2011

The effect of in-school opera performance and related curriculum on music cognition and attitude

Sara Harris Baker
Louisiana State University and Agricultural and Mechanical College

THE EFFECT OF IN-SCHOOL OPERA PERFORMANCE AND RELATED CURRICULUM ON MUSIC COGNITION AND ATTITUDE

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Music

by
Sara Harris Baker
B.M., Southwestern University, 2002
M.M., Boston University, 2008
December 2011

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This study was designed to compare knowledge about and attitude toward opera in three groups of fifth-graders with various levels of involvement with an in-school opera. One group watched the live performance, a second group watched the performance preceded by three pre-performance lessons that encompassed common opera vocabulary and voice types, and a third group experienced the lessons, the performance, and a five-lesson creative project in which they constructed their own opera. All students completed cognitive and attitude pretests and post-tests. ANCOVA analyses accounted for differences in scores on the pretests. Significant differences ($p < .05$) on the multiple-choice portion of the cognitive exam were found between the performance-only group and the performance plus instruction groups. Significant differences were found between the groups on the concept map portion of the cognitive measure, with the differences coming between the performance only group and the performance plus lessons group. Significant differences were found between each of the groups for a Likert-scale attitude measure, with the performance and lessons group posting the largest increases. In addition, a significant correlation was found between cognitive scores and attitude scores. Responses to semi-structured interviews suggested that students' opinions of Opera were influenced by factors related to music, factors related to production, and factors related to personal perceptions.

CHAPTER 1

INTRODUCTION

> I must study politics and war that my sons may have liberty to study mathematics and philosophy. My sons ought to study mathematics and philosophy, geography, natural history and naval architecture, navigation, commerce and agriculture, in order to give their children a right to study painting, poetry, music, architecture, statuary, tapestry, and porcelain.
>
> - John Adams in a letter to Abigail Adams, 1780
> (The Massachusetts Historical Society, 2011)

John Adams, one of America's founding fathers, dreamed of providing his grandchildren the opportunity to study the arts. His letter to his wife, Abigail, indicated that he considered Arts education to be evidence of an evolved society. It did not take long for his dream to come to fruition. Public school music education began in Boston in 1837, and spread to the entire Boston School System in 1839 (Mark & Gary, 2007). In the years following, arts education surged in popularity as part of a comprehensive public education.

Unfortunately, the place of the arts in education has been challenged in recent years, owing to budget cutbacks in state governments that impact school funding (The Center for Public Education, 2009). The arts seem to be particularly vulnerable to cuts. Possibly this is due to the fact that state accountability testing does not focus on the arts, or possibly school district officials do not see the arts as part of their core academic mission.

The National Endowment for the Arts reports that childhood arts education has declined from 2002 until 2008, from 57% of survey responders reporting some childhood arts education in 2002 to 49.5% in 2008. Minority students have experienced a disproportionate decline in childhood arts education. The NEA reports a 49% decrease for African American students and a 40% decrease for Hispanic students (Rabkin & Hedberg, 2011).

Scholars and philosophers warn of the effects of the loss of in-school arts education. Sir Ken Robinson has spoken of the lack of creativity in graduates and the way that "traditional" education teaches creativity away (Robinson, 2010). He cites the arts as the best way to re-invigorate this creativity that translates to innovation and productivity in the workplace. The Arts Education Partnership called for an increase in creativity for American workers through the arts. "Improving our students' education system to ignite students' imagination, foster their creative drive, stimulate innovative thinking and generate implementable new ideas is vital to the long-term economic interests of our nation" (Ruppert, 2010, p. 2).

Around the world, the benefits of creativity and its link to arts education have been noted. In the *International Journal of Music Education*, Yick-Ming of the Hong Kong Federation of Youth Groups noted,

> What is required to make education a viable foundation on which to build careers and dream dreams is an education system that allows children to be expressive; that provides opportunities for children to participate; that makes the entire process enjoyable. Therefore, students need to experience the widest spectrum of artistic, imaginative, and inspired elements that make up life (Yick-Ming, 2005, p. 108).

Arts education in the United States is not completely administered through the public schools. Private studios and youth conservatories seek to educate students in music and other arts. However, these programs are almost exclusively tuition-based, and therefore, exclude what seems like an ever-increasing portion of the population without funds to spare.

Nonprofit arts organizations occupy an important place in a community's arts education. These groups frequently offer inexpensive or free educational programming that is grant or donor funded. However, the funding crunch for federal, state, and local arts grants means there

are fewer funds to award, and some organizations which have traditionally relied on grant support for their organizational needs and special projects may be left out completely. Arts administrators have always been resourceful when it comes to doing more with less, but it is impossible to do something with nothing.

Some forms of art are particularly vulnerable to extinction in the current tough financial times. Critics have long held that opera is a dying art form, and the newest statistics are grim. In 2009, a wave of opera company bankruptcies and cutbacks were felt from the small regional companies who closed their doors like Opera Pacific, Connecticut Opera, and Baltimore Opera, to the belt-tightening of established companies with national profiles and sizeable endowments like Los Angeles Opera and The Metropolitan Opera (Lunden, 2009).

Music critic Alex Ross of *The New Yorker* has a grim forecast for opera in its current state:

> Institutions that go on presenting the same old pieces for the same old audience in the same old way may not make it too far into the current century. The classical business needs to start thinking of itself not as a luxury item, but as an essential part of the average thinking person's life (Ross, 2011, p. 79).

The challenge, then, for opera companies is in presenting new works, getting new audience members in the seats, and presenting traditional opera in new and exciting ways to keep the art form alive and invigorated.

Progress is being made in each of the challenge areas in opera identified by Ross. New works are being written and productions mounted. Since 1990, 400 new operas have been produced in the United States (OPERA America, 2010). New methods of transmission are being employed to try to stimulate interest in opera. The Metropolitan Opera started their Live in HD

broadcasts in movie theaters around the country to both raise funds and friends for opera. Alex Ross's final challenge is to get new audience members in the seats. In order to do this effectively, opera companies must educate people about what opera is, demystify it, and influence their attitudes toward opera. This is precisely the mission of the education departments of regional and national opera companies (Baker, 2010).

While many positive effects of opera and opera education programs have been suggested from correlation data and personal testimony, there has been no identifiable research on the effectiveness of existing opera education programs with regard to attitude toward opera and music learning. Is opera education really a beneficial investment if it is not affecting the attitudes of students towards opera?

Acknowledging the need for some sort of opera education in order to keep the art form alive, the purpose of this study is to provide data that can serve to evaluate the effectiveness of existing opera educational programming and possibly aid the development of future opera educational programming. This study will measure the effects of three commonly used opera education techniques: in-school performance, curricular instruction, and creative experience. The guiding research questions are: Do opera live performances and related curricula have an effect on music learning (cognition)? Do opera live performances and related curricula have an effect on attitude toward opera? Is there a relationship between a cognitive understanding of opera and attitude toward opera? What are some of the factors that influence attitude toward opera?

CHAPTER 2

REVIEW OF LITERATURE

The current state of affairs with the arts in schools is dismal. According to the National Center for Educational Statistics, only 5% of public elementary school students receive daily instruction in music (Parsad & Spiegelman, 2011). In Louisiana, for instance, 39% of public schools reported having no music teacher, 51.2% reported no funding allocations for the arts and 27.1% reported offering less than one hour of art/music instruction per week (Louisiana Department of Culture, Recreation, and Tourism, 20009). As schools have struggled to find financing for consistent instruction in the arts, nonprofit arts organizations have picked up some of the slack. These organizations provide performances and curricular materials as arts education or arts enrichment. Unlike some developed countries, the United States does not have a primarily publicly funded arts industry. However, public funding is one important source of support for arts organizations. Unfortunately, these arts organizations that provide educational experiences have also suffered under the weight of budget cuts at the federal, state, and local levels.

Arts Funding

Since 1965, the National Endowment for the Arts (NEA) has been the primary vehicle for direct federal arts funding in the United States. In September 1965, President Johnson signed the National Foundation on the Arts and Humanities Act, which created the NEA (Bauerlein, 2009). Since its inception, the NEA has awarded more than 130,000 grants totaling more than $4 billion (National Endowment for the Arts, 2009). The process of applying for a National Endowment

for the Arts grant is both cumbersome and highly competitive. And, this longstanding federal funding program is not immune to budget woes. For 2012, the White House Office of Management and Budget has recommended additional cuts of 13% to the National Endowment for the Arts (Office of Management and Budget, 2011).

State governments fund arts organizations by general legislative appropriations which are often overseen by state arts agencies, and by special legislative appropriations which are usually earmarked for specific projects. Nationally, after a three year decline in state and local arts appropriations, an additional 12.9% in cuts was estimated for 2011 (Han, 2010). This means that there are fewer funds to go around for arts organizations. The fifty states vary greatly in their legislative support of the arts. In Minnesota in 2010, the state legislature granted arts agencies $30,274,000, which is $5.80 per capita. In California in the same year, the state legislature appropriated $4,300,000, or 12 cents per capita for the arts (National Assembly of State Arts Agencies, 2010).

Opera companies have not traditionally been able to support themselves financially through ticket sales alone. Rather, companies are usually funded by a mosaic of sales, personal and institutional gifts, and grants. Fiscal challenges in the troubled economy have led organizations and individuals to cut back on philanthropic giving. From 2007 to 2009, giving to Arts and cultural organizations decreased 8.7% (Giving USA, 2010).

The Economic Impact of the Arts

There is no denying the impact that the Arts have on the American economy. Direct Arts spending and event-related spending bring $166.2 billion into the economy annually (Americans for the Arts, n.d.). The same study revealed that Arts activity, direct and ancillary, supported 5.7 million jobs in the United States. In the United States, there are 666,267 businesses involved in

creation or distribution of the Arts. These businesses employ 2.9 million people, or 2.18% of all employees in the U.S. The State of Louisiana alone houses 6,887 Arts-related businesses and the Arts sector employs 28,921 people (Americans for the Arts, n.d.).

Opera, while occupying a relatively small percentage of the large Arts community, is also an economic engine in many communities. OPERA America, the national service organization for opera, counts 119 professional opera companies in 42 states among its membership. North American opera companies have 55,000 full- and part-time employees, and their revenue total in 2008-2009 was $623 million (OPERA America, 2010).

The Current State of Opera

Despite its healthy contribution to the economy, participation in opera is declining. According to National Endowment for the Arts, in 2008 only 2.1% of adults reported attending an opera within the last 12 months, down from 3.2% in 2002. In addition, the percentage of adults who performed/created opera declined from 0.7% to 0.4%. Opera audiences in 2008 were largely white (82.3%), highly educated (66.3% have a college or graduate degree), and wealthy (41.4% make over $100,000, which is the highest among any Arts-attending groups). Opera and classical music also have the oldest audiences, with 18.6% and 19.6% of their audience members over 65 years of age, respectively (National Endowment for the Arts, 2009). Given these demographics, critics argue that opera is not a relevant art form and fails to address the needs of a country with a changing identity. A new report released from the National Committee for Responsive Philanthropy states that only 10% of grant dollars awarded serve marginalized populations including ethnic and racial minorities (Sidford, 2011).

Opera has been seen by some as a less accessible area of the arts. The expense involved in producing opera results in it being viewed as a hobby of the rich and elite. Given the data

indicating that opera is attended by primarily rich, educated, white people, this may not be far from the truth (National Endowment for the Arts, 2009). George Bernard Shaw, famous playwright, has been quoted as saying that opera is the most expensive invention of man, second only to war (Lunden, 2009).

