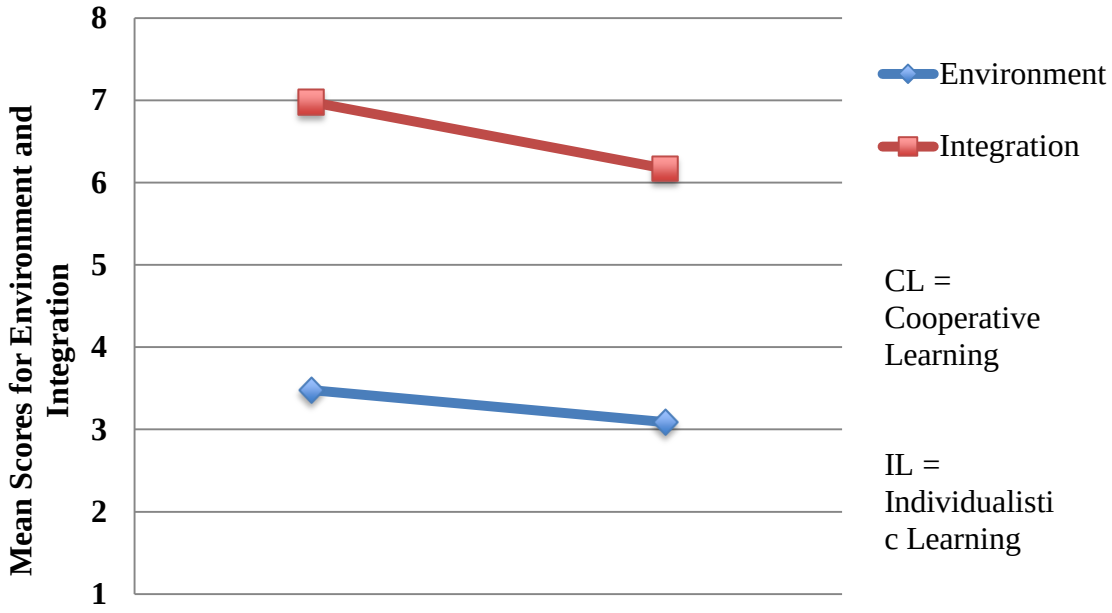


Figure 4.3 Total Mean scores of participants' scores according to learning environment and integration categories on the IMOM

For total score of the *IMOM* an independent-samples t-test was conducted to compare mean scores for participants in the cooperative learning and individualistic learning environment. There were no significant differences in the scores for cooperative learning conditions (M = 33.23, SD = 4.92) and individualistic learning conditions (M = 3.47, SD = 6.41); t(57) = 1.863, p = .07. Table 4.5 reports the mean scores, standard deviations, and p-value for the independent-samples t-test for the total scores on the *IMOM*.

Table 4.5 Mean Scores, Standard Deviations, and p-value for Independent-Samples t-test between groups on the total score of the IMOM.

	Cooperative Learning Mean (*SD*)	Individualistic Learning Mean (*SD*)	Independent-Sample *t*-test	*p*-value
Total Score	33.23 (4.92)	30.47 (6.41)	$t(57) = 1.863$	.07

Research Hypothesis #3: Cooperative learning participants will score higher on the interest survey about the Music Integration Project than participants in the individualistic learning environment.

The third research question investigated the effect of different learning environment conditions on participants' interests on the Integrated Music Project. Participants of the study were given the *Integrated Project Interest Survey* before and at the completion of the Integrated Music Project. The 34-item questionnaire assessed four different areas of participants' reactions towards the Integrated Music Project. These areas include: (a) attention, (b) relevance, (c) confidence, and (d) satisfaction. For the *Integrated Project Interest Survey*, participants were to rate each question on a scale from 1 to 5, with 1 being not true and 5 being very true. Once all surveys were collected, the investigator scored and averaged the four different areas of the survey.

To compare participants in the cooperative learning and individualistic learning environment on the pre survey an independent-samples t-test was conducted as learning group as the independent variable and pre survey areas (attention, relevance, confidence, and satisfaction) as the dependent variable. For attention area of the interest survey,

statistically significant differences were found between cooperative learning (M = 3.38, SD = .71) and individualistic learning (M = 2.93, SD = .75) groups; t(57) = 2.354, p = .02. For the relevance area of the interest survey, statistically significant differences were found between cooperative learning (M = 4.05, SD = .73) and individualistic group (M = 3.66, SD = .67) groups; t(57) = 2.109, p = .04. For confidence area of the interest survey, statistically significant differences were found between cooperative learning (M = 4.13, SD = .57) and individualistic learning (M = 3.78, SD = .63) groups; t(57) = 2.243, p = .03. For the satisfaction area of the interest survey, statistically significant differences were found between cooperative learning (M = 3.93, SD = .69) and individualistic learning (M = 3.19, SD = 79) groups; t(57) = 3.844, p = .00. The independent-samples t-test showed that participants in the cooperative learning environment gave statistically significant higher scores in all four areas (attention, relevance, confidence, and satisfaction) for the pre *Integrated Music Project Interest Survey.* Table 4.6 reports the mean scores, standard deviations, and p-value for the independent-samples t-test comparing cooperative learning and individualistic groups pre *Integrated Music Project Interest Survey*. Figure 4.4 reports participants mean scores from the pre *Integrated Music Project Interest Survey.*

Table 4.6 Mean Scores, Standard Deviations, and p-value for independent-samples t-test for pre Interest Survey

	Cooperative Learning Mean (*SD*)	Individualistic Learning Mean (*SD*)	Independent-Samples *t*-test	*p*-value
Attention	3.38 (.71)	2.93 (.75)	$t(57) = 2.354$	.02*
Relevance	4.05 (.73)	3.66 (.67)	$t(57) = 2.109$	.04*
Confidence	4.13 (.57)	3.78 (.63)	$t(57) = 2.243$	.03*
Satisfaction	3.93 (.69)	3.19 (.79)	$t(57) = 3.844$	.00*

* Sig. at the .05 level

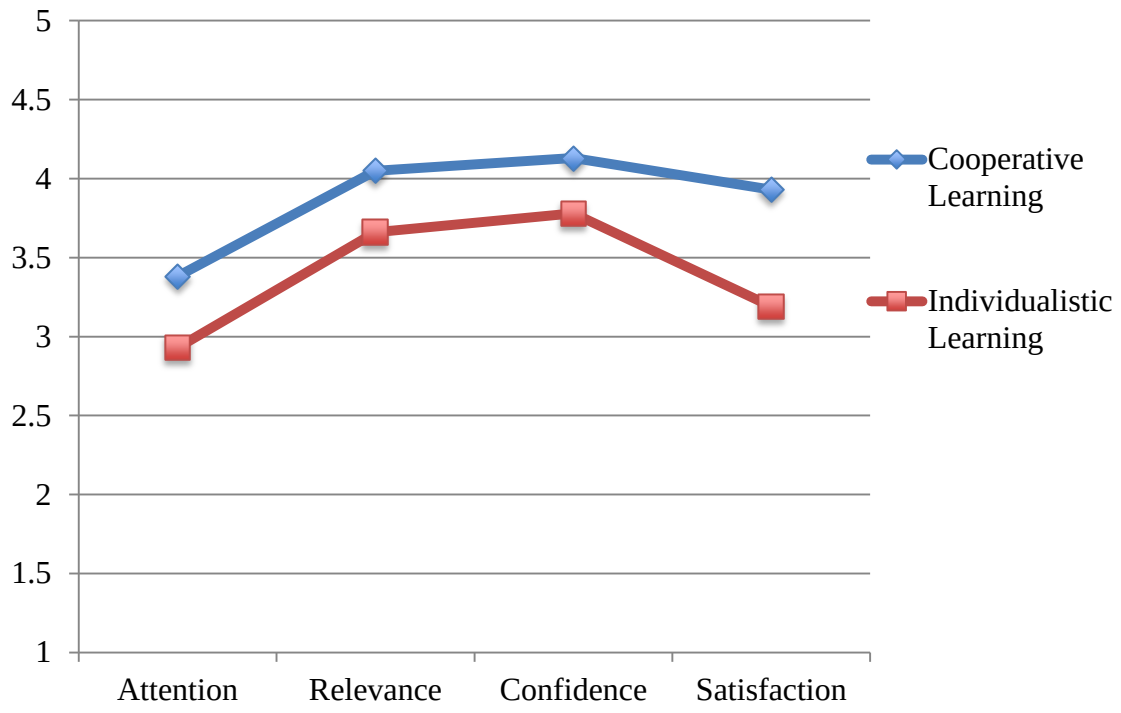


Figure 4.4 Mean scores from the pre Integrated Music Project Interest Survey.

To compare participants in the cooperative learning and individualistic learning environment on the post survey an independent-samples t-test was conducted as learning group as the independent variable and post survey categories (attention, relevance, confidence, and satisfaction) as the dependent variable. For the area of attention on the interest survey, statistically significant differences were found between cooperative learning (M = 3.59, SD = .72) and individualistic learning (M = 2.73, SD = .82) groups; t(57) = 4.275, p = .00. For the relevance area of the interest survey, statistically significant differences were found between the cooperative learning (M = 4.32, SD = .54) and individualistic group (M = 3.66, SD = .87) groups; t(57) = 3.493, p = .00. For confidence area of the interest survey, statistically significant differences were found between cooperative learning (M = 4.41, SD = .41) and individualistic learning (M =

3.57, SD = .68) groups; t(57) = 5.816, p = .00. For the satisfaction area of the interest survey, statistically significant differences were found between cooperative learning (M = 4.04, SD = .66) and individualistic learning (M = 2.90, SD = .79) groups; t(57) = 6.023, p = .00. The independent-samples t-test concluded that participants in the cooperative learning environment gave statistically significant higher scores in all four areas (attention, relevance, confidence, and satisfaction) for the post *Integrated Music Project Interest Survey.* Table 4.7 reports the mean scores, standard deviations, and p-value for the independent-samples t-test comparing cooperative learning and individualistic groups post *Integrated Music Project Interest Survey*. Figure 4.5 reports participants mean scores from the post *Integrated Music Project Interest Survey.*

Table 4.7 Mean Scores, Standard Deviations, and p-value for independent-samples t-test for post Interest Survey

	Cooperative Learning Mean (*SD*)	Individualistic Learning Mean (*SD*)	Independent-Samples *t*-test	*p*-value
Attention	3.59 (.72)	2.73 (.82)	*t*(57) = 4.275	.00*
Relevance	4.32 (.54)	3.66 (.87)	*t*(57) = 3.493	.00*
Confidence	4.41 (.41)	3.57 (.68)	*t*(57) = 5.816	.00*
Satisfaction	4.03 (.66)	2.90 (.79)	*t*(57) = 6.023	.00*

* Sig. at the .05 level

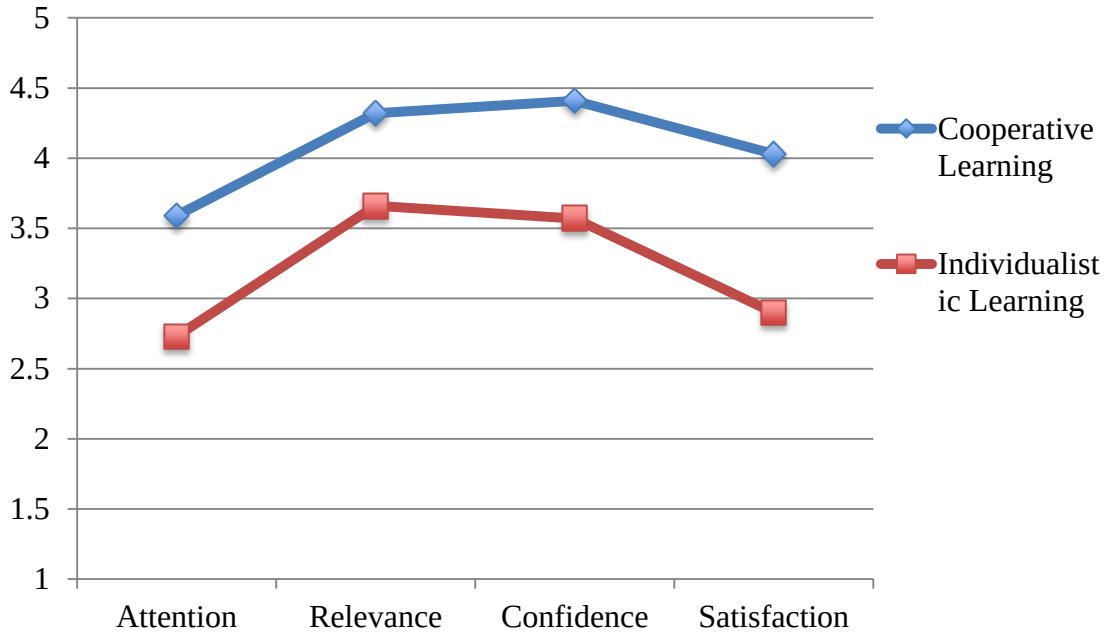


Figure 4.5 Mean scores from the pre Integrated Music Project Interest Survey.