However, despite the challenges involved, there are many viable musical, societal, and academic reasons to keep opera as part of the American musical landscape. Opera is a cultural pillar, arguably the culmination of the Western European historical musical tradition, encompassing highly trained vocalists, instrumentalists, and stagecraft artists. Composer Richard Wagner, in his 1851 essay, "Oper und Drama," put forth his philosophy that opera was the ultimate intersection of music, poetry, staging, scenic design, and acting. He called it "Gesamtkunstwerk," or "total work of art" (Hanning, 2006).

Opera companies continue to seek ways to introduce opera to young people, both as a way of sharing the music that they value, and a way of developing potential future patrons. OPERA America (2010) reports that in 2005-2006, more than two million individuals were served through opera education and outreach performances in the United States and Canada. This outreach appears to be a positive experience based on a study by Burrack and Maltas (2006), in which researchers observed that elementary students were engaged and excited about opera when a performing group came to their school. But are they accomplishing their goals when it comes to educating and capturing the imagination of the next generation of potential opera patrons? Empirical research beyond anecdotal evidence is needed to answer this question.

A complete investigation of the types and content of professional opera education programs was conducted in 2010 (Baker). Using the most recent directory from OPERA America (2009), I looked at each organization's website for education programs, their targeted

audiences, and any curricular materials posted online. This process yielded 99 companies with a total of 224 educational programs. Of the programs, 2 were targeted at preschool audiences, 51 were targeted at elementary audiences, 82 were targeted at elementary/secondary audiences, 69 were targeted at secondary audiences, 7 were targeted at teachers only, and 13 did not specify a targeted audience. There were four main categories of program types that emerged. The most common type was in-school performances with 72 programs. Closely following with 60 programs were various incarnations of mainstage performances for students in the opera house or regular performance venue. Third and fourth were creating original opera programs (18) and opera-themed summer camps (16). Curricular materials varied in complexity from crossword puzzles and word finds to complete interdisciplinary lesson plans with state standards. Most of the programs' materials contained some standard operatic vocabulary and a synopsis of the show that the students would be watching. Many of the curricular materials were little more than an information packet. Very few of the materials had any meaningful assessment pieces. The benefit of this investigation was uncovering current trends in opera education programs.

Opera's Link to Extramusical Achievement

There are several studies that link positive outcomes to student involvement in opera. Programs educating students about opera and classical music in the schools have been shown to have a relationship with student success. Opera Cleveland commissioned an independent study of their *Music! Words! Opera!* Program. Participants had significantly better standardized test scores than did their non-participating counterparts (Opera Cleveland, 2010). This program was divided into two portions. In the "Listen and Discover" portion, students were introduced to the operatic masterworks through listening examples and lessons. In the "Create and Produce" portion, classes collaborated to produce musical dramas (OPERA America, *Music! Words!*

Opera!, n.d.). The same study indicated that both parents (92%) and teachers (77%) believed that students' academic skills were improved by their involvement in the *Music! Words! Opera!* Program.

Additional studies suggest that that opera and classical music are linked to student learning. Students at two schools were exposed to classical music through an arts infusion program, SPECTRA+, received many benefits from participation. The program provided musical training and integrated music in other curricular areas. The study revealed significant differences from the control and modified control groups in the areas of creativity, originality, and arts appreciation. In the areas of academic achievement, the math comprehension scores for the SPECTRA+ Arts students in School District A were significantly better than their competitors. In School District B, total reading scores of SPECTRA+ Arts students were significantly better than non-participating students (Luftig, 2000).

Positive social learning has also been linked to opera education. The Creating Original Opera curriculum is a program in which students spend hundreds of hours over the course of an entire year or semester working on every aspect of an opera, from composing the music to playing instruments and working on the set, props, and costumes (Washington National Opera, *Kids Create Opera*, n.d.). Elementary students who participated in the Creating Original Opera curriculum demonstrated more engagement and collaborative behaviors than did the control group. The opera group demonstrated larger improvements in student participation, taking turns, providing revisions of their own work and constructive critiques of their classmates' work (Wolf, 1999). Good citizenship is another factor that has been demonstrated to have statistical correlation with classical music, including opera. In a study of young people 14-24 years old,

Leung and Kier (2008) found that those who listened to music in the genre including classical music, opera, and musical theatre were more likely to engage in civic activities.

The relationship between opera and lifestyle factors does not end at the conclusion of formal schooling. British researchers North and Hargreaves (2007a, 2007b, 2007c) undertook a comprehensive survey that compared musical genre choice to a plethora of lifestyle characteristics. Nineteen genres of music were compared including Opera, Classical Music, Rap/Hip Hop, Country and Western, Current Chart Pop, Jazz, Rock, Blues, R&B, Soul, Disco, Dance/House, Musicals, Sixties Pop, Indie, Adult Pop, DJ-Based Music, Other Pop Styles, and Other Musical Styles. Among their findings, people who selected Opera as describing their current taste in music were in a group that included the most frequent readers of a national and local newspaper, and the most prolific readers for pleasure. Their media preferences (television, books, and magazines) tended to run toward the serious and intellectual (North & Hargreaves, 2007b).

Regarding social factors they observed, significant differences were found by musical genre selection for the number of parents in the home during the formative years. Opera fans had the highest rate of two-parent households of any of the musical genres. Whether or not participants owned their own home was another significant difference between musical genres, demonstrating that Adult Pop, Country and Western, and Opera fans were the most likely to own their own homes. In addition, the Opera genre had the highest percentage of individuals saying they "worship as regularly as they should" (North & Hargreaves, 2007a).

In another part of the opera and lifestyle factor study, Opera fans were found to be socially conscious. There were significant differences in recycling participation by musical genre selection with Opera fans revealed as having the highest recycling scores. In addition,

opera fans were the most likely to approve of increased taxation for improvements in social services. Musical fans and Opera fans had statistically the lowest percentages of fans reporting that they had committed an "arrestable act." Considering drug use, Musical Theatre and Opera fans had the highest percentages of fans who reported that they had never used illegal drugs (North & Hargreaves, 2007a).

In the same survey, perhaps not surprisingly, there were significant differences in income levels for fans of various musical genres. Post hoc analyses pointed to Soul, Jazz, Opera, Classical Music, and Adult Pop fans as having the highest incomes. In addition, a significant association was found between level of educational attainment and musical genre selection. Opera topped the chart for the highest percentage of fans with a bachelor's, master's, or doctoral degree. Significant differences were found in type of preferred alcoholic beverages with a majority of Opera fans showing a preference for wine over bitter, lager, cider, or spirits. In their discussion of the results, the authors surmise, "Fans of opera and classical music have a lifestyle indicative of membership in an intellectual and economic elite that mirrors the pro-establishment connotations of these musical styles" (North & Hargreaves, 2007c, p.494).

Opera and Children's Preference

The lifestyle correlates with being a fan of opera are encouraging, but do not prove causation, and the challenges of engaging the next generations of fans are daunting. Some evidence suggests that opera is not likely to be the preferred genre for young people. In music education research, preference is defined as "an act of choosing, esteeming, or giving advantage to one thing over another; propensity toward something" (Price, 1986). Preeminent music preference researcher, Albert LeBlanc, undertook a multi-year, systematic approach to uncovering factors in elementary-age student preference. Among his findings were three strikes

against opera. In a study comparing various genres of music, fifth-graders rated musical excerpts on a seven-point Likert scale, and a significant correlation was found between musical style and preference. Popular music was the most preferred genre and art music was the least preferred (LeBlanc, 1981). In a study involving jazz listening examples, instrumental music was preferred by fifth and sixth-grade students when compared to vocal music (LeBlanc & Cote, 1983). In a study that considered vocal vibrato in relationship to fifth-grade student preference, data revealed that both male and female students preferred low levels of vibrato in vocal performances (LeBlanc & Sherrill, 1986). A later study by Byrnes (1997) using the Continuous Response Digital Interface (CRDI) corroborated student preference for instrumental over vocal excerpts. In summary, students are reluctant to embrace art music, vocal music, or vocal music with vibrato, three of opera's most prominent characteristics.

Another measure of affect, though perhaps more difficult to measure than preference, is attitude. In his article, "A Proposed Glossary for Use in Affective Response Literature in Music," Price operationalized the term "attitude" for the purposes of music research (1986).

> Attitude is a learned predisposition reflecting the way one feels about a subject while not in the presence of that subject, which is not directly observable. Positive and negative evaluations, beliefs, and feelings regarding a phenomenon that may produce error in perception and recall. Generally used synonymously with opinion; however, opinion is a verbal reaction to a stimulus, and is directly observable (pp. 152-153).

The fact that attitude is described as "learned" indicates that it is possible to influence it through education programming, which is why it is of interest in the present study.

Familiarity and Preference

When considering ways to influence affective responses toward opera, some factors are well-documented. There is substantial evidence to suggest that familiarity with music influences preference and attitude. Preschoolers had significantly more positive responses on a five-point Likert-scale ratings for classical pieces to which they had listened and learned to sing the melodies when compared to popular pieces (Peery & Peery, 1986). In a study of third and fifth graders who were taught ten songs, statistically significant correlations between preference and familiarity were found for all ten songs (Siebenaler, 1999). A study of undergraduate non-music majors found that those who reported an emotional response to classical music sometime in their past were significantly more likely to listen to classical music selections at home (Woody & Burns, 2001).

While opera is considered part of the western classical music canon, from a music education perspective it bears many similarities to world music in that children likely have little unintentional exposure to the genre and it is often performed in languages unfamiliar to English-speaking children. Studies in world music education reveal similar findings in the link between familiarity and preference. In an article featuring two studies of fifth-grade students which compared their preference for authentic versus arranged versions of world music recordings, students in the first study did not differ significantly in their preference for authentic or arranged versions, but students in the second study preferred the arranged versions by a margin of 3 to 1. Of value to the present study, there were statistically significant correlations between preference and familiarity in both studies (Demorest & Schultz, 2004). Similar results were found in a study investigating world music preferences of undergraduate music and non-music majors, in which students were asked to rate their preference for 36 music excerpts representing 13

countries on a Likert scale of 1 to 7, and their familiarity with the excerpts as a 1 (unfamiliar), 2 (somewhat familiar), or 3 (familiar). The musical excerpts were grouped by country and all 13 groups demonstrated statistically significant correlations between preference and familiarity (Fung, 1996). The preceding studies suggest that if students were familiar with a musical style, such as opera, that they would be more likely to prefer it to unfamiliar music.

A study comparing attention, preference, and identity in music listening by middle school students concluded that students' preference scores, rated on a scale of 1 (hated it) to 10 (loved it), and identity scores, rated on a scale of 1 (not my kind of music) to 10 (my kind of music), were significantly positively correlated. There was a significant interaction between monolingual and bilingual students on their preference for Spanish, English, or instrumental versions of the songs. The bilingual students rated the Spanish versions of the song the highest, followed by the English versions, and then the instrumental versions. The English-only students had their highest preference scores for the instrumental version of the song, followed by English, then Spanish (Abril & Flowers, 2007). This study would suggest that opera, with its unfamiliar language, may be at a disadvantage when it comes to eliciting positive affective responses from students.

In a related study, third and fifth grade students who listened to Asian and Western music in original languages and English translations were compared in a study by Shen (1998). Four of the eight songs previously had been taught by the regular music teacher. Results corroborate other studies in that music preference correlated with familiarity. Third grade students had higher overall preference scores than fifth graders, and third graders significantly preferred English translations over original languages. Again, this highlights the challenges of presenting

operatic repertoire in foreign languages, and suggests that fifth grade students might be more open to original languages than their third grade counterparts.