To compare all participants interest survey from pre and post the *Music Integration Project* a paired-samples t-test was conducted with all participants as the independent variable and pre and post scores from the four areas on the interest survey as the dependent variables. In the area of attention on the interest survey, no significant differences were found from pre (M = 3.15, SD = .76) to post (M = 3.17, SD = .88) survey; t(58) = -.188, p = .85. For the relevance area of the interest survey, no significant differences were found from pre (M = 3.86, SD = .72) to post (M = 3.99, SD = .79) survey; t(58) = -1.924, p = .06. As for the area of confidence on the interest survey, no significant differences were found from pre (M = 3.96, SD = .62) to post (M = 4.00, SD = .70) survey; t(58) = -.470, p = .64. In addition, it was found that for satisfaction area of the interest survey, no significant differences were found from pre (M = 3.57, SD

= .82) to post (M = 3.48, SD = .92) survey; t(58) = .914, p = .36. Although there were no statistically significant differences found, the mean scores for attention, relevance and confidence did increase from pre survey to post survey. The area of satisfaction did decrease from pre survey to post survey, however the paired-samples t-test reported there was no significant differences. Table 4.8 reports the mean scores, standard deviations, and p-value for paired-samples t-test of the four categories of the *Integrated Music Project Interest Survey*.

Table 4.8 Mean scores, standard deviations, and p-value for paired-samples t-test for pre/post Integrated Music Project Survey for all Participants

	Pre Survey (*SD*)	Post Survey (*SD*)	Paired-Samples *t*-test	*p*-value
Attention	3.15 (.76)	3.17 (.88)	*t*(58) = -.188	.85
Relevance	3.86 (.72)	3.99 (.79)	*t*(58) = -1.924	.06
Confidence	3.96 (.62)	4.00 (.70)	*t*(58) = -.470	.64
Satisfaction	3.57 (.82)	3.48 (.92)	*t*(58) = .914	.36

To compare participants in the cooperative learning environment pre and post scores on the *Integrated Music Project Survey* a paired-samples t-test was conducted with cooperative learning environment participants as the independent variable and pre and

post scores from the four areas (attention, relevance, confidence, and satisfaction) on the *Integrated Music Project Survey* as the dependent variables. For the attention area of the interest survey, statistically significant differences were found from pre (M = 3.38, SD = .71) to post (M = 3.60, SD = .72) survey; t(29) = -2.443, p = .02. For the relevance area of the interest survey, statistically significant differences were also found from pre (M = 4.04, SD = .73) to post (M = 4.32, SD = .54) survey; t(29) = -2.742, p = .01. For the confidence area of the interest survey, statistically significant differences were found from pre (M = 4.13, SD = .57) to post (M = 4.41, SD = .41) survey; t(29) = 3.114, p = .00. For the satisfaction area of the interest survey, no significant differences were found from pre (M = 3.93, SD = .69) to post (M = 4.04, SD = .66) survey; t(29) = -.814, p = .42. Results of the paired-samples t-test concluded that participants rated the *Music Integration Project* statistically significant higher in the areas of attention, relevance, and confidence from pre to post *Integrated Music Project Survey.* For satisfaction no differences were found from pre or post *Integrated Music Project Survey,* however the means were higher on the post survey. Table 4.9 reports the means, standard deviations, and p-value for paired-samples t-test of cooperative learning participants' scores of the four categories on the *Integrated Music Project Interest Survey*. Figure 4.6 reports cooperative learning participants mean scores from the pre and post *Integrated Music Project Interest Survey.*

Table 4.9 Mean Scores, Standard Deviations, and p-value for paired-samples t-test for pre/post Integrated Music Project Survey for Cooperative Learning Participants

	Pre Survey (*SD*)	Post Survey (*SD*)	Paired-Samples *t*-test	*p*-value
Attention	3.38 (.71)	3.59 (.72)	*t*(29) = -2.443	.02*
Relevance	4.05 (.73)	4.32 (.54)	*t*(29) = -2.742	.01*
Confidence	4.13 (.57)	4.41 (.41)	*t*(29) = -3.114	.00*
Satisfaction	3.93 (.69)	4.03 (.66)	*t*(29) = -.813	.42

* Sig. at the .05 level

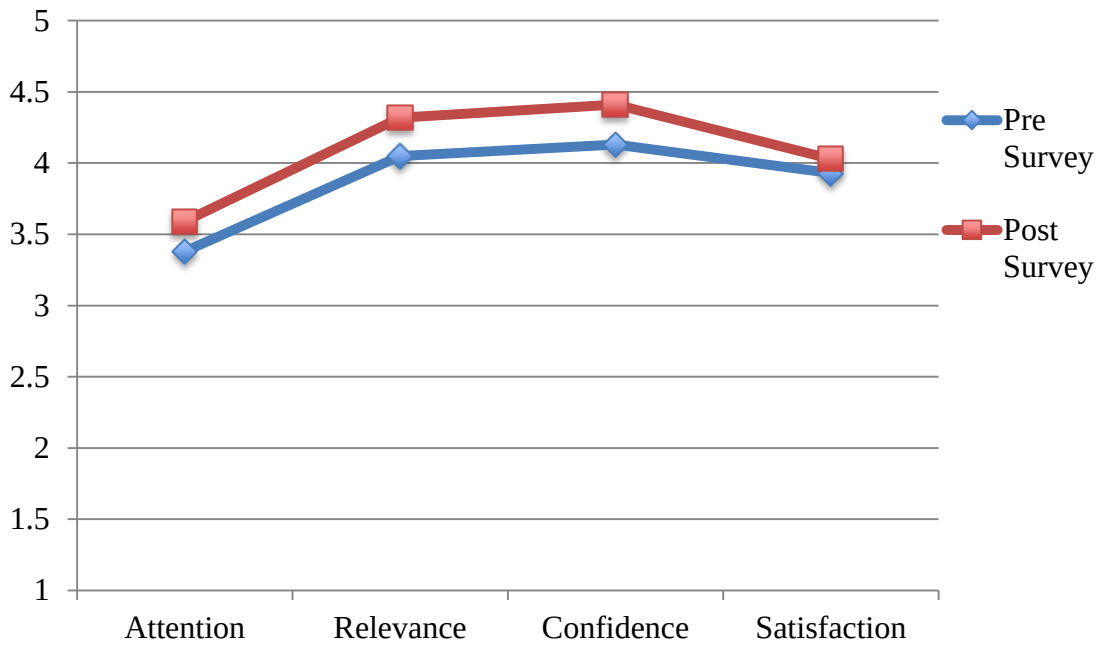


Figure 4.6 Mean scores for Cooperative Learning scores on the pre and post Integrated Music Project Interest Survey.

To compare participants in the individualistic learning environment pre and post scores on the *Integrated Music Project Survey* a paired-samples t-test was conducted with individualistic learning environment participants as the independent variable and pre and post scores from the four areas (attention, relevance, confidence, and satisfaction) on the *Integrated Music Project Survey* as the dependent variables. For the attention area of the interest survey, no statistically significant differences were found from pre (M = 2.93 SD = .75) to post (M = 2.73, SD = .82) survey; t(28) = 1.646, p = .11. For the relevance area of the interest survey, no statistically significant differences were found from pre (M = 3.66, SD = .67) to post (M = 3.66, SD = .87) survey; t(28) = .030, p = .98. For the confidence area of the interest survey, no statistically significant differences were found from pre (M = 3.78, SD = .63) to post (M = 3.57, SD = .68) survey; t(28) = 1.96, p = .06.

For the satisfaction area of the interest survey, no significant differences were found from pre (M = 3.19, SD = .79) to post (M = 2.90, SD = .79) survey; t(29) = 1.985, p = .06. Results from the paired-samples t-test showed that there were no statistically significant differences on participants in the individualistic learning group rating from pre to post survey. However the mean scores on the post survey were lower in the areas of attention, confidence, and satisfaction. There were no changes in the mean score in the area of relevance. Table 4.10 reports the means, standard deviations, and p-value for paired-samples t-test of cooperative learning participants' scores of the four categories on the *Integrated Music Project Interest Survey*. Figure 4.7 reports individualistic learning participants mean scores from the pre and post *Integrated Music Project Interest Survey.*

Table 4.10 Mean Scores, Standard Deviations, and p-value for paired-samples t-test for pre/post Integrated Music Project Survey for Individualistic Learning Participants

	Pre Survey (*SD*)	Post Survey (*SD*)	Paired-Samples *t*-test	*p*-value
Attention	2.93 (.75)	2.73 (.82)	*t*(28) = 1.646	.11
Relevance	3.66 (.67)	3.66 (.87)	*t*(28) = .030	.98
Confidence	3.78 (.63)	3.57 (.68)	*t*(28) = 1.959	.06
Satisfaction	3.19 (.79)	2.99 (.66)	*t*(28) = 1.985	.06

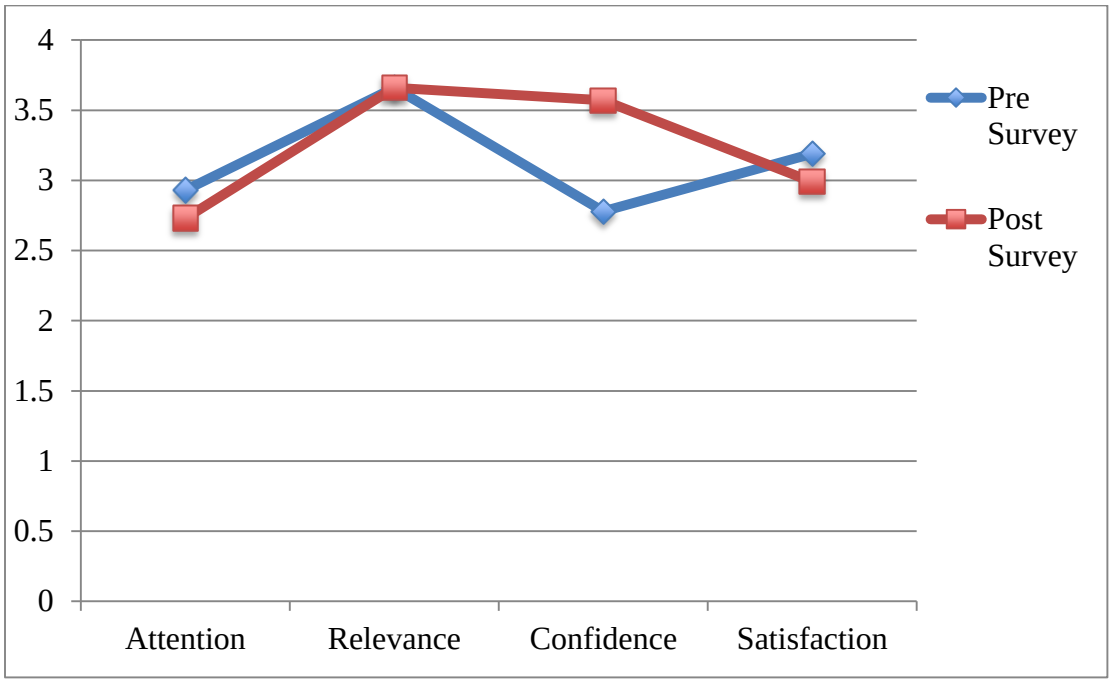


Figure 4.7 Mean scores for Individualistic Learning scores on the pre and post Integrated Music Project Interest Survey.