Shehan (1985) explored the possibility of extending the familiarity effect on preference for World Music by testing transfer of preference to other musical selections in the same genre. Students rated each of twelve listening examples with a seven-point semantic differential in five areas: Like-Dislike, Good-Bad, Interesting-Uninteresting, Valuable-Worthless, Buy-Would Not Buy. Significant differences were found between taught and untaught selections in all of the non-Western musical excerpts: African, East Indian, Japanese, and Hispanic. Results indicated that the effects of familiarity on preference may not be transferable within the same genre. For example, students preferred the African excerpts which they had been taught, but balked at an unfamiliar African piece of a similar style. This study suggests that it may not be enough to acquaint students with just any pieces of music in an unfamiliar genre and assume that transfer will naturally take place.

Familiarity and Attitude

For many children formal arts training will be the singular exposure they have to western art music and may be key to influencing attitude toward opera. Research by Hargreaves, Comber, and Colley (1995) found that the teens are more likely to select opera as a genre they "like" if they have more musical training. Training in the form of exposure to opera performance was explored by Sims (1992). She measured attitudes of fourth, fifth, and sixth-grade students before and after attending an in-school opera performance. Those students who did not see the performance served as a control group. Sims used a five-question measure with a five-point Likert scale. She found that the fourth-graders showed high attitude scores whether or not they saw the performance. In addition, she found that fifth and sixth-graders who had attended the

performance showed significant differences in attitudes about opera. The fifth and sixth-graders that saw the performance rated opera as being more fun and more interesting, rated opera singing more beautiful, and said they were more likely to see another opera. From this study, it appears that fifth and sixth graders can be influenced by live performances and are more discriminating in their musical attitudes than fourth graders.

If one connects arts training to familiarity and subsequently to increased interest in, preference for, and attitude toward art music, its impact on future attendance at arts events seems plausible. Long-term benefits were seen in a survey of opera attendees published by the National Endowment for the Arts (1995). Results demonstrated that 26% had participated in Arts lessons or classes in the previous year, compared to only 8.6% of the general population. Similarly, a telephone survey conducted by Andreasen and Belk (1980) revealed that the top predictor of symphony attendance was interest in classical music when growing up. This topped the "culture patron" personality profile, attendance at the symphony in the last twelve months, and even positive attitude toward the symphony. A survey of attendees at a Gilbert and Sullivan festival showed that the audience members chose to attend because they knew and liked that genre of music or had been there before (Pitts, 2004). This information is valuable to opera companies as they plan a long-term strategy for improving attendance at opera events.

Arts Partnerships and Attitude

A thread of research also exists that investigates long-term applications of music education involving performing arts organizations. This literature can be collectively called the "arts partnership literature." It has merited its own chapter in *The New Handbook of Research on Music Teaching and Learning*, "The Evaluation of Arts Partnerships and Learning in and through the Arts" (Abeles, Hafeli, Horowitz, & Burton, 2002). Among the findings in this area,

a study investigating different orchestra-school partnerships found that students participating in the partnership were more likely that non-participating students to choose music as a possible profession, a measure that was considered by the researcher to be an indicator of their interest in future instrumental music instruction (Abeles, 2004). Three different versions of orchestra-school partnerships were investigated in the study. In the first, students received weekly instruction from their general music teacher on a stringed instrument, and also met as a group with an orchestra member mentor on a bi-weekly basis. These students also went to professional orchestra concerts throughout the year and played on an end-of-year showcase. In the second partnership, students went to professional orchestra concerts in the concert hall, as well as hearing full orchestra and more intimate chamber music concerts at their school. In the third partnership, classroom teachers were trained to present music education materials, with orchestra members coming six times a year for presentations. These students also attended a concert at the concert hall. The students in Partnerships 1 and 2, with more frequent and more personal contact with orchestra personnel, were significantly more likely to select music as a possible career than those students in Partnership 3. This suggests that personal contact and frequent exposure to a musical type may influence attitude to that music.

Qualitative Investigations of the Affective Domain

Measures of affect, including attitude and preference, can be measured qualitatively as well as quantitatively. Qualitative data collection methods originated in the social sciences and education, and by the mid-1990s, secured a foothold in music education. In her Senior Researcher Award Acceptance Address, Cornelia Yarbrough noted the inclusion of eight qualitative articles in the *Journal of Research in Music Education*, heralding the acceptance of the methodology in the field's flagship journal (Yarbrough, 1996). In an analysis of historical

uses of verbal responses in music research, Rodriguez reported that the recording of children's verbal responses as an affective measure has grown in complexity from adjective checklists, such as Hevner's adjective list (Hevner, 1936) and rating scales, such as the Likert scale and semantic differentials, to open ended short answer questions to complete interview protocols (Rodriguez, 2001). Rodriguez considered the trends in verbal responses to affective measures and noted that, "there has been a trend in recent music research to elicit subject-generated responses to musical stimuli" (p. 59).

A key requirement of any qualitative research is taking steps to ensure that results are valid. John Creswell, a leading scholar on qualitative techniques, describes his stance: "I consider 'validation' in qualitative research to be an attempt to assess the 'accuracy' of the findings, as best described by the researcher and the participants" (Creswell, 2007, pp. 206-207). Possible ways of proving validity include prolonged engagement, triangulation, peer review, negative case analysis, clarifying researcher bias, member checking, rich description, and external audits.

Qualitative techniques are also applicable to program evaluation. Qualitative Action Research has been used as one method of investigating the effectiveness of educational programs and policies (Bresler, 1995). The purpose of action research in music education was described in the *Bulletin of the Council for Research in Music Education* as "not judged on quality of design or statistics. In articles of this type, we are interested in what practitioners feel, doubt, and think about common practices in the field" (Shehan, 1986, p. 51).

A case study approach was applied to the program evaluation of the Arts Can Teach (ACT) program, located north of Boston. This program was a partnership between Boston's Wang Center for the Performing Arts, the Lynn Public Schools, and LynnArts, which "matched

music specialists and teachers in other disciplines with practicing artists for one year partnerships" (Colley, 2008, p. 9). The researcher considered the implementation of the ACT program a success, and identified the following characteristics as evidence of the success of the program: (a) the increased public attention to learning, (b) the support and attention to learning in and through the arts, (c) systemic changes at the "grassroots teacher level," (d) persistent attention to participant satisfaction that led to multi-year participation, (e) high standards among performing artists, and (f) word of mouth as a recruiting tool.

Another piece of published research used the qualitative case study methodology and directly involved opera (Tambling, 1999). The researcher investigated three pieces of Britain's Royal Opera education program. The "Lecture-demonstration" program was thematic in nature, with four professional singers performing musical excerpts from operas that feature quarrels. The "Always believe in…" program was a fully-staged, artist-led production of an operetta that took six months to prepare. The "Write an Opera" program was intended for younger students and was a student-led, full production in two phases: creation and production. Through observations and interviews, Tambling discovered that such partnerships could serve as a bridge for students between the process-oriented school world and the product-oriented professional world. In Tambling's report, she says, "Arts education is about the dialogue between the two" (Tambling, 1999, p.145.). Collaborating with working artists with high artistic standards was a good learning experience for the students. In particular, the experiences where the students performed had the most impact on them, which is not surprising, since the students were invested for a much longer period of time.

Arts Outreach Programs and Cognition

While much concern has been directed toward whether or not people like opera, another issue for opera education programs that is crucial to the effective evaluation of programs is whether or not the performances and curriculum that are being presented are successful in teaching musical content. In the world of educational assessment, this type of information is measured with a cognitive assessment. The word "cognitive" is defined as, "pertaining to such mental abilities as recall, comprehension, problem solving, and synthesis, and the sensing and processing of information" (Payne, 2003, p.567). Few published studies are available that address this issue of cognitive learning with opera education programs specifically, perhaps due to a lack of a standardized instrument for measuring cognition in opera.

In the body of music research, people who are involved in arts outreach believe that learning is taking place. Survey data serves as evidence. A study evaluating an Arts Partnership with the Music Center of Los Angeles featured twelve-week residencies by artists in a variety of arts including Dance, Drama, Music, Visual Arts, and Writing. Researchers found that students, teachers, parents, and performing artists reported an increase in knowledge and skills, self-confidence, and motivation. In addition, the study indicated gains for students in higher-order thinking skills, positive attitudes, communication skills, and socialization skills based on researcher observations (Redfield, 1990). A report of teachers surveyed about participation in Opera Cleveland's *Music! Words! Opera!* program revealed that 85% of teachers believed the program had enhanced students' arts awareness, cognition, and experiences (Opera Cleveland, 2010). While surveys are adequate for measuring perception about learning, they are not sufficient to determine that actual learning has taken place.

Programs featuring live performance may be able to enhance student learning about music in a way that just listening to music alone may not. Geringer, Cassidy, and Byo (1997) found that college students who watched a visual/aural presentation of an orchestra performance had significantly better cognitive scores than did those who experienced the same work in a programmatic visual/aural presentation (*Fantasia*). The researchers postulated that watching the musicians in performance provides subtleties to be observed and interpreted by viewers who then possess a more complex understanding of the musical content. This visual effect was found to have less of an impact on elementary children participating in a similar study. Fourth- and fifth-graders' watched and listened or listened only to the same stimuli as the one previously cited. Children wrote responses to open ended questions asking them to describe the music and respond to Likert scale preference questions for video/audio or audio-only presentations of movements from Beethoven's Sixth Symphony. There were no significant differences found between the video/audio or audio-only treatment groups on either their written descriptions of the music or their preference for the excerpts, However, there was a gender difference, with fourth grade females demonstrating significantly higher preference scores than fourth grade males (Cassidy & Geringer, 1996).

Teaching Methods and Music Cognition

Empirical research does show differences in teaching methods and learning within World Music. One study comparing didactic (lecture) versus heuristic (participatory) instructional methods on the subject of Indonesian Gamelan music for sixth-graders measured both affect and cognition, with the additional consideration of attentiveness. While both groups made gains, students taught with the heuristic method performed significantly better on the Achievement (cognitive) measure. Neither the didactic nor heuristic groups made significant increases in

verbally reported preference, nor did the groups differ significantly from one another. There were significant differences, however, between the didactic and heuristic groups when analyzed for operant preference. The heuristic group chose to listen to Gamelan music longer when given a choice of competing Western Classical and Current Popular music. There were no significant differences in attentiveness between the heuristic and didactic teaching models. A significant moderate relationship was found between operant preference and achievement (Shehan, 1984).

Another investigation of teaching methods compared a socio-cultural approach and a musical approach to multicultural music. Two groups of fifth grade students received six 45-minute lessons. The socio-cultural group focused on the uses of music in the culture from which the music originated. The music concept group focused on the formal elements of the music as the organizing framework. Reponses to two open-ended essay prompts, "I learned that…" and "I learned how to…," measured cognitive learning. Components of student responses were categorized as skill (musical, socio-cultural, or other), knowledge (musical, socio-cultural, or other), or affect (music, socio-cultural, or other). Student responses were more musically-oriented for the musical approach group, and more culturally-oriented for the socio-cultural approach group. One difference between the groups was in the area of affect, where the only negative affective comments were made by the musical approach group (Abril, 2006).