Reliability

After scoring the data, results were examined for reliability. To study the reliability of scores on the *Music Integration Project*, an interjudge reliability observer scored a random selection of 20% of the Integrated Music Projects, from both cooperative learning and individualistic learning groups. The interjudge reliability observer was a doctoral music education student with 5 years teaching experience in the elementary music classroom and trained by the researcher. To calculate the interjudge reliability a Pearson product-moment correlation was used to compare scores for each rubric (organization, rationale, and lesson plan) and the total score on the Integrated Music Project. The Interjudge reliability for each rubric had a high reliability coefficient

with r values of .82 to .89. The interjudge reliability of the total scores on the Integrated Music Project was also high with a Pearson product-moment correlation of r = .89. Table 4.11 shows the interjudge reliability for the integrated music project.

Table 4.11 Interjudge Reliabilities for Rubrics and Total Score

Rubric	*r*
Organization Rubric	.89
Rationale Rubric	.82
Lesson Plan Rubric	.85
Total Score	.89

To calculate the interjudge reliability on the *IMOM* a Pearson product-moment correlation was used to compare scores for each criterion (teacher, pupil, process, element, atmosphere, purpose, authenticity, expression, degree, and range) and a total score. The interjudge reliability for each criterion had a high reliability coefficient with a range of r values between .82 to .94. The interjudge reliability for the total score on the *IMOM* also had a high reliability with a Pearson product-moment correlation of .96. Table 4.12 shows the interjudge reliability for the *IMOM*.

Table 4.12 Interjudge Reliability for each criterion and total score on the IMOM

Criterion	*r*
Teacher	.86
Pupil	.85
Process	.83
Element	.94
Atmosphere	.89
Purpose	.82
Authenticity	.91
Expression	.91
Degree	.89
Range	.84
Total Score	.96

Summary

The current study included one Independent Variable: type of learning environment (cooperative or individualistic) and three Dependent Variables which included: *Integrated Music Project*, *Integrated Music Observation Map*, and *Music Integrated Project Interest Survey*. Within each dependent variable contained different areas of measurement. For the *Integrated Music Project* there were three different rubrics. These consisted of Organization Rubric, Rationale Rubric, and Lesson Plan Rubric. For the *Integrated Music Observation Map* there were 10 different criterions

within 4 categories. These included: teacher, pupils, process, elements, atmosphere, purpose, authenticity, expression, degree, and range. The four categories included: process/product, environment, implementation, and integration. Finally, the *Music Integrated Project Interest Survey* consisted of four areas. These included: attention, relevance, confidence, and satisfaction.

For participants in this study, the results of hypotheses testing yielded statistically significant differences between the two learning environments for the *Integrated Music Project* and *Music Integrated Project Interest Survey*. Therefore the null hypotheses are rejected for the first and third research question and the research hypotheses are accepted. However, in the area of microteaching of an integrated music lesson, the results suggest that no significant differences were found between cooperative learning and individualistic learning conditions. Thus the null hypothesis is accepted and the research hypothesis is rejected.

According to results, the first research hypothesis, "Cooperative learning participants will produce higher scores on the *Music Integration Project* than participants in the individualistic learning environment," is accepted in the areas of: Organization Rubric, Lesson Plan Rubric, and Total Score. For the area of the Rationale Rubric, the hypothesis is rejected concluding no differences were found in the scores of participants in the cooperative learning and individualistic learning conditions.

The second research hypothesis, "Cooperative learning participants will produce higher scores on the microteaching of a music-integrated lesson as measured on the *IMOM* than participants in the individualistic learning environment," is not accepted in the areas: teacher, process, elements, expression, and total score. However, the

hypothesis is accepted in areas: pupils, atmosphere, purpose, authenticity, degree, and range. When pertaining to the four areas of the *IMOM*, the hypothesis is accepted in the areas: environment and integration. However, the hypothesis is not accepted in the *IMOM* areas: process/product and implementation.

The third research hypothesis, "Cooperative learning participants will score higher on the interest survey about the *Music Integration Project* than participants in the individualistic learning environment," is accepted on both pre and post survey in all areas: attention, relevance, confidence, and satisfaction.

In addition, the *Integrated Music Project Rubrics*, demonstrated the ability to detect differences between the groups, confirming its usefulness in measuring music integration within the elementary classroom. Likewise, the *Music Integration Project Interest Survey*, confirming its usefulness in measuring interest of preservice elementary teachers interest for music integration. Furthermore, the current study supports the idea that music integration within the preservice elementary music methods course can be influenced by instructional strategies through the utilization of cooperative learning.

Chapter 5: Discussion and Recommendations

This study investigates the effects of learning environment (cooperative learning versus individualistic learning) on preservice elementary teachers' interest in, and application of, music into core academic subjects. The following research topics have been explored: (a) the effects of learning environment on participants' scores on the *Integration of Music Project*, (b) the effects of learning environment on participants' scores on the microteaching of an integrated music lesson, and (c) the effects of different learning environment on participants' self interest in the utilization of music in the elementary curriculum.

Participants (N = 59) in this study were preservice elementary teachers enrolled in four sections of a music methods course designed specifically for education majors at a large university. The Independent Variable consisted of two learning environments, cooperative and individualistic. Due to the necessity of keeping classes intact, the randomization of participants was not possible. Two course sections received a cooperative learning environment treatment, while the other two were taught within an individualistic learning environment. Dependent variables were measured through the scoring of three different things: (a) the *Music Integration Final Project* (whose grading was based on organization, rationale, and lesson planning), (b) the *Integration of Music Observation Map*, and (c) the *Integration Music Project Interest Survey*.

The duration of the study was 8 weeks; during this time, participants worked on the *Music Integration Project* in either a cohort setting or individually. The procedures for all four class sections were similar in pedagogical approach but different in regards to classroom environment. In the cooperative learning setting, participants worked on the

Music Integration Project in groups of four. Prior to the implementation of the cooperative learning environment treatment, participants were given information about the structure, benefits, and implementation of cooperative learning groups. In the individualistic learning classroom, participants were asked to work individually on the *Music Integration Project* and to direct their questions only to the instructor. At the conclusion of the eight-week study, all participants turned in their *Integrated Music Project* and individually microtaught an integrated music lesson they had developed. Each microteaching presentation involved a seven- to ten-minute lesson that incorporated the integration of music into an academic core subject area.

To evaluate each student's project and microteaching assignment, the investigator developed two different forms of assessment. To assess the *Music Integration Project*, the investigator developed three rubrics: one dealing with organization, another with rationale, and a third to measure lesson planning. In assessing each microteaching presentation, the investigator used the *Integrated Music Observation Map*, which was adapted from the *Arts-in-Education Observation Map* constructed and developed by Wang & Sogin (2010). In addition, to assess participants' interest in the project and in microteaching, the *Integrated Music Project Interest Survey* was given prior beginning the study and again after the eight weeks had passed. The *Integrated Music Project Interest Survey* was adapted for the purposes of this study from the *Course Interest Survey* developed by Keller (2010).

Conclusions

Integrated Music Project Scores. As noted above, the investigator created three separate rubrics (organization, rationale, and lesson plan rubrics) to assess each

Integrated Music Project. For the purpose of this study, independent-samples t-tests were used to compare two learning environments (cooperative and individualistic) on each rubric and to calculate their total score.

Scores from the organization rubric revealed high means within both learning environments. However, an independent-samples t-test reported that participants in the cooperative learning environment scored statistically significantly higher on the organization rubric ($p = .03$) than participants in the individualistic learning environment. The results suggest that participants in the cooperative learning environment showed higher attention to detail and consistent variability within each cohort, leading to their higher scores on the organization rubric.

Similarly, results from the lesson plan rubric showed high means for both learning environments. An independent-samples t-test reported that participants in the cooperative learning environment scored statistically significantly higher on the lesson plan rubric ($p = .00$). Again the results suggest that participants in the cooperative learning environment demonstrated higher levels of music integration and attention to specific details in each lesson plan on the rubric.

Finally, scores from the rationale rubric reported high means from both learning environments. However, there were no statistically significant differences between the two groups. Both demonstrated high-quality work, and no notable difference was found between the writing skills of the two.

When analyzing the total scores across all three rubrics, we find that participant means in both learning conditions were high. However, statistically significantly higher scores were reported from participants in the cooperative learning environment ($p = .03$).

It appears that these participants showed higher attention to detail and met the specific criteria on the rubrics more effectively. Examples of these criteria included: (a) formatting APA style correctly throughout, (b) creating lesson plans containing high levels of music integration, (c) including detailed procedure sections on lesson plans, and (d) organizing materials and plans correctly according to the rubrics. The results from the *Integrated Music Project* reveal that students within a cohort setting are able to produce a higher-quality project and demonstrate better attention to detail than students who work individually. These findings are consistent with previous research in showing that preservice elementary education majors who learn in a cooperative environment produce higher-quality work than those who receive teacher-led instruction (Hwong, Caswell, Johnson, and Johnson, 1992).

Microteaching of an Integrated Music Lesson. To assess each participant's microteaching exercise, the investigator used the *Integrated Music Observation Map* (*IMOM)*. The *IMOM* assessed ten different criteria, organized within four categories. The first category, process/product , consists of the following criteria: (a) teacher, (b) pupils, (c) process, and (d) element. The second category, environment, consists of one criterion, (a) atmosphere. The third category, implementation, consists of the following criteria: (a) purpose, (b) authenticity, and (c) expression. The final category, integration, consisted of the criteria (a) degree and (b) range.

Participants in the cooperative learning environment had higher means in the following areas: (a) teacher, (b) pupils, (c) elements, (d) atmosphere, (e) purpose, (f) authenticity, (g) degree, and (h) range. Participants in the individualistic learning environment had higher mean scores in the areas of (a) process and (b) expression.

Results showed that participants in the cooperative learning environment scored statistically significantly higher in the following areas: (a) pupils, (b) atmosphere, (c) purpose, (d) authenticity, (e) degree, and (f) range.

There are many potential reasons for these differences. In terms of pupils, participants in the cooperative learning environment had higher levels of student interactions and participation. The setup of the cooperative learning environment allows participants to become familiar with their peers and build foundations to trust and support each other over time. Atmosphere may also play a role: participants in the cooperative learning environment enjoyed a more relaxed classroom setting, designed to allow them to interact more frequently. In terms of purpose, participants in the cooperative learning demonstrated higher levels of ability in non-verbal communication (such as the use of body percussion or rhythmic building blocks to compose music) and created a classroom of ongoing musical activities. In regards to authenticity, participants in the cooperative learning environment were more adept at labeling musical elements and reinforcing technical skills when appropriate. When we consider the degree category, participants in the cooperative learning environment showed a clearer sense of academic expectations and close relationships within the core academic subject area. Finally, regarding range, all participants in the cooperative learning environment gave an integrated music lesson that showed a strong connection between academic core subjects and previous experiences.

These particular results illustrate that, within a cooperative learning environment, participants demonstrate a variety of music integration skills that connect strongly with academic core subject areas. For example, many students within the cooperative learning

environment gave lessons that combined reading and rhythm. These lessons demonstrated strong skills in music integration that were clearly built off of their prior knowledge, but remained easy to follow and understand. Other lessons, involving movement and dance, taught musical form while still effectively teaching about the solar system. The lessons were taught with enthusiasm and encouraged all students to succeed. In addition, participants within the cooperative learning environment showed higher participation levels and confidence than participants in the individualistic learning environment. These results are similar to previous research which states that cooperative learning creates an atmosphere that can increase the confidence levels of students regarding a specific subject (Millis, 2010; Auh, 2004).

Four areas of the *Integrated Music Observation Map* showed no statistically significant differences between the two learning environments. These include: (a) teacher, (b) process, (c) elements, and (d) expression. For the teacher criterion, participants in both learning environments demonstrated high levels of confidence and preparedness in teaching an integrated music lesson. Regarding the process criterion, participants in both learning environments created an integrated music lesson that promoted the engagement of planning, thinking, doing, and reflecting. For the element component, participants were clear when presenting information about a particular element for music. Finally, in regards to expression, participants in both learning environments demonstrated different levels, which included (a) natural expression, (b) creative expression, and (c) artistic expression.

It is interesting to point out that participants in the individualistic learning environment had higher means in both process and expression. This is likely due to the

types of lessons the individualistic participants were teaching. The majority of lessons given by this group were based more on listening and involved using higher levels of creativity. For example, students would listen to a specific musical composition that was developed around the solar system. Once the listening section was completed, students were then instructed to complete a writing assignment based on the music. We may explain the high mean of the process component by noting that the lessons given by the individualistic group required more creative writing, which allowed the teacher to show evidence of students' works. Participants in the cooperative learning environment gave music lessons that mainly used activities like movement and rhythmic speech. The mean differences between process and expression could also be due to the differences between instructors of the course.

In the four categories (process/product, environment, implementation, and integration) of the *Integrated Music Observation Map*, participants in both learning environments reported high mean scores. However, only two of the four categories showed statistically significant differences between the two learning environments. For the categories (a) environment and (b) integration, participants in the cooperative learning environment scored statistically significantly higher. These results suggest that cooperative learning participants tended to create lessons that instilled a sense of enjoyment in students as they performed a variety of musical activities. These findings are in accordance with previous research stating that the cooperative learning environment creates an enjoyable atmosphere for students (Johnson & Johnson, 1999; Shachar & Sharan, 1994). They are also in accordance with observations that the

cooperative learning environment participants were more relaxed after working within a cohort setting for eight weeks.

Interest Survey of Participants. To assess each participants' interest in the final project, the investigator used the *Integrated Project Interest Survey*, which was adapted from Keller's *Course Interest Survey* (2010). The survey was distributed pre- and post-study to the participants, and consisted of 34 questions that assessed four categories of interest. These included: (a) attention, (b) relevance, (c) confidence, and (d) satisfaction. An independent-samples t-test were used to compare the two learning environments on the *Integrated Project Interest Survey* before and immediately after the study.

Prior to the study, participants' survey results indicated that the cooperative learning participants scored statistically significantly higher in all four areas on the interest survey. It may be concluded that participants in the cooperative learning environment showed a higher interest in the integrated music project and in the material being taught in class. When comparing post-interest survey results of the two learning environments: participants in the cooperative environment continued to show higher interest than those in the individualistic environment. These results suggest that participants in the cooperative learning environment continued to have a higher interest on the integrated music project than participants in the individualistic learning group. Cooperative learning participants demonstrated a higher level of enjoyment than participants working individually. Additionally, participants were more eager to collaborate and discuss the project as a group.

Means were also compared between the cooperative learning participants' scores on the interest survey from pre- to post-study. Results indicated that mean scores

increased in all areas of the interest survey from pre- to post-project. In the areas of attention, relevance, and confidence, there were statistically significant differences from pre- to post-scores. In the satisfaction area, mean scores also rose; however, no statistically significant differences were found. These results are similar to previous studies that show cooperative learning to have a positive impact throughout different subject areas (Klein & Pridemore, 1992; Cairy, 1997; Peterson & Miller, 2004; Muhammad, 2010).

The individualistic participants' interest survey scores from pre- to post-study were also examined. An analysis of this data indicates that there were no statistically significant differences in the interest scores for these participants. However, mean scores in the areas of attention, confidence, and satisfaction decreased from pre- to post-study. The relevance category on the interest survey displayed no change. These results suggest that students tend to lose interest when working by themselves. Although all efforts were made to create equal environments pertaining to structure, participants did not seem to enjoy class as much as participants in the cooperative learning environment, and showed limited enthusiasm during the class time allotted to work on the project.

Implications for Education Practice

The results of this study support the utilization of cooperative learning within the university music classroom. Cooperative learning gives teachers the opportunity to create an environment where students can succeed in musical achievement, while interacting with other students helps build confidence and social skills. The two learning environments used in this study were cooperative learning and individualistic learning where students created a project with the integration of music.

Teachers can incorporate the cooperative learning treatment used in this study into a wide range of classroom settings. However, it is essential that teachers be well prepared before implementing cooperative learning and structure the environment according to the student population. While cooperative learning can be adapted to many situations (e.g. small ensembles and music classes), the investigator made every effort to construct the learning environment specifically to previous theoretical framework (Johnson & Johnson, 1999). Preservice elementary teachers were targeted as participants so that their participation in a cooperative learning environment might spur on positive changes in their own future classroom settings. The cooperative learning environment in this study increased the achievement levels, attitudes, and confidence of preservice teachers, and allowed them to feel comfortable and enthusiastic with integrating music into their lesson plans.

Validity and Reliability Issues

Measurement Instruments: Integrated Music Project and Integration Music Observation Map. In this study, the dependent variable, the *Integrated Music Project Rubric*, consisted of 3 smaller rubrics to assess participants' scores on the *Integrated Music Project*. For validity purposes, three music education experts reviewed the rubrics as they relate to the project. All judges were given a detailed description of the project and the purpose that it serves for the course. The judges were in strong agreement that each rubric assessed the quality of each participant's integrated music project in the areas of organization, rationale, and lesson planning. The other dependent variable, the *Integrated Music Observation Map*, was adapted by the investigator from Wang and Sogin's *Arts-in-Education Observation Map* (2010). Examined in the light of previous

research, the observation map demonstrated both high validity and reliability in assessing in-class elementary teachers' art integration. As this course was a music methods course, only music concepts from the observation map were used to assess participants' microteaching presentations.

To ensure reliability of the dependent measures, an Interjudge reliability observer scored a random 20% of projects and microteachings from both the cooperative individualistic participant pools. The Interjudge reliability showed a high reliability coefficient for the *Integrated Music Project*, with r values of .82 to .89. The same Interjudge reliability observer also scored the *Integrated Music Observation Map* and revealed a higher reliability coefficient, with r values of .82 to .94.

Experimental Design: Internal Validity. According to Campbell and Stanley (1963), there are various ways to assess different types of threats to experimental validity. These threats were addressed in this study by the following means:

1. To reduce the influence of teacher effect on the study, all instructors taught the same weekly-scheduled lectures in sequence. In addition, all course sections used the same textbook, which was *Integrating Music into the Elementary Classroom*, 8th edition, by Anderson and Lawrence (2010). However, teacher effect should be considered in the internal validity due to the study having three different course instructors.
2. To ensure that all participants received the same amount of time to work on the final project, each class meeting was divided into two periods. All classes consisted of fifty minutes on Monday and Wednesday, while Fridays consisted of one hour and fifty minutes of class time. For the Monday and

Wednesday class, thirty minutes was spent on regular class lectures and musical activities, and the remaining twenty minutes was allotted for work on the final project. During each Friday class, one hour and thirty minutes was provided for the regular class lecture and musical activities, while the remaining twenty minutes was devoted to the final project.

3. Efforts were made to reduce communication between all course sections. Participants in both cooperative learning and individualistic learning sections were instructed regularly to not discuss their project with any other course section. It should be noted that all participants in this study are majoring in elementary education or special education, which would make it easy to discuss classroom procedures and projects outside of the music classroom setting.
4. Mortality rate was low: three students (two from the cooperative learning group and one from the individualistic learning group) were excluded from the study when they dropped the course at mid-semester. Although the effect of mortality on the results of study cannot be established, it seems unlikely that it posed an inherent threat to internal validity.

Experimental Design: External Validity. Every possible control was made to limit the threat to external validity. Due to scheduling of each class section, randomization of the participants was not possible. However, course sections that met conjointly on Fridays were assigned to the same learning environment to reduce the threat of internal validity. All learning environments followed the same schedule in regards to pretesting, discussion of the final project, time allotted for work on the final

project, and assessment of each microteaching presentation. The interest survey was also given on the same dates for both cooperative learning and individualistic learning participants.

Recommendations for Further Research

Based on the results of this study, the following recommendations are suggested for future research:

1. Studies can examine the effects of cooperative learning environments within different music courses at the collegiate or secondary levels.

2. Results from this study suggest that the implementation of a cooperative learning environment had a positive impact on students over an eight-week period. Similar studies can consider extending the duration of the study to a full academic semester, or involve the participation of more subjects.

3. Finally, future studies can continue to examine the effects of cooperative learning on the attitudes and confidence levels of preservice elementary teachers toward music integration in the classroom.

APPENDIX A

Music Experience Questionnaire

ID # _____

Please answer the following questions about yourself.