Alternative Assessment Techniques

Though cognition (also known as achievement) in research designs is generally measured with a multiple-choice test for ease of data analysis, graphic organizers are another way to measure student knowledge. Concept maps are "drawings or diagrams showing the mental connections that students make between a major concept…and other concepts" (Criswell & Criswell, 1995, p. 192). In a study of Turkish students who were either assigned to a traditional

learning environment, concept mapping ideas alone, or concept mapping with others, students who participated in concept mapping ideas alone had a better grasp of the learning strategies of selecting, organizing, and elaborating. Students who participated in the traditional learning methods made better use of the learning strategy of memorization. The collaborative mapping group shared the benefits of the solo mapping group, plus affective benefits such as motivation, and academic self-concept, which promoted strategy use (Güvenç & ÜnAçikgöz, 2007). While the scoring of concept maps can be somewhat problematic, one recent study suggests that "concept maps can be used as quantifiable assessment tools with some degree of objectivity" (Francis, 2006, p. 4).

Assessing Both Cognitive and Affective Domains

Very few published studies exist that consider both the affective and cognitive domains with regard to live performance. One study researched the effects of live performance in Dixieland jazz, a genre that, like opera, is unfamiliar to many young students. In this study, Shehan (1986) compared three groups of sixth grade students who saw a professional Dixieland jazz concert in their school. One group watched the concert only, a second group had a preliminary lesson and watched the concert, and a third group had a preliminary lesson, watched the concert, and had a follow-up lesson. They were assessed on an 18-question achievement test and a preference measure with two questions (How much do you like this piece of music? Would you buy a record or tape of this music?) measured on 7-point Likert scales. The musical selections for the preference measure were two Dixieland, two Western Classical, and two Pop music pieces. All the students' scores improved on the achievement test. The students who received the curricular instruction had significantly higher scores on the achievement test than those who saw the concert alone. Preference scores increased slightly for the Concert only and

Concert with Pre-Concert Curriculum conditions, but decreased for the Concert with Pre- and Post-Concert Curriculum. Over-exposure in the course of a week was given as a possible explanation for the decrease.

A School-Young Audience Chapter partnership was the basis for a study that measured the effects of performance and curriculum on attitude and cognition of sixth graders in Saint Louis. The school's music teacher delivered 24 lessons over 12 weeks that were linked to six Young Audience Concerts. The concerts were Jazz, Brass, Percussion, Strings, Opera (Bel canto), and Woodwinds. The four classes of sixth graders experienced four different treatments. Class A participated in the specialized lessons and the concerts. Class B only saw the concerts. Class C only did the specialized lessons, and Class D served as a control group. All of the students were given identical pretests and posttests over music cognition and attitude. At the conclusion of the 12 weeks, the results of the cognitive tests showed that the subjects, who had the specialized lessons (Groups A and C), outperformed their counterparts who did not have the lessons. Those who saw the concerts (Group B), significantly outperformed the control group. The results of the attitude test showed that only Group A had a significant increase in attitude score. Each of the other three groups had a negative change in attitude score. The researcher concluded that Young Audience Concerts had more impact on the students when they were combined with a related curriculum (Milak, 1972).

Summary of Literature

In summary, arts funding is diminishing, both within and outside the schools. Opera, though an economic and cultural phenomenon with links to many desirable lifestyle factors, faces possible extinction. Youth is a pivotal time for introducing opera exposure and training at a young age is a predictor of future patronage of a particular musical style. As a result, opera

education programs must have a focused purpose and then be successful in achieving that purpose in order to perpetuate the art form.

The body of existing research indicates that familiarity and formal education influence preference and attitude. Music partnerships with schools have demonstrated that more face time with teaching artists makes the experience more meaningful. Trends in research indicate that qualitative methods are a necessary part of a comprehensive investigation of affective response. An affective measure alone is not sufficient for a true program evaluation. Cognitive understanding must also be measured for the results to be of value to the education community. Participatory teaching methods appear to yield better cognitive test results than lecture teaching methods. Alternative assessment methods to the multiple choice test should be considered.

Few studies consider both affective and cognitive domains with regard to live performance, and none exist that solely focus on opera performance in the affective and cognitive domains. Therefore, the purpose of this study is to compare changes in cognition and attitude as a result of opera performance, lessons, and an opera creative experience.

The research questions to be answered in this study are: Do opera live performances and related curricula have an effect on music learning (cognition)? Do opera live performances and related curricula have an effect on attitude toward opera? Is there a relationship between a cognitive understanding of opera and attitude toward opera? What are some of the factors that influence attitude toward opera?

CHAPTER 3

METHOD AND MATERIALS

Participants

The participants for this study were fifth-graders from public elementary schools in a mid-sized Southern city. Elementary schools were selected because they had comparable standardized test scores and demographics. Controlling for these demographics was important given the results of a study by Shaw and Tomcala (1976) that compared the results of a music attitude survey of inner city students to that of suburban students. The inner city students had significantly higher attitude scores than the suburban students on the array of statements relating to types of music and music instruction. Each campus had a full-time certified music teacher, and agreed to host a performance by a university-sponsored educational opera touring troupe. Table 1 compares test scores and other demographic data from these schools. All three schools have high percentages of minority students, as well as high percentages of students classified as low socio-economic status. Lower socio-economic schools were selected because the students were the least likely to have previous opera exposure. In addition, all three schools were in the bottom half of the district's public schools in standardized test performance.

Research indicates that from the first to the sixth grade, students' overall music preference scores decline (Byrnes, 1997; LeBlanc, Sims, Siivola, & Obert, 1996). This means that as they approach the middle school years, students seem to enjoy all types of music less than they did when they were in early elementary school. Subsequently, scores remain low until after high school. This implies that elementary school may be the perfect time to introduce new genres of music before students make a narrow commitment to a musical "type" around the middle school years. Fifth-graders were selected for the present study because they are at an age

that frequently has been targeted by opera education programs (Sims, 1992). Furthermore, fifth-graders have more flexible schedules because they are not required to take the major state assessment in the spring. Public school students were preferred over private school students because, in the area from which the sample was drawn, they were less likely to have previous exposure to opera programming. Similarly, campuses with a high percentage of low socio-economic status students were selected because they were less likely to have previous exposure to opera programming.

Table 1

Test Scores and Demographics of Participating Schools

	Test Scores – % Students Passing		Demographics - % of Student Body	
School	Reading	Math	Free/Reduced Lunch	Minorities
School 1 (P)	43	50	82	87.3
School 2 (LP)	61	59	89.5	89.5
School 3 (LPC)	46	62	88.6	91.3

Source: Louisiana Department of Education, 2010

In order to be eligible for participation, the students had to be in fifth grade at a participating school and participate in all the components of the treatment. The total number of participants was 108. The three schools were randomly assigned to a treatment condition. All of the students at the same school received the same treatment. Schools will be referred to by their treatment conditions: **P**erformance Only (P), Preliminary **L**essons and **P**erformance (LP), and Preliminary **L**essons, **P**erformance, and **C**reative Experience (LPC).

Before beginning the collection of data to use for this published research, the appropriate form was submitted to the University's Institutional Review Board and an exemption from oversight was granted. IRB-approved permission forms were secured from the parents of the students as well as assent forms from the students to use their data for the purpose of this study (See Appendix A). Students were rewarded with a small candy bar for the return of their permission forms. No demographic information was collected about the students. No academic records were collected about the students and there were no exclusions made for academic ability.

Campuses were matched by demographic information and standardized test scores. Campuses were not matched on the basis of size, and each campus had a different arrangement of fifth-graders. The P campus had two small classes of fifth-graders. The LP campus had three very large classes of fifth-graders, and the LPC campus had four medium-sized classes of fifth-graders. The rate of student participation by treatment condition can be found in Table 2. Upon scheduling with the LPC campus, before any portion of the treatment began, it was determined that one of the four classes, which met on Friday, would not be eligible for study participation because of various Friday holidays during the treatment period. Those 23 students did receive some portions of the treatment. Not surprisingly, the longer the treatment process at a campus, the more students were excluded due to absence.

Treatment Components

In order to look at the effect of in-school opera performance and related curriculum on music cognition and attitude, participants at each school received a different treatment, with control achieved through the use of opera Cognitive and Attitude pre-tests. The three components of the treatments were an In-School Live Opera **P**erformance (P), Pre-Performance

Opera Education **L**essons (L), and a Post-Performance Opera **C**reative Experience (C). These treatment conditions were additive. This three-group, additive design mirrors Shehan's (1986) design of treatment groups for Dixieland Jazz performance: pre-performance lessons, live performance, and post-performance lessons. The difference is that the post-performance activity in the present study was focused on a creative process, as opposed to additional expositional lessons. In addition, I heeded Shehan's warning about packing too much information into one week, and the treatment components were administered once a week over several weeks whenever possible.

Table 2

Participation Rate by Treatment

Treatment	N	Returned Forms	Completed All Treatment	Final N
P	35	74%	69%	24
LP	102	59%	49%	50
LPC	73 (+23)*	63%	47%	34

*23 students at the LPC school received some parts of the treatment, but were ineligible for study participation because of excessive scheduling conflicts.

The In-School Live Opera Performance (P) was performed at all three schools. In-school live opera performance is the most popular type of education programming for American professional opera companies (Baker, 2010). It was presented by an established educational opera touring troupe from a large Southern university. The performers, selected by competitive audition, were primarily undergraduate vocal performance and music education majors. The group was directed by a university faculty member whose credentials include performing

experience with professional opera education touring troupes. A professional pianist provided the orchestral accompaniment. Although double-casting of roles is typical in this group, one cast performed for all three participating schools to maintain experimental control. The cast was ethnically diverse. Previous research indicates that African American students prefer music that is performed by African American performers (McCrary, 1993; Morrison, 1998).

The musical work that the troupe performed was a 45-minute adaptation of *The Elixir of Love* by Gaetano Donizetti. The performance was in English, with a libretto adapted by Diane Garton Edie and a score adapted by William Lutes. This production belongs to the Wisconsin-based Opera for the Young (Opera for the Young, n.d.). Each year since 1970, Opera for the Young has toured the Midwest with their adaptations of "seminal operatic works." They are a company that is dedicated to elementary school performances, and have received excellent reviews and endorsements for their work, including repeated selection for National Endowment for the Arts Grants (Opera for the Young, n.d.). Among the professional opera companies that use their materials are Tulsa Opera and Atlanta Opera.

This version of *The Elixir of Love* was set in the Old West. While it is possible to perform this adaptation with only four principal cast members, choristers rounded out the cast for a total of fourteen players. The set comprised heavy-duty hinged flats that were painted to look like a Hotel, a Mercantile, and a desert background. The props were a combination of store-bought and homemade, and ranged from a three tier wedding cake, to bottled root beer, to large cacti cut from foam. The costumes were the performers own creations of plaid shirts and jeans, or floral print dresses, and boots. Accessories provided by the director, cowboy hats and bandanas, made the look of the costumes more unified. The two military costumes were special ordered from a theatre supply company for the performance.

The performances were held in the most suitable performance space available. In two venues (P and LPC), the performers were on a stage. In the third (LP), there was a stage present, but it was full of furniture from being used as teacher offices, so the performance was done on the floor in front of the stage. Two venues (P and LP) had upright pianos for the accompanist, but one venue (LPC) required that the troupe bring an electric keyboard. In two venues (P and LP), students sat in chairs or at tables, while at one venue (LPC), students were seated on the floor.

The performance was energetically executed by the undergraduate performers. Standard arias, duets, and choruses from the Donizetti classic opera, all performed in English, were linked together by brief dialogues that took the place of much of the original recitative. The performance was fully staged, with the performers expressively acting out each scene in the opera. The performers made eye contact with the students during asides and other comical moments, cultivating a more personal performing experience than a typical opera house performance. The story was about a young man, Jimmy, who was in love with his dear friend, Addy. Tired of waiting for Jimmy to confess his feelings, Addy accepted a proposal from a handsome visiting military officer, Billy, in the hopes that Jimmy would be compelled to finally confess his feelings. A traveling salesman, Dr. Dulc, came to town selling a high-priced "magical" elixir, actually ordinary root beer, which would help give Jimmy the courage that he needed to confess his feelings. Jimmy joined the Army to get the money to buy the elixir, while Addy had to escape from the wedding she agreed to so that Jimmy would rescue her. All ended happily as Jimmy finally confessed his feelings for Addy and got out of his Army contract. The final chorus broke out into a line dance to the refrain, "Here's to love and Dulcamara. If we live to be 100, we'll be grateful to the end" (Edie, 2009, p. 19).

The second component of treatment, pre-performance expositional lessons (L), was presented to students at two of the three schools. The lessons, developed by the researcher, grew out of a comprehensive study of professional opera companies' curricular materials that accompany live performances and are available through their websites (Baker, 2010). A pilot study with 14 fifth-graders in a school with similar demographics to the schools in the present study provided first-hand experience with the curriculum. Pilot lessons were administered over three consecutive music class periods, just as they were administered at the treatments schools. The materials were revised after the pilot study to better fit into the 30-minute time slot. PowerPoint presentations were made for each lesson to further standardize delivery. The researcher taught the lessons to achieve control over the variable of teacher delivery. The complete lesson plan outlines, including formative assessments, can be found in Appendix B.

The first lesson was called "Opera 101" and used lecture and participatory activities to explore the definitions of opera, score, libretto, composer, librettist, and synopsis. These vocabulary terms are used extensively in professional opera curricular materials and meet the Louisiana Content Standards, Benchmarks, and Foundation Skills, "Understand and apply expanded music vocabulary to describe aesthetic qualities of musical compositions," and "Describe careers for musicians and compare the role of musicians in various cultures" (Louisiana Department of Education, 2004). It was designed to serve as an introduction to opera in general, but specifically to introduce *The Elixir of Love*. A simple, six-word crossword puzzle served as the formative assessment for this lesson.

The second lesson was called "Voices of Opera" and focused on listening to musical examples to gain understanding of the vocabulary words Soprano, Mezzo-soprano, Tenor, Bass, Aria, Duet, Chorus, and vibrato. The term "vibrato" was added as a result of some student

questions during the pilot study. These terms are used extensively in professional opera education materials and meet Louisiana Benchmarks "Understand and apply expanded music vocabulary to describe aesthetic qualities of musical compositions," "Identify distinguishing characteristics of musical styles representative of various historical periods and cultures," and "Identify major works of great composers and recognize achievements of prominent musicians" (Louisiana Department of Education, 2004). Musical excerpts used were representative of the ten most performed operas (OPERA America, 2010), were chosen for being clear examples of the categorical vocabulary terms and, where applicable, had been used before in research (Madsen & Geringer, 2008). A seven-question listening activity served as the formative assessment for this lesson.

The third lesson was called "Careers in Opera" and was a thorough exploration of many of the people it takes to mount a full-scale opera. Hostetter (1979) suggested that non-musical aspects of opera performance such as set, costumes, lighting, makeup, and staging are "highly important" in teaching about the art of opera. A consideration of opera careers met both the previously stated need and the Louisiana Benchmark for Grades 5-8, "Describe careers for musicians" (Louisiana Department of Education, 2004). A group assessment for this lesson was a matching game in which students had to match a part of a job description to the person who would be responsible for that job. As a result of the pilot study, a possible individual writing assignment about opera careers was removed because some of the students seemed to really struggle with the academic skills involved, and it was not necessary to assess student understanding of the careers. In the last part of the lesson, rules for audience etiquette were taught. This aligned with Louisiana Benchmark "Demonstrate and discuss behavior appropriate

for various musical environments" (Louisiana Department of Education, 2004) and was assessed individually by checklist worksheets.

The third component of treatment was the Opera Creative Experience (C), presented along with the previous two components to participants at one school. This component was a simplified adaptation of the creative experiences originated through OPERA America's *Music! Words! Opera!* Create and Produce program and Washington National Opera's *Creating Original Opera* curriculum. The *Music! Words! Opera!* program is a comprehensive curricular study of opera using well-known works as the vehicles for study. The creative component in this program is designed for high school students to be involved in every aspect of the creation and production of an original operatic work (OPERA America, *Music! Words! Opera!*, n.d.). The *Creating Original Opera* curriculum (now under the umbrella program *Kids Create Opera*) was designed by Bruce Taylor at the Metropolitan Opera and is currently owned by Washington National Opera (Washington National Opera, *Kids Create Opera*, n.d.). In this program, students spend hundreds of hours over the course of an entire school year or semester working on every aspect of an opera, from composing the music to playing instruments and working on the set, props, and costumes. In this adaptation for research purposes, the finished product had to be "performance ready" by the fifth class period, so many shortcuts were taken. I was assisted in adapting the curriculum by a local teacher who annually produces a full-scale opera with the *Creating Original Opera* curriculum. Instead of a truly original opera, with an original libretto and score, it was a "Choose Your Own Opera," in which some elements were chosen from pre-existing ideas, while other elements were original.

During the first lesson, students began with a theme, characters, and a conflict. Out of a group of two possible themes: Friendship and Moving On, the students voted for Friendship.

The students brainstormed possible conflicts and voted for their favorite, which was "Jocks vs. Nerds." To keep within time constraints, each of the three classes prepared only one song. A story board was created, and one class took on the character introduction, another class wrote the song for the conflict, and the third class wrote the song for the resolution. Independently, each class decided to perform its song as a chorus, instead of as an aria or duet. By student vote, one student in each class served as the leader of the musical portion of the presentation (the "Conductor"), and another student as leader of the technical part of the presentation (the "Stage Director").

In the second lesson, the students voted on popular songs that a majority of the students knew as the source for melodies. Students split into groups, headed by the Conductor and Stage Director, to work on writing lyrics and designing technical elements. The musical group used a recording of the song and a lyric sheet as a starting place for constructing new lyrics. Each of the three classes was given a primary responsibility for technical purposes. The first class was in charge of set, the second class was in charge of props, and the third class was in charge of costumes. Within the second lesson, technical workers drew designs and made lists of needed supplies. In the third lesson, the students continued to work in groups on the lyrics and technical elements. I checked in with the lyrics groups and provided some ideas where students were stuck. Prior to the third class meeting, I looked over the sketches and materials lists from the technical groups and selected doable options for each class. I provided materials and simple instructions for completing the tasks.

In the fourth lesson, cue cards were constructed with the lyrics to each song. The researcher downloaded background tracks for each song prior to the class meeting. Most classes were not able to do an entire three to five minute song, and instead prepared only the first verse

and chorus. By the end of the fourth lesson, there was a full run-through of the song while the set, props, and costume crew completed the final touches. The props crew ended up having to work on the set to ensure that it would be complete in time for the performance.

In the fifth class, a final rehearsal was run, and then the product was mounted to audience of the remaining fifth-graders. The audience consisted of students whose jobs were primarily technical as well as the additional class at the LPC school that received some portions of treatment, but did not participate in the Creative project due to excessive scheduling conflicts. Classroom teachers and the music teacher were also in attendance for the culminating performance.

The time commitment from the public schools was dependent on treatment condition. In condition P, 30 minutes were needed for the pre-tests, 45 minutes for live performance, and 30-45 minutes for post-tests. In condition LP, 30 minutes were needed for pre-tests, 90 minutes (30 minutes x 3 lessons) for curricular instruction, 45 minutes for live performance, and 30-45 minutes for post-tests. In condition LPC, 30 minutes were needed for pre-tests, 90 minutes (30 minutes x 3 lessons) for curricular instruction, 45 minutes for live performance, 150 minutes (30 minutes x 5 lessons) for creative experience instruction and performance, and 30-45 minutes for post-tests.

Data Collection

Data for the dependent variable, Music Cognition, were gathered with a researcher-developed instrument. The original Opera Cognitive Exam consisted of fifteen multiple-choice questions. The exam was revised after a pilot test of 20 third through seventh grade students at a local fine arts academy revealed a lower than desirable Cronbach's Alpha (.741). One question that asked about the opera vocabulary word, "duet," was removed because it had a zero

discrimination score. Likely, the students were familiar with the word from other contexts. The multiple-choice questions were based on the vocabulary and topics that are most frequently addressed in opera education curricula (Baker, 2010) and also were aligned with the lessons.

After the pilot testing, seven listening-based questions were added to conform to question types in the National Assessment of Educational Progress (NAEP) Music test data. According to the NAEP, "To learn about what students knew about music, it was important to present quality musical performance music for students to listen to" (National Assessment of Educational Progress, 2003). There were seven listening examples taken from the ten most popular operas (OPERA America, 2010) that were characteristic representations of soprano, mezzo-soprano, tenor, bass, aria, duet, and chorus. The listening examples ranged in duration from 20-40 seconds. Each of the excerpts consisted of a complete musical thought, which is why there was some variation in duration. Students were asked to select the voice type or type of musical selection that best described what they were hearing.

An open-ended, concept map question was also added after the pilot testing to allow students to demonstrate knowledge they might have gained that is not easily demonstrated in the multiple-choice assessment. This assessment strategy was recommended by Brophy in his book, *Assessing the Developing Child Musician: A Guide for General Music Teachers* (2000, p. 279). In this format, opera is listed as a central topic, and students are encouraged to connect sub-topics and related details to the central topic. An example using "Pizza" as a central topic was given to provide students with an idea for what was to be expected, but all of the students had been exposed to this type of graphic organizer in their classes previously. The complete revised, formatted Cognitive Exam is in Appendix C.

Data for the dependent variable, Music Attitude, were collected with an instrument that required students to respond to questions using a Likert-type scale. Many previous studies designed for elementary-age children have used numerical Likert scales (LeBlanc, 1979, 1981, 1983; LeBlanc & Sherrill, 1986; LeBlanc et al., 1996). The response sheet was created as a synthesis of two instruments used in previous attitude research. The questions yielding numeric data from Opera Attitude Scale were a synthesis of an attitude scale created by Sims (1992) and an affective survey used by Cassidy and Geringer (1996). The first four questions were taken from Sims (1992): How fun do you think opera is? How interesting do you think opera is? How talented do you think opera singers are? How beautiful do you think opera singing is? On these questions, students were asked to circle a number between 1 and 7 on Likert-type scales. The answers for the four questions were anchored by the terms Most Fun/Least Fun, Most Interesting/Least Interesting, Most Talented/Least Talented, and Most Beautiful/Least Beautiful. The next four questions were adapted from Cassidy and Geringer (1996): Would you like to attend an opera? Would you like to listen to opera music? Would you like to sing in an opera someday? Would you download tracks of opera music? These four questions were set up on 7-point Likert-type scales, but instead of numeric representations, students were given simple written options that converted to points: Really like to (7), Like to (6), Might want to (5), Don't care (4), Will if I have to (3), Don't really want to (2), and Don't ever want to (1).

The Likert scale was investigated with pilot testing on 20 third to seventh grade students from a local performing arts academy. These were the same students who pilot tested the cognitive assessment. Data from this pilot investigation revealed a high Cronbach's Alpha (.865). The formatted assessment is available in Appendix D. As a result of the pilot testing, I clarified the directions on the first four questions to emphasize "Circle the number that best

describes your answer." I also decided to read the directions aloud. This adjustment was needed because a few students circled the text to the left or right of the numbers instead of the numbers.