1. What is your age? _____

2. What is your gender? (circle one)

   Male
   Female

3. What is your major? (circle one)

   Elementary Education
   Special Education
   Other (please specify:_____)

4. What is your student classification? (circle one)

   Freshman
   Sophomore
   Junior
   Senior

5. How many years have you participated in school band?
   0 1 2 3 4 5 6 7 8 9 10+

6. How many years have you participated in school orchestra?
   0 1 2 3 4 5 6 7 8 9 10+

7. How many years have you participated in school choir?

   0 1 2 3 4 5 6 7 8 9 10+

8. How many years have you had private musical study?

   0 1 2 3 4 5 6 7 8 9 10+

9. Are there any other types of musical experiences you have or currently participated in? (e.g. church choir, guitar, garage band, et…)

   No
   Yes: Please specify _____

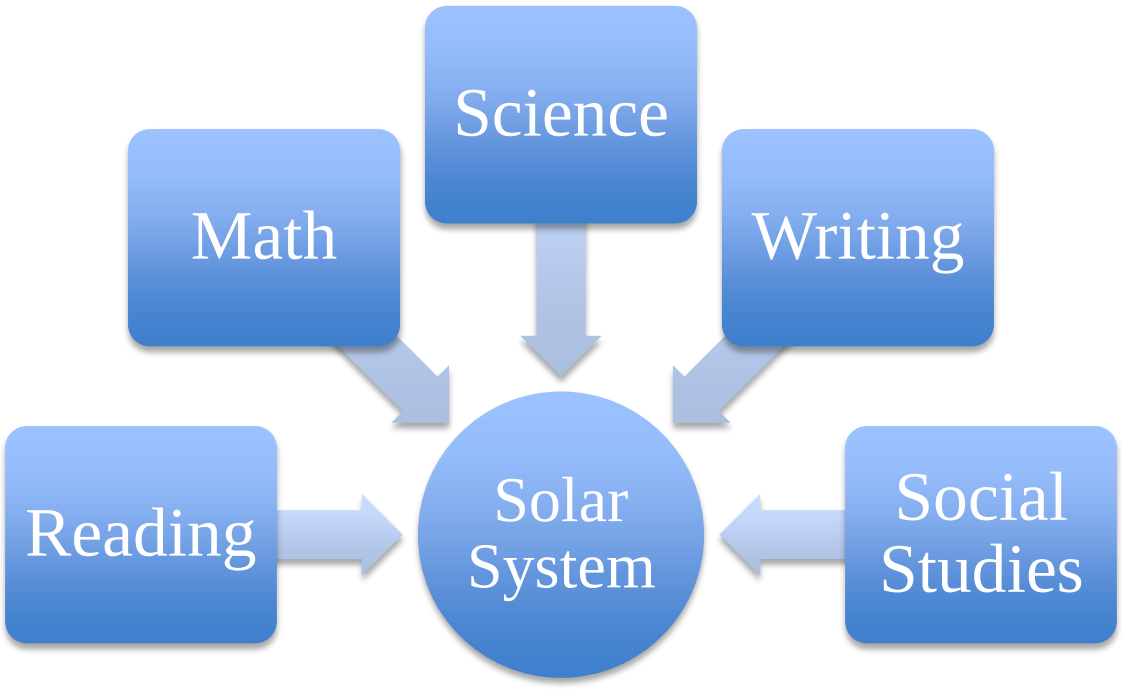
APPENDIX B

Music Integration Project

THEME BASED LEARNING PROJECT

Introduction

Theme-based learning is an instructional technique that is structured around a particular theme or idea. The purpose of theme-based learning is to give students the resources and knowledge to associate what they have learned with real life examples. As a holistic approach, educators should focus on how the theme connects many disciplines. To do this, educators create lessons that utilize all subject areas to include the chosen theme. It is important to understand that theme-based learning is used to emphasize critical thinking and problem-solving. The purpose of theme based learning helps students make the transition from subject-area curriculum to an issue-centered learning environment. Look at the Chart below.



Final Project

During the next SIX weeks of MUS 266 you will create a theme based learning project titled "The Solar System". Every time the course meets you will spend a total of 20 minutes working on the project. At the conclusion of the six weeks you will hand in the written component of the project and teach one lesson plan that you created to the class. The lesson you teach will be video recorded. Each Lesson should take 7 to 10 minutes in length to teach. The due date for the written portion of the final project is due on Friday April 18, 2014. The teaching component will be from April 21st to May 2.

The written portion of the project must consist of the following.

1. Title Page
    a. Name of Portfolio Project (Create a fancy name)
    b. Your ID Number
    c. Class (Section #)
    d. Semester

2. Table of Contents
    a. Page numbers with descriptors of each section of the portfolio

3. Your rationale for integrating music into the curriculum must be 2 full pages typed. You must use APA style. You must use correct APA format to your rationale along with correct structuring of references with parenthetical citations.

    a. Answer the following in your rationale:
        i. Why is music important in Schools?
        ii. How is music integrated?
        iii. How does music instruction help students learn?

b. Must use at least 2 sources
    i. Journals
        1. Examples could include:
            a. Music Educators Journal
            b. Teaching Music
            c. General Music Today
            d. Journal of Research in Music Education
            e. Journal of Music Teacher Education
            f. Update: Applications of Research in Music Education
    ii. Books (Look in InfoKat)

4. 10 Lesson Plans:
    a. 2 Lesson Plans with music integration in Mathematics
    b. 2 Lesson Plans with music integration in Reading
    c. 2 Lesson Plans with music integration in Writing
    d. 2 Lesson Plans with music integration in History
    e. 2 Lesson Plans with music integration in Science

5. Rubric for the Written Final Project

You may use the example lesson plan template given to you or you can create your own. However the following components must be present: title, theme, subject, grade, content area, goals, core academic standards, national music standards, objectives, materials needed, procedure, and assessment.

Grading of Project

The final project for this course counts 25% of your final grade. You will receive two grades for the final project. This includes the written portion of the final project and the teaching of a lesson that you created.

Title of Lesson:	
Theme:	
Grade:	Subject:
Core Academic Standard:	
National Music Standard:	
Objectives:	
Materials Needed:	
Procedure Introduction: Body: Closure:	
Assessment: (Informal Performance-Based Formative Assessment is typically used in music classrooms. Other assessment types are available for your use.)	

APPENDIX C

Integrated Music Project Rubric

ORGANIZATION OF CONTENT RUBRIC

Criteria	4 points	3 points	2 points	1 point
Title Page	Contains: Name of Portfolio Project, ID Number, Class Section, and Semester. Follows APA Format	Contains: Name of Project, ID Number, Class Section, and Semester. There is APA Formatting issues	Missing some content and does not follow APA Format	Over 50% of the title page is missing and does not follow APA Format
Table of Contents	Table of Contents is complete. List pages for: Title page, table of content, grading rubric, rationale, and 10 lesson plans. Follows APA Format	Table of Content is complete. List pages for: Title page, table of content, grading rubric, rationale, and 10 lesson plans. There is APA formatting issues	Table of Content is missing some content and does not follow APA format	Over 50% of the Table of Content is missing and does not follow APA Format
Grading Rubric	All three grading rubrics are present. (Organization of Content, Rationale, & Lesson Plan)	Only two grading rubrics are present	Only one grading rubric is present	All grading rubrics are missing
Rationale	A Full (two-page or more) rationale is present	A full (one-page) rationale is present	Less than one page rationale is present	Rationale is missing
Lesson Plans	All 10 lesson plans are present	Only 8 to 9 lesson plans are present	Only 5 to 7 lesson plans are present	Less than four lesson plans are present

RATIONALE RUBRIC

Criteria	4 points	3 points	2 points	1 point
Page Length	Rationale is 2 (full) pages	Rationale is less than two pages but more than 1 page	Rationale is only 1 (full) page	Rationale is less than one page
Questions Answered	All Questions are answered thoroughly. (Why is music important in schools? How is music integrated? How does music integration help students learn?	All questions are answered but not thoroughly	Only 2 questions are answered	Only 1 question is answered.
Sources	Uses at least two sources. Follows APA style with correct parenthetical citations	Uses at least two sources. Minor issues with APA style	Uses only 1 source. Minor issues with APA style	Does not use any sources. Major issues with APA style
APA Style	APA style is used correctly throughout the rationale	APA style is used throughout with minor issues	APA style is used throughout with major issues	Does not use APA style throughout the rationale
Lesson Plans	All 10 lesson plans are present	Only 8 to 9 lesson plans are present	Only 5 to 7 lesson plans are present	Less than four lesson plans are present

LESSON PLAN RUBRIC

Criteria	4 points	3 points	2 points	1 point
Theme	The theme is used in all 10 lesson plans	The theme is only used in 7 to 9 lesson plans	The theme is only used in 4 to 6 lesson plans	The theme is only used in less than four lesson plans
Content	All 10 lesson plans contain: Title, theme, subject, grade, content area, goals, core academic standards, national music standards, objectives, materials, procedure, and assessment	Lesson Plans are missing 1 or 2 content areas	Lesson plans are missing 3 to 5 content areas.	Less than 50% of the content is missing form the lesson plans
Format	All 10 lesson plans are formatted identically	Most (7 to 9) lesson plans are formatted identically	Over 50% of the lesson plans are not formatted identically	Less than 50% of the lesson plans are not formatted identically
Lesson Plans	All 10 lesson plans contain the integration of music	Only 7 to 9 lesson plans are written with the integration of music	Only 4 to 6 lesson plans are written with the integration of music	Only 1 to 3 lesson plans are written with the integration of music
Level of Integration	Music content and content from other subject areas is taught equally	Music content is subservient to other subject areas	Music is used the lesson but not taught	No music is used in the lesson

APPENDIX D

Integrated Music Observation Map

Integration of Music Observation Map

Student ID: _____

Class: _____

Section: _____

Name of Observer: _____

Date/Time: _____

Contents:

Process/Product

1. Teacher
2. Pupils
3. Process
4. Elements

Environment

5. Atmosphere

Implementation

6. Purpose
7. Authenticity
8. Expression

Integration

9. Degree
10. Range

Content	4	3	2	1
Teacher	The teacher is well *prepared* and conducts music-related activities with enthusiasm. S/he displays confidence during these activities, uses effective techniques, and actively encourages students to take creative risks in music.	The teacher is well prepared and conducts music-related activities with enthusiasm. S/he displays confidence during these activities, and uses effective teaching techniques.	The teacher is prepared but may lack confidence or may use ineffective teaching techniques	The teacher is not prepared to conduct integrated music related activities
Pupils	The pupils participate with eagerness to the music experience. There is a positive, attentive, and purposeful response to their task. All students are included in music activities	The pupils participate in the music experience willingly. They follow directions but may lack purpose in the task. Most students are included in the music activities	The pupils participate in the music experience reluctantly. They seem to be bored and uninterested. Many students are not included.	The pupils are not on task during the music activity of the lesson.

Process	The pupils experience a full spectrum of learning through music. They engage in the planning, thinking, doing, and reflecting in various music media. Students are challenged to make better aesthetic judgments about musical works. Students musical works are preserved on audio or video tapes, portfolios, and other forms.	The pupils experience some learning through music. They engage without opportunities to think or reflect musical component. Students' musical works are preserved in at least one form.	The pupil's musical experiences are limited to doing without planning, thinking, or reflecting	Musical experiences do not occur.
Elements of Music	The principles and elements of the music discipline are readily used in the teaching/learning process	The principles and elements of the music discipline are sometimes used in the teaching/learning process	The principles and elements of each of the music discipline are rarely used in the teaching/learning process	The principles and elements of the music discipline are not used in the teaching/learning process

Atmosphere	During the music activities, the atmosphere is relaxed. There is a definite sense of enjoyment and purposefulness. There is much interaction between the teacher and students and among students themselves. Mutual respect, support, and openness can easily be detected	During music activities, the atmosphere is somewhat relaxed. There is a sense of enjoyment and purposefulness. There is some interaction between teacher and students and among students themselves. Mutual respect, support, and openness can be detected.	During the music activities, the atmosphere is somewhat tense. Mainly teacher-dominated activities are seen. No cooperative among students is observed.	During the music activities, the atmosphere is chaotic. Confusion is observed.
Purpose	Music is implemented into the classroom teaching for a variety of purposes: To develop non-verbal communication, to create and produce music to convey a point of view, to analyze the various forms of music, to develop aesthetic sensitivity and critical thinking, to understand musical heritages and cultural diversities. There is evidence that arts activities are ongoing.	Music is implemented in the classroom mainly to promote lesson content and to assess student learning. They may be used as an energizer, and for classroom motivational and management purposes.	Music in the classroom is mainly used as an energizer, and for classroom motivational and management purposes.	Music is not used in the classroom for any planned purpose.