A few open-ended questions requiring short written responses in addition to the Likert scale responses served as the basis for choosing students with diverse opinions for more in-depth qualitative analysis. On the preliminary assessment, all participants were asked: Have you ever seen an opera before? If so, where and when? What do you think about opera? On the post-assessment, there were some additional questions for all of the students: What was your favorite part of this opera experience? What was your least favorite part of this opera experience? Has this experience made you think differently about opera? If so, how? Do you have any other comments about opera?

One of the questions supporting this research project was "What are some of the factors that influence student attitude toward opera?" In their chapter "The Evaluation of Arts Partnerships and Learning In and Through the Arts," in *The New Handbook of Research on Music Teaching and Learning* (2002), authors Abeles, Hafeli, Horowitz, and Burton advocate a "multiple perspectives" approach including qualitative methods in which a complete research picture is acquired (p.937). The question of factors influencing student attitude toward opera is one that can be addressed through the rich data generated by qualitative means. Short (5-10 minute), individual, semi-structured interviews were the main source of information to support this research question.

Ten students from each participating campus were chosen through purposeful sampling. Students on each campus were chosen for what Creswell (2007) describes as "maximum variation" in sampling. Students representing diverse opinions about opera were selected for interview in order to identify patterns in attitudes about opera. Through the semi-structured

interview protocol (see Appendix E), data were collected that gave an indication of students' opinions about opera and why they felt that way. The interview began by asking the student to identify her/his favorite type of music and tell why s/he liked it. Then, I asked the student's opinion of opera and what s/he thought of the opera performance that came to the school. Next, there were a few questions aimed at discovering student perceptions of what influential people (peers, parents, teachers) think about opera and whether that had any bearing on his/her attitude toward opera. Finally, the student was asked what could be changed about opera to make him/her like it more, and the student was given an opportunity to say anything else on his/her mind. The students answered these interview questions individually in meetings with the investigator, and each interview lasted approximately five minutes. The interviews were recorded on a digital audio recorder and saved to computer hard drive and audio CD for archival.

Procedures

Because circumstances varied from school to school, I brought all equipment and materials that were needed for each part of the process. Copies of assessments, sharpened pencils, a laptop computer equipped with PowerPoint, a projector, an extension cord, speakers, as well as costume, prop, and set supplies for the creative experience were all brought to the schools. All of the equipment and materials needed for the live performance were provided by the touring troupe director.

Other than the live opera performance, which was limited by availability of the performers, all of the curricular and creative components took place during the students' regular music class time. Each school's fifth grade music classes met once a week for thirty minutes. Two weeks in the spring semester were not available for instruction: the week of mandated standardized testing and the week of Spring Break. Aside from those two unavoidable

interruptions, all content was delivered in consecutive music classes. The ten individual student interviews at each school were conducted after the post-assessments had been completed at a time that was convenient for the student and the school. These interviews were conducted within one week after the post-assessments were administered.

The Lessons, Performance, and Creative Experience School had an eleven session presentation. Session 1 was the pretests, Sessions 2-4 were the opera curricular presentation, Session 5 was the live performance, Sessions 6-10 were the creative experience, and Session 11 was the posttests. Standardized testing fell after the live performance, and Spring Break fell after the first creative experience session. The Lessons and Performance School had a six session presentation. Session 1 was the pretests, Sessions 2-4 were the curricular presentation, Session 5 was the live performance, and Session 6 was the posttests. Standardized testing fell between Sessions 3 and 4, in the middle of the curricular presentation, and Spring Break fell after the last curricular lesson and before the live performance. The Performance Only School had only three sessions. Session 1 was the pretests, Session 2 was the live performance, and Session 3 was the posttests. Due to the late dates of the performance at this school and limited number of sessions, there was no interruption from standardized testing or Spring Break. Table 3 shows a simplified calendar of treatment administration.

Pretest and Posttests were kept in hard copy form. For the schools that participated in the opera education lessons, copies of the students' formative assessments were kept to document attendance at the lessons. Digital videos of all opera education lessons and creative experiences were made and archived, except for a few lessons where the video camera malfunctioned.

Data Preparation

Cognitive Pretest and Posttest multiple choice answers were entered into an Excel spreadsheet, after which I created a Right/Wrong Matrix in Excel to convert the letter data into numerical data. A right answer received 1 point, while a wrong answer received 0 points. These scores were used in multiple statistical analyses on the raw numerical data using SPSS 19 (IBM Corporation, 2010).

Table 3
Calendar of Treatment Administration by School

Week of 2011	P	LP	LPC
March 14-18			Pretest
March 21-25		Pretest	Lesson 1
March 28-April 1		Lesson 1	Lesson 2
April 4-8		Lesson 2	Lesson 3 LOOP Performance
April 11-15	----------STATE TESTING----------		
April 18-22		Lesson 3	Creative 1
April 25-29	----------SPRING BREAK----------		
May 2-6	Pretest LOOP Performance	LOOP Performance	Creative 2
May 9-13	Posttest	Posttest	Creative 3
May 16-20	Interviews	Interviews	Creative 4
May 23-27			Creative 5 Posttest Interviews

For the Concept Map portion of the Cognitive exam, I analyzed the data using a technique suggested by Todd (2011). First, I created a Master Map (see Figure 1). Next, I awarded student maps 1 point for each item that matched an item on the Master Map. Then, I awarded student maps 1 point for each connection between items that matched the Master Map. After that, I deducted 1 point for any item that was on the student map, but was wrong or misleading. Then, I deducted 1 point for any wrong or misleading connections. Affective comments did not add or subtract points. Total pretest and posttest scores were added and entered into Excel, then imported into SPSS for analysis.

For the Attitude measurement, Likert scores from the Pretest and Posttest were entered into an Excel spreadsheet. The raw data were then imported into SPSS for further analysis. It is important to note that there is a long-standing historical precedent for using parametric analyses on test scores and Likert scores, even though some statisticians argue that these types of data do not rise to the standards of interval level of management.

The qualitative data were prepared by transcribing all interviews into Microsoft Word. Then, I read the transcripts carefully and made notes in the margins and began the process of open coding (Creswell, 2007). After the open coding phase was complete, I organized the subthemes into three overarching themes using an organizational graphic. I then applied closed coding of all of the transcripts for the three overarching themes. Next, I created a quote database, in which student responses were organized by theme and sub-theme. I validated results via triangulation (Creswell, 2007), comparing interview responses to open-ended attitude written survey responses and Likert ratings.

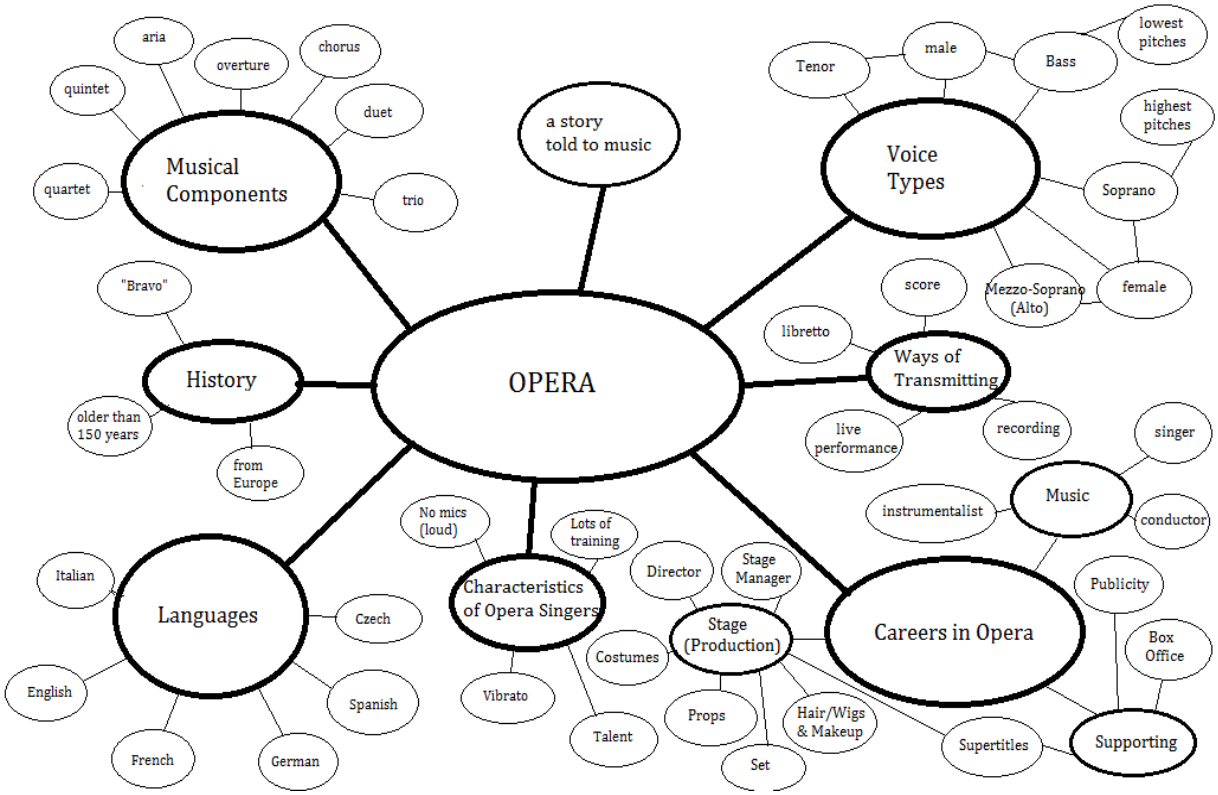


Figure 1. Master concept map for cognitive assessment.

CHAPTER 4

RESULTS

The guiding research questions for this study were: Do opera live performances and related curricula have an effect on music learning (cognition)? Do opera live performances and related curricula have an effect on attitude toward opera? Is there a relationship between a cognitive understanding of opera and attitude toward opera? What are some of the factors that influence attitude toward opera?

In order to answer these questions, three comparable schools were presented with three different treatments. The students at the first school watched a live opera performance (P), the students at the second school were taught three lessons about opera in addition to watching the opera performance (LP), and the students at the third school were taught the lessons, watched the performance, and created their own version of an opera (LPC). This research paradigm allowed statistical isolation of variables that might influence student behavior. The students at each school were assessed with pretests and posttests in the areas of Cognition and Attitude. In addition, qualitative data about attitude were collected though individual interviews with ten students from each school.

The cognitive measure used was a twenty question, multiple-choice test. The tests were administered both before and after treatment. I entered the letter answers for the multiple choice questions into Microsoft Excel and then created a Right/Wrong matrix to convert the letter responses into numerical data. These numbers were then imported into SPSS Version 19 (IBM Corporation, 2010) for further analyses. Pretest and Posttest means (out of a possible 20 points) and standard deviations are reported in Table 4.

Table 4

Cognitive Measure Pretest and Posttest Means and Standard Deviations by Treatment Group

	Pretest		Posttest	
Treatment	*M*	*sd*	*M*	*sd*
P (n = 24)	9.58	3.78	10.38	3.19
LP (n = 50)	11.52	3.38	15.02	3.53
LPC (n = 34)	10.71	2.97	14.29	3.22

An ANCOVA analysis was used to compare post-test scores from all three schools with the pretest scores as a co-variate. Results of the ANCOVA were significant [F (2, 104) = 12.98, $p < .001$]. A measure of effect size of the treatment condition, partial eta squared, was .20. Pairwise comparisons revealed that the Performance-only group differed significantly from both the LP ($p < .001$) and LPC ($p < .001$), though there were no significant differences between LP and LPC ($p = .571$). Results indicate that students who received more than just the live performance performed significantly better on an opera cognitive measure.