Authenticity	Appropriate vocabulary, materials, tools and techniques are used in conjunction with activities related to music. Attention is given to perceptual skills development, quality, artistic choices, and technical skills whenever appropriate.	Appropriate vocabulary, materials, tools, and techniques are sometimes used in conjunction with activities related to music. Attention is given to perceptual skills development, quality, artistic choices, and technical skills.	Appropriate vocabulary, materials, tools, and techniques are rarely used in conjunction with activities related to music.	Appropriate vocabulary, materials, tools, and techniques are not used in conjunction with activities related to music.
Expression	Freedom of expression is encouraged. There is evidence of all three levels of expression in the class: Natural expression, creative expression, and artistic expression	Freedom of expression is encouraged. There is evidence of two levels of expressions in the class. Natural expression and creative expression	Freedom of expression is encouraged. Natural expression is used.	Freedom of expression is not observed.
Degree	The musical component is an integral part of the lesson plan. Its content relates to the core concepts, academic expectations, and other subject areas of the thematic unit in a meaningful way.	There is an explicit connection between music and at least one other component of the thematic unit.	The musical component correlates loosely with an instructional topic or theme. There is an indirect connection between music and the thematic unit.	There is no connection between music and the thematic unit.

Range	Musical experiences are generally presented in a way, which makes natural connections with the students' life, experiences, with other arts, or other cultures.	Musical experiences are sometimes presented in a way, which makes natural connections with the students' life, community experiences, with other arts, or other cultures	Musical experiences are rarely presented in a way, which makes natural connections with the students' life, community experiences.	Arts experiences are not connected to other experiences or do not occur.

APPENDIX E

Integrated Music Project Interest Survey

Project Interest Survey

There are 33 statements in this questionnaire. Please think about each statement in relation to the project completed over the last 8 weeks of the course. Give the answer that truly applies to you, and not what you would like to be true, or what you think others want to hear.

Think about each statement by itself and indicate how true it is. Do not be influenced by your answers to other statements.

Record your responses on the answer sheet that is provided and follow any additional instructions that may be provided in regard to the answer sheet that is being used with this survey.
Use the following values to indicate your response to each item.

1 = Not true
2 = Slightly true
3 = Moderately true
4 = Mostly true
5 = Very true

1. The final project made me feel enthusiastic about learning how to integrate music into the elementary classroom.
2. The ideas and concepts I learned during the final project will be useful to me.
3. I feel confident that I will do well on the final project.
4. This final project had very little in it that captures my attention.
5. The final project makes the subject matter of this course seem important.
6. You have to be lucky to get a good grade on this final project.
7. I have to work too hard to succeed on the final project.
8. I do NOT see how the content of this final project to anything I already know.
9. Whether or not I succeed on the final project is up to me.
10. The final project created suspense when building up to a point.
11. The final project in this course is just too difficult for me.
12. I feel that this final project gave me a lot of satisfaction.
13. For the final project, I try to set and achieve high standards of excellence.
14. I feel that the grade or other recognition I received are fair compared to other students.
15. The students in this class seemed interested and curious about the final project.
16. I enjoy working on the final project.
17. It is difficult to predict what grade the instructor will give my final project.
18. I am pleased with the instructor's evaluations of my work compared to how well I think I have done.
19. I feel satisfied with what I am getting from this final project.
20. The content of the final project relates to my expectations and goals.
21. The students actively participate in the final project.
22. To accomplish my goals, it is important that I do well on the final project.
23. The instructor used an interesting variety of teaching techniques on the final project.
24. I do NOT think I will benefit much from final project.
25. I often daydream while working on the final project.
26. As I am working on the final project, I believe that I can succeed if I try hard enough.
27. The personal benefits of the final project are clear to me.
28. My curiosity is often stimulated by the questions asked or the problems given on the final project.
29. I find the challenge level on the final project to be about right: neither too easy not too hard.
30. I feel rather disappointed with the final project.
31. I feel that I get enough recognition of my work on the final project by means of grades, comments, or other feedback.
32. The amount of work I had to do is appropriate for this final project.

Question	Answer
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APPENDIX F

Institutional Review Board Approval

UK
KENTUCKY

Office of Rese
IRB, IACUC, R
315 Kinkead Ha
Lexington, KY 4
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fax 859 257-899
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Initial Review

Approval Ends
March 30, 2015

IRB Number
14-0160-P4S

TO: John Egger
105 Fine Arts Building
Lexington, KY 40506
PI phone #: (601) 594-6074

FROM: Chairperson/Vice Chairperson
Non-medical Institutional Review Board (IRB)

SUBJECT: Approval of Protocol Number 14-0160-P4S

DATE: March 31, 2014

On March 31, 2014, the Non-medical Institutional Review Board approved your protocol entitled:

Cooperative & Individualistic Learning: A Comparison of Models on Elementary Education Majors' Integrated Music Project

Approval is effective from March 31, 2014 until March 30, 2015 and extends to any consent/assent form, cover letter, and/or phone script. If applicable, attached is the IRB approved consent/assent document(s) to be used wh enrolling subjects. **[Note, subjects can only be enrolled using consent/assent forms which have a valid "IRB Approv stamp unless special waiver has been obtained from the IRB.]** Prior to the end of this period, you will be sent a Continuation Review Report Form which must be completed and returned to the Office of Research Integrity so that the p can be reviewed and approved for the next period.

In implementing the research activities, you are responsible for complying with IRB decisions, conditions and requiremen The research procedures should be implemented as approved in the IRB protocol. It is the principal investigators respons to ensure any changes planned for the research are submitted for review and approval by the IRB prior to implementation. Protocol changes made without prior IRB approval to eliminate apparent hazards to the subject(s) should be reported in w immediately to the IRB. Furthermore, discontinuing a study or completion of a study is considered a change in the proto status and therefore the IRB should be promptly notified in writing.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "P Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" from the Office Research Integrity's Guidance and Policy Documents web page [http://www.research.uky.edu/ori/human/guidance.htm#P Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's [http://www.research.uky.edu/ori]. If you have questions, need additional information, or would like a paper copy of the mentioned document, contact the Office of Research Integrity at (859) 257-9428.

N. Van Tuinen, Ph.D. /ah
Chairperson/Vice Chairperson

APPENDIX G

Directions for Integrated Music Project

“Theme-based learning is an instructional technique that is structured around a particular theme or idea. The purpose of theme-based learning gives students the resources and knowledge to associate what they have learned with real life examples. As a wholistic approach, educators should focus on how a theme connects among many disciplines. To do this, educators create lessons that utilizes all subject areas to include the chosen theme. It is important to understand that themes are used to emphasize critical thinking and problemsolving approaches. The purpose of theme based learning helps students makethe transition from subject-area curriculum to an issue-centered learning. Look at the chart below. Are there any questions?”
[pause for questions]

“During the next SIX weeks of MUS 266 you will create a theme based learning project titled “The Human Body: The World Within Us”. Every time the course meets you will spend a total of 20 minutes working on the project. At the conclusion of the six weeks you will hand in the written component of the project and teach one lesson plan that you created to the class. The lesson you teach will be video recorded. The due date for the written portion of the final project is due on Friday April 18, 2014. The teaching component will be from April 21st to May
2. Before I begin to discuss the components of the study are there any questions?”
[pause for questions]

“The final project will consist of the following writtien components. A title page that contains the name of your theme based project, your name, class section, and semester. The secon section is the table of conents. This must include page numbers with descriptors of each section of the portfolio. The third section is a rationale for integrating music into the curriculum. This should be between 1 to 2 pages in length and use two sources. You may use any type of format (APA, MLA, Chicago, etc.). Which ever format you choose it must be consistent from beginning to the end of your rationale. Also make sure you use the correct structuring of your references. Below are some guiding questions to help you with your rationale. Before we move on please read each guiding question. Are there any questions?”
[pause for questions]

“For the two sources in the rationale you must use from a journal or book. Some examples of journals you can use are the Music Eduactors Journal, Teaching Music, General Music Today, Journal of Research in Music Education, Journal of Music Teaching in Music Education, and Update: Applications of Research in
Music Education. You can access these journals through online databases such as JSTOR, EBSCOHOST, etc. You may also use other journals that you find through research databases. If you need any help with finding articles I will be glad to assist anyone. The next component are 10 lesson plans that are built around the project’s theme, the human body. All 10 lessons must have the integration of music into them. You will have 2 math lesson plans, 2 reading lesson plans, 2

writing lesson plans, 2 history lesson plans, and 2 science lesson plans. Each lesson plan should take 7 to 10 minutes in length to teach. You may use the example lesson plan template given to you or you can create your own. However the following components must be present: title of lesson, grade/age, subject, content area, goals, objectives, materials needed, and procedures Are there any questions?"
[pause for questions]

"The final project for this course counts 25% of your final grade. You will receive two grades for the final project. This includes the written portion of the final project and the teaching of one lesson that you created. The written component and teaching component will be graded on the following rubrics: The Music Integration Final Project Rubric and the Integration of Music Observation Map. Please turn to the Music Integration Final Project Rubric as I read aloud. You will be graded on four different criteria: Organization of content, rationale, components of each lesson plans and the integration of music. For the organization of content all must be present to receive full credit. This includes a portfolio binder, title page, table of contents, copy of the grading rubric, rationale, and 10 lesson plans that have the integration of music implemented. For the Rationale criteria, you must include a 1 to 2 page rationale of the importance of integration of music into the curriculum. This must be clear and compelling, no grammatical errors, and citation of 2 sources. For the components of the lesson plan criteria you must have 10 lesson plans that include all components: age/grade, lesson title, content area, goals, objectives, materials, and detailed procedure. And finally the last criterion is the integration of music. To receive full credit all 10 lesson plans contain an integrated music approach. Are there any questions?'
[pause for questions]

"Now please turn to the last rubric titled Integration of Music Observation Map. There are 10 content areas that are addressed. They are the teacher, pupils, process, elements, atmosphere, purpose, authenticity, expression, degree, and range. To receive the maximum score you must show the following descriptions.
1. The teacher is well prepared and conducts music-related activities with enthusiasm. S/he displays confidence during these activities, uses effective techniques, and actively encourages students to take creative risks in music. 2. The pupils participate with eagerness to the music experience. There is a positive, attentive, and purposeful response to their task. All students are included in music activities. 3. The pupils experience a full spectrum of learning through music. They engage in the planning, thinking, doing, and reflecting in various music media. Students are challenged to make better aesthetic judgments about musical works. Students' musical works are preserved on audio or video tapes, portfolios, and other forms. 4. The principles and elements of the music discipline are readily used in the teaching/learning process. This can be in rhythm, form, timbre, melody, harmony, or other musical elements. 5. During the music activities, the atmosphere is relaxed. There is a definite sense of enjoyment

and purposefulness. There is much interaction between the teacher and students and among students themselves. Mutual respect, support, and openness can easily be detected. 6. Music is implemented into the classroom teaching for a variety of purposes: To develop non-verbal communication, to create and produce music to convey a point of view, to analyze the various forms of music, to develop aesthetic sensitivity and critical thinking, to understand musical heritages and cultural diversities. There is evidence that arts activities are ongoing. 7. Appropriate vocabulary, materials, tools and techniques are used in conjunction with activities related to music. Attention is given to perceptual skills development, quality, artistic choices, and technical skills whenever appropriate.
8. Freedom of expression is encouraged. There is evidence of all three levels of expression in the class: Natural expression, creative expression, and artistic expression. 9. The musical component is an integral part of the lesson plan. Its content relates to the core concepts, academic expectations, and other subject areas of the thematic unit in a meaningful way. 10. Musical experiences are generally presented in a way, which makes natural connections with the students' life, community experiences, with other arts, or other cultures. Are there any questions?"

APPENDIX H

Directions for Cooperative Learning Setting

“Cooperative learning is the instructional use of small groups so that students work together to maximize their own and other’s learning. Characteristics found in a cooperative learning setting are students taking turns, encouraging each other, helping each other, building on ideas, sharing, respecting opinions, honoring feelings, including all students in discussion, offering own ideas, and integrating ideas. Guidelines when utilizing cooperative learning are when one person speaks at a time, a positive atmosphere in the group is present, disagreeing with ideas but not with personalities, all members are a team player, groups are responsible to ensure that all members understand the content, and group roles and responsibilities are present. Are there any questions?
[pause for questions]

“For cooperative learning to take place, each member of the group is assigned a role of responsibility. They are the facilitator/leader, recorder/evaluator, elaborator/energizer, and mediator. The facilitator directs the groups work on the project he/she ensures that all work is equally divided. The facilitator is also the encourager and ensures that all members are carrying out their responsibility. The recorder/evaluator documents the groups discussions by recording ideas, suggestions, and decisions made at the meeting. The elaborator/energizer ask questions, seeks elaboration on other’s contribution. Finally, the mediator integrates and verbally summarizes ideas while checking to make sure all members understand. Are there any questions?”
[pause for questions]

“In your groups take the next five minutes to decide who will be the facilitator/leader, recorder, energizer, and the mediator. Once you have decided on each members role you may begin to work on the final project.”

APPENDIX I

Pilot Study Results

Pilot Study Summary

The purpose of this pilot study was to examine the effects of cooperative learning versus individualistic learning on elementary education majors music integration project. Participants ($N = 22$) were preservice elementary education majors from a large public university in the southern United States, and were randomly assigned to one of two learning environment conditions (cooperative learning environment or individualistic learning environment). Prior to the study participants were given the *Music Experience Questionnaire* to collect demographic data. See table 1 for descriptive statistics of combined groups, table 2 for descriptive statistics for cooperative learning group, and table 3 for individualistic descriptive statistics.

Table 1
Descriptive Statistics of Combined Groups

	Frequenc	%	*M*	*SD*
Age			21.77	5.95
Gender				
Male	2	9.1		
Female	2	90.9		
Primary Major	0			
Elementary		90.9		
Special Education	2	9.1		
Student				
Classification	1	4.5		
Sophomore	9	40.9		
Junior	8	36.4		
Senior	4	18.2		
How many years have you participated in school band?			.91	1.63
How many years have you participated in school orchestra?			.59	1.59
How many years have you participated in school choir?			1.50	2.89
How many years have you had of private musical study?			1.05	2.52
Are there any other types of musical experiences you have or currently participated in?				
Yes	7		31.8	
No	15		68.2	

Table 2
Descriptive Statistics of Cooperative Learning Group

	Frequency	%	*M*	*SD*
Age			23.09	8.36
Gender				
Male	1	9.1		
Female	10	90.9		
Primary Major Elementary Education	10	90.9		
Special Education	1	9.1		
Student Classification Freshman	1	9.1		
Sophomore	6	54.5		
Junior	3	27.3		
Senior	1	9.1		
How many years have you participated in school band?			1.45	2.07
How many years have you participated in school orchestra?			.00	.00
How many years have you participated in school choir?			1.27	2.57
How many years have you had of private musical studv?			.27	.9
Are there any other types of musical experiences you have or currently participated in?				
Yes	6	54.5		
No	5	45.5		

Table 3
Descriptive Statistics of Individualistic Learning Group

	Frequency	%	*M*	*SD*
Age			20.45	.82
Gender				
Male	1	9.1		
Female	10	90.9		
Primary Major				
Elementary Education	10	90.9		
Special Education	1	9.1		
Student Classification Freshman				
	0	0		
Sophomore	3	27.3		
Junior	5	45.5		
Senior	3	27.3		
How many years have you participated in school band?			.36	.81
How many years have you participated in school orchestra?			1.18	2.13
How many years have you participated in school choir?			1.72	3.3
How many years have you had of private musical studv?			1.82	3.34
Are there any other types of musical experiences you have or currently participated in?				
Yes	1	9.1		
No	10	90.9		

For the two-week pilot study participants were asked to complete a portion of the *Integrating of Music Project* in either a cooperative learning environment or individualistic learning environment. At the conclusion of the pilot study, participants had to complete: (a) four music lesson plans with the integration of music, (b) 1 page rationale of the importance of music, and (c) *Final Project Interest Survey*.

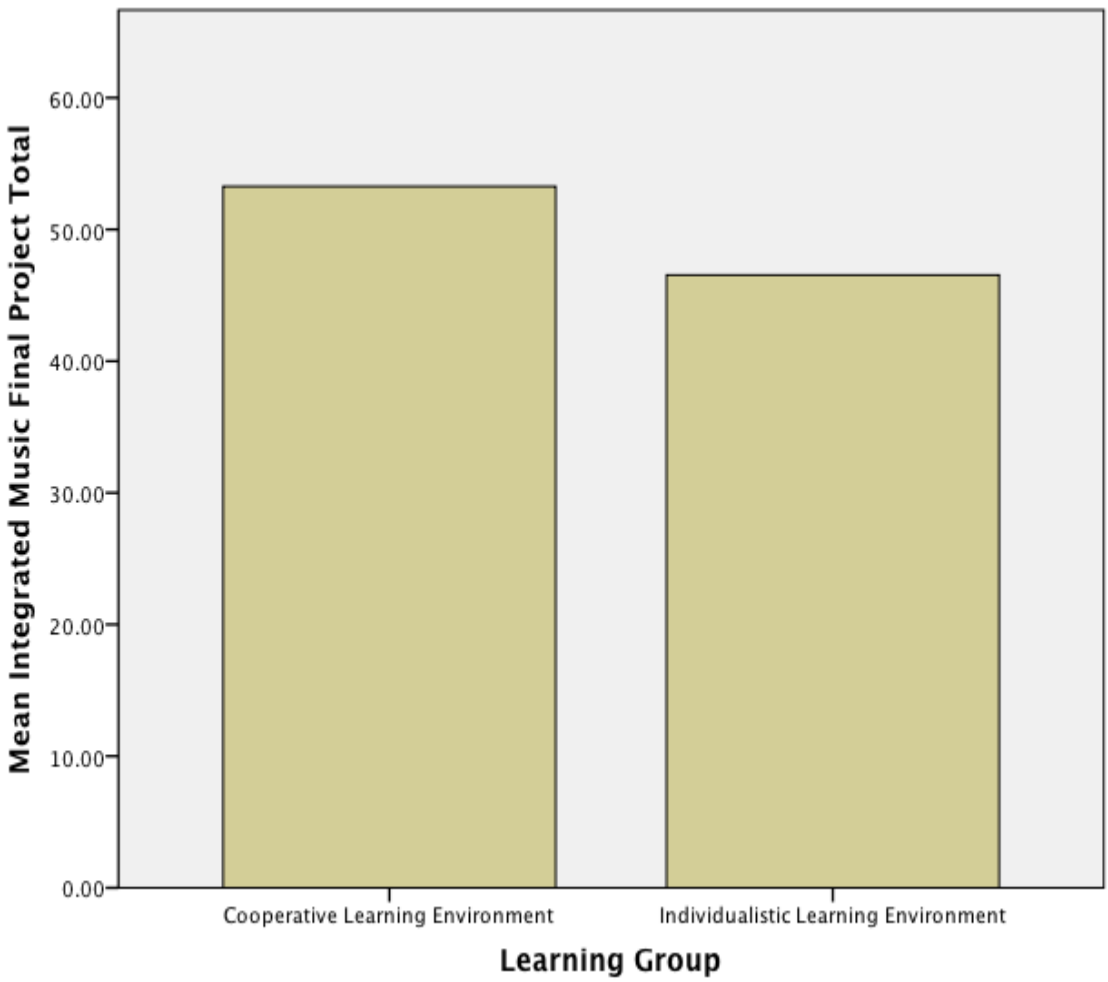
Participants' project were scored by the *Music Integration Project Rubric*. Reliability was tested using interjudge reliability. The *Integrated Music Project Rubric* was used to calculate interjudge reliability. Twenty percent of the projects from both experimental group and control group were used. The interjudge reliability calculated using a Pearson product-moment correlation coefficient; reliability was found to be 92.

An alpha level of .05 was chose *a priori* as the criterion for statistical significance. No significant main effects were found between cooperative learning environment and individualistic learning environment.

Summary of Pilot Study Results

1. **Research Question #1.** What are the effects of different learning environment on participants' scores from the project based integration of music in an elementary classroom curriculum?

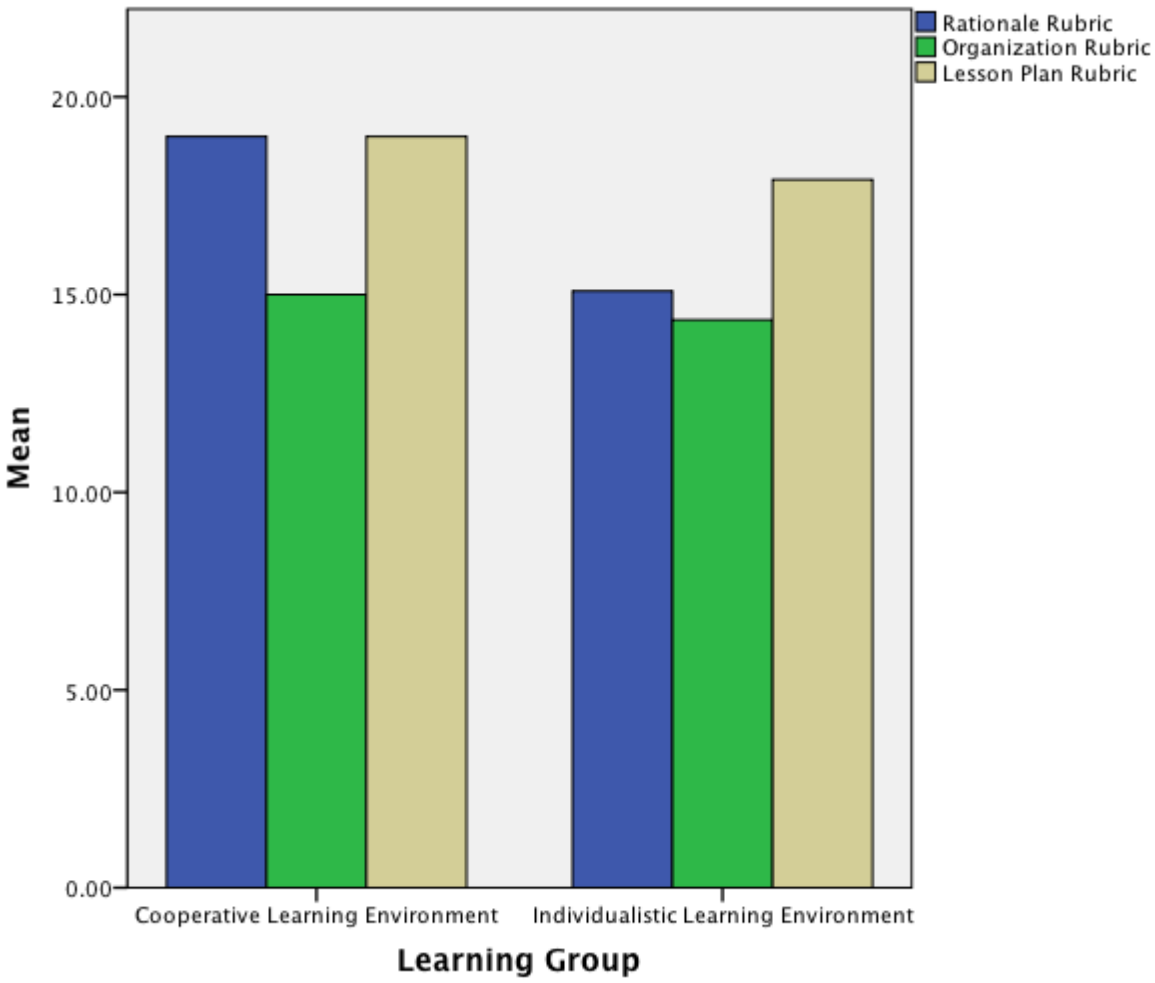
   An independent-samples t-test was conducted to compare the music integration project scores from cooperative learning environment and individualistic learning environment. There was not a significant difference in the integrated music project scores for cooperative learning ($M = 53.27$, $SD = 2.83$) and individualistic learning ($M = 46.55$, $SD = 14.60$) conditions; $t(20)=1.50$, $p=.162$.