An item analysis was conducted in Excel on the cognitive pretest and post-test to determine item facility, item discrimination, and reliability. Cronbach's Alpha on the pretest was .65 and on the post-test was .71. Table 5 contains the item facility and discrimination for the P, LP, and LPC schools on the pretest and post-test, organized by test question.

In most instances, on the first thirteen questions, each of the groups showed improvement from the pretest to the post-test. However, the LP and LPC groups' facility scores from the pretest to the post-test show bigger improvements. On Question 4, which asked students to identify a stage item not usually found onstage in an opera, the LPC group decreased in both

facility and discrimination scores. On their Creative project, a microphone was used for one class that sang very softly on the final performance, so that could have been a source of confusion for some students. On Question 5, the LP group had an increase in facility score, but a negative discrimination score. It is possible that the students who were really attentive to the live performance noticed that the performers did not have to sing in foreign languages in their performance, even though the Lesson content emphasized foreign languages. On Question 7, there was a slight decrease in the LP group's facility score, about the definition of "aria," but an increase in discrimination score indicates that students actually knew the answer instead of guessing it correctly. On Questions 9, 11 and 13, the LPC group had slight decreases in facility scores with no or slight improvement in discrimination scores. These were vocabulary questions about the words "soprano," "vibrato," and "score." On Question 9, the P group also posted a slight decrease in facility score.

In Questions 14 through 20, the differences in the 3 groups are much more evident. The P group lost ground on the facility scores on five of the seven questions and remained the same on the other two questions. The LP group posted gains in facility score on all but one question and increased discrimination scores on four of the seven questions. The LPC group gained facility scores on three questions and lost facility scores on four questions and the LPC low discrimination scores on the posttest might indicate that students were just guessing. The lessons, which featured listening examples, were taught closer to the date of the posttest than for the LPC group, which might explain some of the differences.

Table 5

Cognitive Measure Pretest and Posttest Item Facility and Item Discrimination by Treatment Group and Test Question

	Pretest						Posttest					
	P		LP		LPC		P		LP		LPC	
Question	Fac.	Dis.	Fac.	Dis.	Fac.	Dis.	Fac.	Dis.	Fac.	Dis.	Fac.	Dis.
1. Which of the following is not a voice type for opera singers? (vibrato)	.33	.00	.34	.24	.18	.18	.38	.38	.72	.35	.68	.09
2. Opera began on which continent? (Europe)	.54	.75	.72	.47	.56	.27	.63	.50	.92	.12	.74	.18
3. How long has opera existed? (more than 150 years)	.25	.00	.38	.00	.26	.09	.42	-.13	.62	.41	.41	.27
4. Which of the following stage items is usually NOT found in an opera? (microphones)	.58	.63	.62	.47	.88	.27	.79	.38	.96	.12	.76	.18
5. An important skill opera singers need is the ability to: (sing in foreign languages)	.33	.50	.62	.06	.50	.00	.50	.38	.96	-.06	.62	.18
6. Another word for aria is: (solo)	.21	.50	.50	.41	.32	.64	.21	.63	.56	.47	.41	.36
7. In opera, an aria is a: (song for one person to sing alone)	.13	.00	.56	.35	.24	.36	.21	.50	.54	.53	.41	.18
8. A simple definition for opera is: (a story told to music)	.83	.13	.82	.41	.97	.09	.88	.25	1.0	.00	.85	.09
9. The voice type that sings the highest pitches in opera is: (soprano)	.50	.50	.60	.71	.59	.27	.42	.38	.68	.71	.59	.09
10. Opera singers do not need microphones because: (they can sing very loud)	.79	.38	.92	.12	.85	.18	1.0	.00	1.0	.00	.88	.09

(continued)

Question	Pretest						Posttest					
	P		LP		LPC		P		LP		LPC	
	Fac.	Dis.	Fac.	Dis.	Fac.	Dis.	Fac.	Dis.	Fac.	Dis.	Fac.	Dis.
11. The "shaking" sound in an opera singer's voice is called: (vibrato)	.38	.75	.64	.47	.82	.18	.54	-.13	.68	.41	.68	.18
12. All the words of an opera make up the: (libretto)	.46	.50	.42	.47	.53	.36	.46	.00	.66	.59	.59	.73
13. The printed music notes of an opera are found in the: (score)	.50	.75	.54	.18	.65	.55	.71	.00	.82	.18	.47	.55
14. The person who is singing this example could best be described by which voice type? (Tenor)	.33	.63	.42	.47	.29	.18	.29	.63	.58	.82	.41	.18
15. The person who is singing this example could best be described by which voice type? (Mezzo-soprano)	.38	.38	.46	.18	.38	.45	.25	.50	.70	.41	.26	.00
16. The person who is singing this example could best be described by which voice type? (Bass)	.63	.50	.52	.59	.68	.45	.42	.75	.72	.41	.53	-.09
17. The person who is singing this example could best be described by which voice type? (Soprano)	.54	.50	.56	.76	.35	.27	.46	.63	.72	.41	.53	.00
18. This musical example would be called which of the following parts of an opera? (Aria)	.79	.38	.76	.18	.56	.55	.79	.38	.74	.65	.71	.09
19. This musical example would be called which of the following parts of an opera? (Chorus)	.75	.50	.62	.06	.65	.27	.71	.50	.74	.53	.53	.09
20. This musical example would be called which of the following parts of an opera? (Duet)	.33	-.13	.52	.41	.45	.45	.33	.00	.70	.41	.41	.00

The Concept Map was a separate way of measuring cognitive learning. Students' pretest and post-test responses were compared to a master map (See Figure 1 in Methods Section). The Master Map contained 113 possible points. The lowest student score was -1 and the highest student score was 30. An ANCOVA analysis was used to compare the results of the three treatments with the variance accounted for by the pretest partitioned out. The results were statistically significant [F (2, 104) = 3.288, p = .041]. The effect size, partial eta squared, was .059. Pairwise comparisons revealed that the significant difference was between P and LP (p = .024). Differences between P and LPC, and LP and LPC were not significant (p > .05). Means and standard deviations on the pretest and posttest can be seen in Table 6. The high standard deviations indicate a wide range of ability in doing this task.

Table 6

Concept Map Pretest and Posttest Means and Standard Deviations by Treatment Group

	Pretest		Posttest	
Treatment	*M*	*sd*	*M*	*sd*
P (n = 24)	3.17	3.77	4.75	4.75
LP (n = 50)	3.86	4.48	8.56	8.10
LPC (n = 34)	3.97	3.44	6.21	4.35

Student attitude was measured using an eight-question Likert-type assessment, with possible scores ranging from 1 (most negative) to 7 (most positive) on each question. Pretest and posttest means (out of a possible 56 points) and standard deviations for the Attitude measure are

presented in Table 7. An ANCOVA was performed to measure the effect of the treatment while partitioning the variance accounted for by the pretest. The results were statistically significant [F (2, 104) = 9.535, p < .001]. The measure of effect size, partial eta squared, was .155. Pairwise comparisons revealed significant differences at each level, between P and LP (p < .001), between LP and LPC (p = .023), and between P and LPC (p = .043). From this Table, it is evident that the LP group experienced the largest increase in attitude score through the treatment process. They began with the lowest attitude score of the three schools on the Pretest, and ended with the highest attitude score on the Posttest. The LPC group made a small gain, and the P group lost one point for a mean score of 28.71, which, at the conclusion of treatment, places them below the neutral attitude midpoint of 32. Overall, even though there were improvements at the LP and LPC schools, the attitude scores are still fairly low, barely crossing the neutral midpoint.

Table 7

Attitude Measure Pretest and Posttest Means and Standard Deviations by Treatment Group

	Pretest		Posttest	
Treatment	*M*	*sd*	*M*	*sd*
P (n = 24)	29.71	10.82	28.71	11.24
LP (n = 50)	27.78	11.10	37.06	12.02
LPC (n = 34)	32.18	12.49	35.26	11.67

Each question on the Attitude assessment was analyzed by treatment on the pretest and posttest. Students scored each item between 1 and 7 with a score of 4 indicating neutrality.

Figures 2-9 show the results of this comparison. The P group demonstrated a decrease in attitude scores on 5 of the 8 questions. The LP group posted an increase on every question, and the LPC group had a decrease on 2 of the 8 questions. Interestingly, the single largest increase on a question was by the LPC group on the question, "How fun do you think opera is?" They moved from 3.60 to 5.17 for an increase of 1.57 points. Across the board, scores on the final three questions (Would you like to listen to opera music? Would you like to sing in an opera someday? Would you download tracks of opera music?) were low and the single largest decrease was by the P group, losing .92 points on "Would you like to listen to opera music?" Across the board, the highest scores were posted on the question "How talented do you think opera singers are?" This finding is consistent with Sims' (1992) study that contained the same question.

The relationship between cognitive understanding of opera and attitude toward opera was assessed using a Pearson product-moment coefficient between the posttest data from the Cognitive and Attitude assessments. The results were significant ($r = .371$, $N=108$, $p < .001$). The results indicate that there is a positive relationship between cognitive understanding of opera and attitude toward opera. The interview data corroborates these results, as students who reported that they liked opera generally performed well on the cognitive test. This finding is consistent with other studies that show a link between education in a form of music and positive affective responses to that type of music (Hargreaves, Comber, & Colley, 1995; Peery & Peery, 1986).

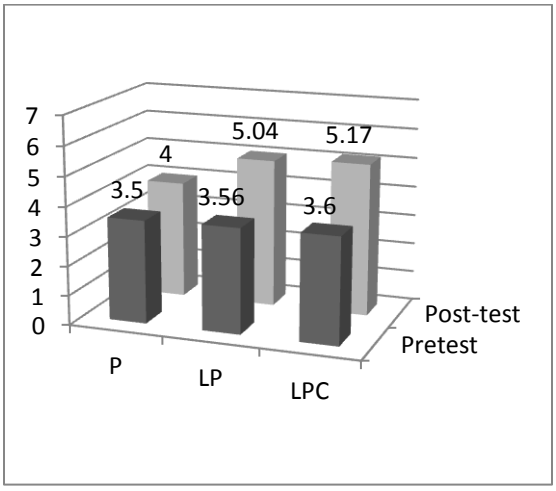


Figure 2. How fun do you think opera is? (on a scale of 1 to 7)

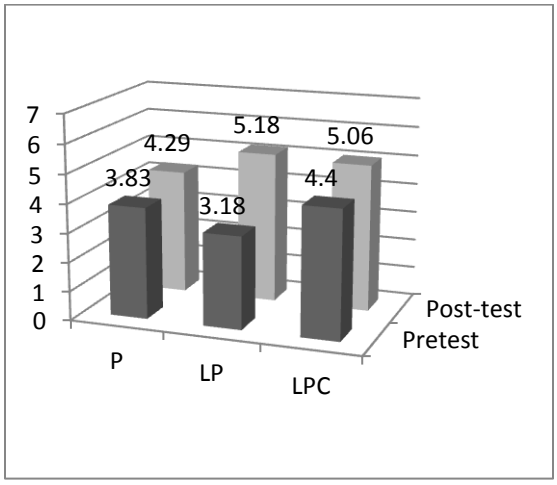


Figure 3. How interesting do you think opera is? (on a scale of 1 to 7)