Pilot Study figure 1. Mean number of Integrated Music Project Total Score for learning group condition.

For each rubric an independents-sample t-test was conducted to compare cooperative learning environment and individualistic learning environment's scores accordingly to the organization of content rubric, rationale rubric, and lesson plan rubric. For the organization of content rubric there was not a significant difference between scores for cooperative learning (M = 15, SD = .89) and individualistic learning (M = 14.36, SD =6.05) conditions; t(20)=.345, p=.734. For rationale rubric there was not a significant difference between scores for cooperative learning (M = 19, SD = .89) and individualistic learning (M = 15.10, SD =7.78) conditions; t(20)=1.66, p=.113. For lesson plan rubric there was not a significant difference between scores for cooperative learning (M = 19, SD =

.89) and individualistic learning (M = 17.91, SD =2.59) conditions; t(20)=.1.32, p=.210. Pilot study figure 2. Mean number of Integrated Music Project Organization of Content Rubric, Rationale Rubric, and Lesson Plan Rubric for learning group condition.



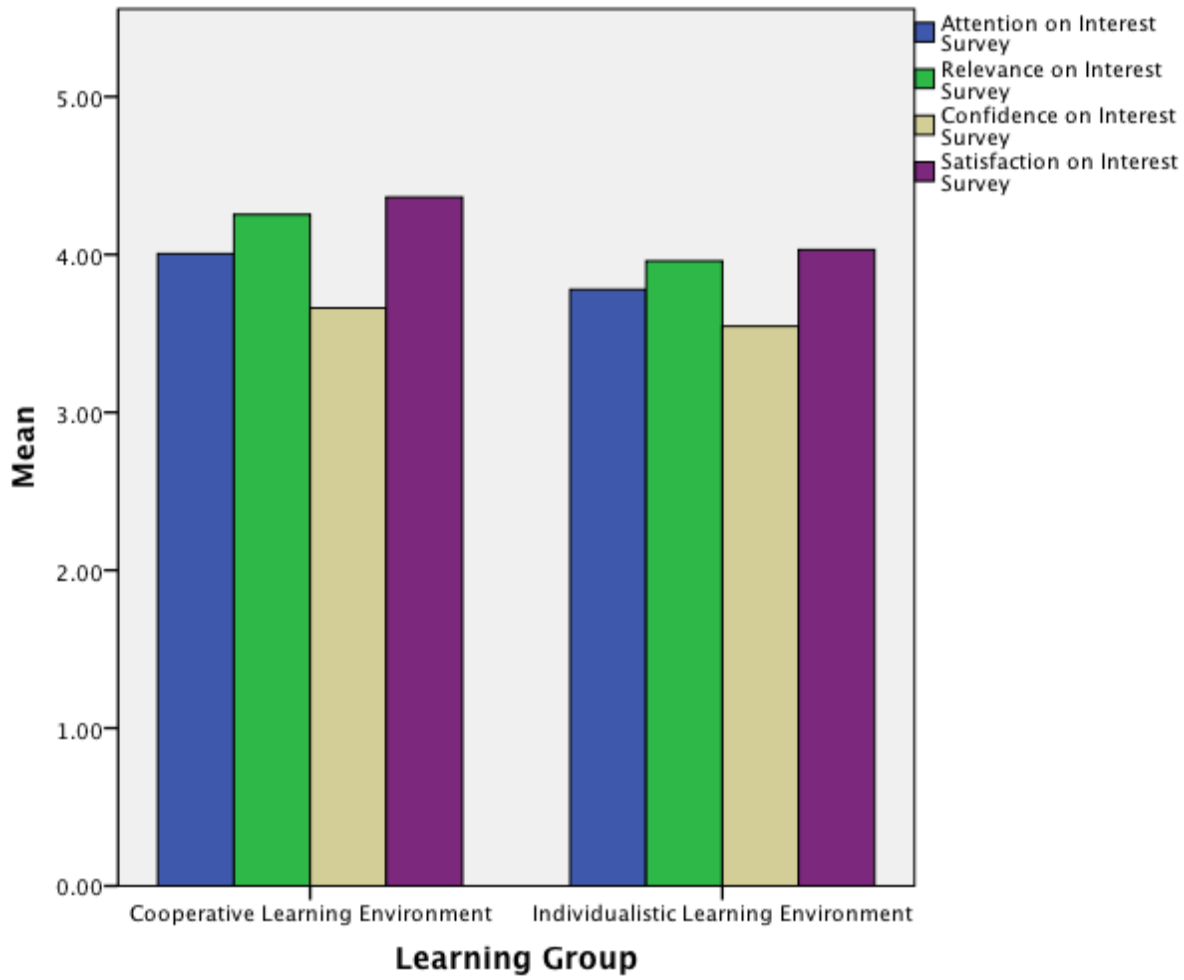
Pilot study figure 2. Mean number of Integrated Music Project Organization of Content Rubric, Rationale Rubric, and Lesson Plan Rubric for learning group condition.

Research Question #2. What are the effects of different learning environment on participants' interest in the utilization of music in the elementary curriculum?

An independent-samples t-test was conducted to compare cooperative learning environment and individualistic learning environment on the interest survey. For attention there was not a significant difference between scores for cooperative learning (M = 4.00, SD = .43) and individualistic learning (M = 3.78, SD =.60) conditions; t(20)=1.02, p=.319. For relevance there was not a significant difference between scores for cooperative learning (M = 4.25, SD = .58) and individualistic learning (M = 3.96, SD =.67) conditions; t(20)=1.12, p=.279. For confidence there was not a significant difference between scores for cooperative learning (M = 3.66, SD = .31) and individualistic learning (M = 3.55, SD =.46) conditions; t(20)=.70, p=.496 For satisfaction there was not a significant difference between scores for cooperative learning (M = 4.36, SD = .51) and individualistic learning (M = 4.03, SD =.65) conditions; t(20)=1.33, p=.197.

Pilot Study Table 4
Means and Standard Deviations of Participants Interest Survey Score by Learning Condition.

Learning Condition	Attention		Relevance		Confidence		Satisfaction	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Cooperative Learning	4.00	.43	4.25	.58	3.66	.31	4.36	.51
Individualistic Learning	3.78	.60	3.96	.66	3.55	.46	4.03	.65



Pilot Study figure 2. Mean number of interest survey scores for learning group condition.

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VITA

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EDUCATION

University of Kentucky, Lexington, KY
2012 Special Topics: Jazz in Orff Schulwerk
2011 Orff Schulwerk, Level III
2006 Orff Schulwerk, Level II
2005 Orff Schulwerk, Level I

Teachers College Columbia University, New York, NY
2008 Masters of Arts in Music & Music Education

University of Southern Mississippi, Hattiesburg, MS
2007 Bachelor of Music Education

PROFESSION POSITIONS HELD

August 2014 Visiting Instructor/Director of Music Education, Indiana University-Purdue University Fort Wayne (Fort Wayne, IN)

2011 – 2014 Graduate Teaching Assistant, University of Kentucky (Lexington, KY)

2012 – 2014 Instructor, Central Music Academy (Lexington, KY)

2009 – 2010 Band Director, Clinton Public Schools (Clinton, MS)

2008 – 2009 Band Director, Vicksburg Warren School District (Vicksburg, MS)

2007 – 2008 Graduate Assistant, Teachers College Columbia University (New York, NY)

PROFESSIONAL PUBLICATIONS & PRESENTATIONS

Publications:

Egger, J. O., Springer, D. G., & Gooding, L. F. (in press). The effect of behavioral contracting on preservice elementary teachers' performance achievement on the soprano recorder. *Journal of Music Teacher Education.* doi: 10.1177/1057083713512318

Presentations:

Hudson, M. W., & **Egger, J. O.** (2014, July). *Musical and social influences on participation in a LGBA International community ensemble*. Poster Session presented at the meeting of the International Society for Music Education World Conference, Porte Alegre, Brazil.

Egger, J. O., Springer, D. G., & Gooding, L. F. (2014, April). *The effect of behavioral contracting on preservice elementary teachers' performance achievement on the soprano recorder*. Poster presented at the meeting of the National Association for Music Education Conference, St. Louis, MO.

Hudson, M. W., **Egger, J. O.**, & Harrington, A. (2014, April). *Instrument gender stratification in the lesbian and gay band association*. Poster session presented at the meeting of the National Association for Music Education Conference, St. Louis, MO.

Hudson, M. W., & **Egger, J. O.** (2014, April). *Musical and social influences on participation in a LGBA community ensemble*. presented at the meeting of the National Association for Music Education Conference, St. Louis, MO.

Egger, J. O. (2014, February). Effect *of cooperative learning versus individualistic learning on preservice elementary teachers' performance achievement*. Poster session presented at the meeting of the Kentucky Music Educators Conference, Louisville, KY.

Shank, J. S. & **Egger, J. O.** (2013, October) *Technology in the K-12 Arts Classroom: Is it a help or a hindrance to creating arts appreciators and participants?* Presentation at the meeting of the Social Theory, Politics, and the Arts Conference, Seattle, WA.

Egger. J. O. & Hudson, M. W. (2013, October). *The Impact of the LGBA Organization on Local and National Communities.* Presentation at the meeting of the Social Theory, Politics, and the Arts Conference, Seattle, WA.

Egger, J. O. (2013, February). *The Effect of Approval/Disapproval on Performance in the Instrumental Classroom*. Poster session presented at the meeting of the Kentucky Music Educators Conference, Louisville, KY.

Professional Memberships

American Educational Research Association

American Orff – Schulwerk Association

College Music Society

Kentucky Music Educators Association

Kentucky Orff – Schulwerk Association

National Association for Music Education

Society for Research in Music Education

Tau Beta Sigma (Honorary Member)

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Student Signature