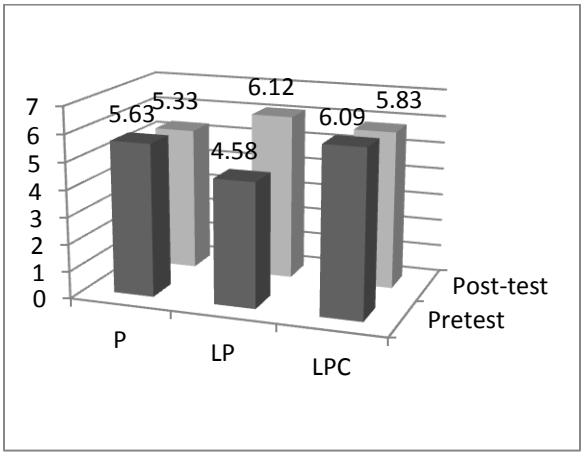


Figure 4. How talented do you think opera singers are? (on a scale of 1 to 7)

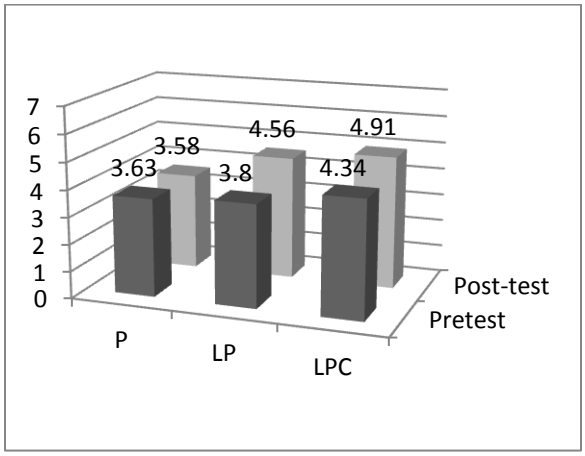


Figure 5. How beautiful do you think opera singing is? (on a scale of 1 to 7)

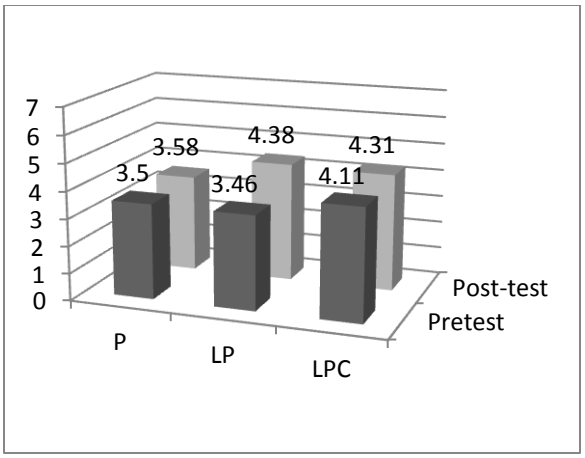


Figure 6. Would you like to attend an opera? (on a scale of 1 to 7)

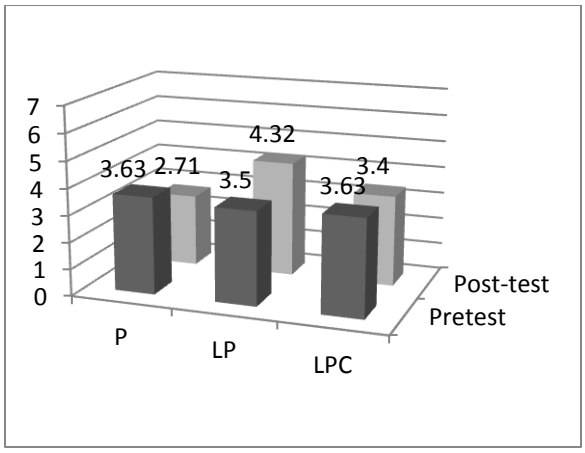


Figure 7. Would you like to listen to opera music? (on a scale of 1 to 7)

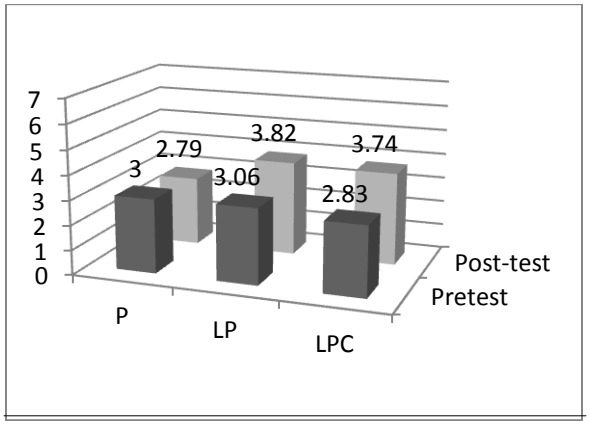


Figure 8. Would you like to sing in an opera someday? (on a scale of 1 to 7)

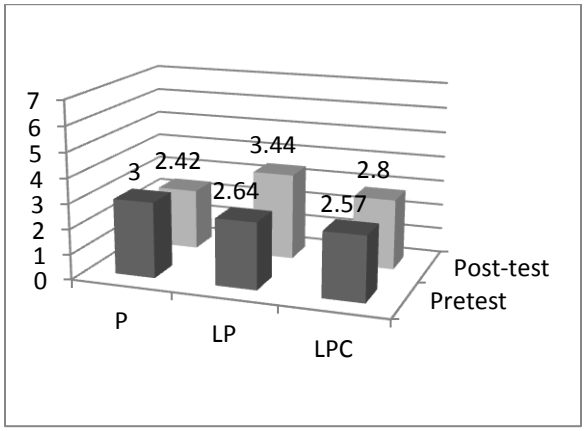


Figure 9. Would you download tracks of opera music? (on a scale of 1 to 7)

Factors affecting attitude toward opera were investigated using individual interviews. A set of open-ended questions at the end of the attitude pretest and posttest helped me to select students with diverse points of view. At each school, I tried to interview a few students with a very positive attitude toward opera, a few students with a very negative attitude toward opera, and a few students who were fairly neutral. Students were asked about their own musical style tastes, their personal opinion of opera, and the opinions of influential people in their lives about opera, as well as what characteristics of opera that they would change if they could. From the

interview transcripts, several patterns in responses emerged and were classified into main themes and sub-themes. Students commented on Factors Relating to Music, Factors Related to Production, and Factors Related to Personal Perceptions. A graphic representation of the themes can be found in Figure 10. The Factors Related to Music include students' mentions of musical phenomena that influenced their opinion of their own favorite styles of music, as well as opera. In Factors Related to Production, students commented on non-musical components of the opera performance. The Factors Related to Personal Perceptions dealt with cultural and personal factors that influenced students' understanding of their favorite musical styles and opera. A complete exploration of the themes in detail can be found in the Discussion section of this document.

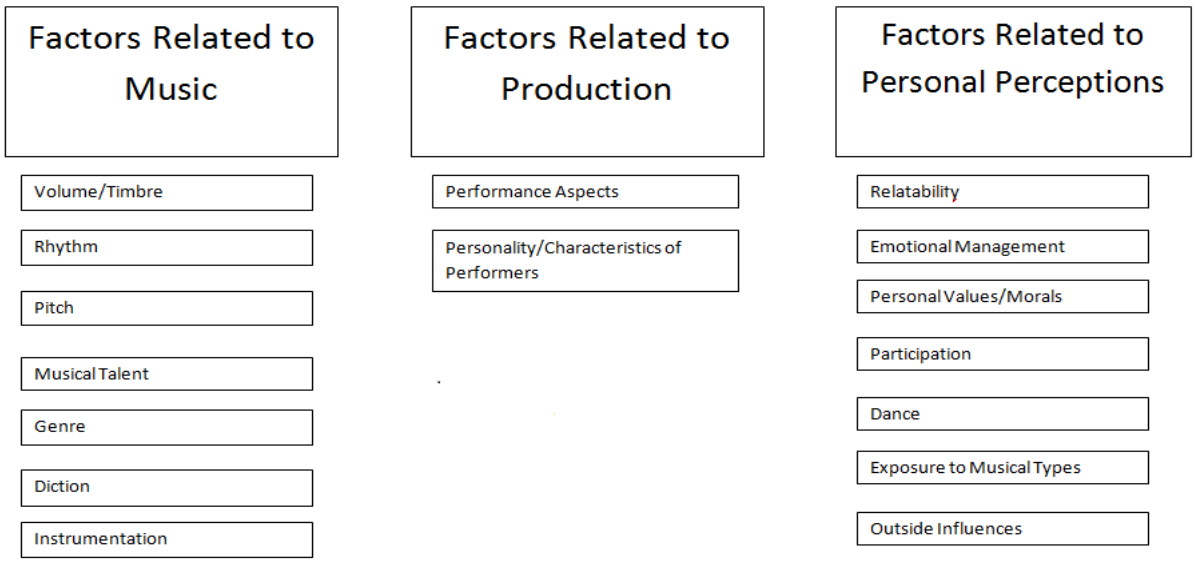


Figure 10. Opera attitude themes and sub-themes. This figure is a graphic organization of the themes and sub-themes that emerged from interviews with study participants.

CHAPTER 5

DISCUSSION

Over the eleven-week treatment period, groups of students at three participating schools experienced either the live performance only (P), pre-performance lessons and the live performance (LP), or lessons, the live performance, and a creative experience (LPC). Pretest and posttests for each student group measured music cognition and attitude. Music cognition was assessed with a twenty-question multiple choice test and an open-ended concept map. Attitude toward opera was measured for all students with an eight-question Likert-scale questionnaire, and, additionally, with individual interviews of ten students from each treatment condition.

Music Cognition

The first guiding research question was "Do opera live performances and related curricula have an effect on music learning (cognition)?" The mean scores from the pretest to the posttest demonstrate gains by students in all three treatment conditions. There were significant differences, though, in the posttest results between those who only saw the performance (P) compared to those who had additional instruction (LP and LPC). No significant differences between LP and LPC (.08 of a point difference in the increase from pretest to posttest) may suggest that the Creative component did not provide enough additional reinforcement of the musical concepts to warrant a real difference in music cognition. The lessons, which most closely aligned with the assessment, had been completed only two weeks before post-tests for the LP group, but were completed five weeks before the posttests for the LPC group, since they spent five weeks working on their creative project. In this case, the order of the presentation of the treatment might have affected the cognitive scores.

The results on the multiple-choice questions are corroborated by the results on the Concept Map question, which also reveals significant differences between P and LP. The LP treatment posted huge gains from the pretest to posttest (+ 4.7 points) compared to P (+ 1.58 points) and LPC (+ 2.24 points) Again, the order of treatment and time passed since the expository lessons for the LPC group may have affected the concept map results. Generally speaking, the students' concept maps were not very involved. Most student maps featured one or two vocabulary words that the students probably absorbed in the multiple choice portion of the test. About 1 in 5 students included some sort of affective response word like "fun" or "boring." In most cases, students did not attempt to link words together or group them around a subtopic of opera. Almost all of the words were connected to the center circle.

Overall, there extremely low scores on the concept map. The highest score that any student received was a 30 out of a possible 113. As a result of the poor performance across the board, this assessment was likely not valid. The students needed more experience and more practice with this assessment technique for it to be true reflection of their understanding of opera. Another problem students may have had with this more abstract form of assessment is that they didn't know how many bubbles were enough. The pizza example I gave students had 22 possible points, not 113, so the students might have been under the impression that they were only supposed to do the number of bubbles in the sample map. Additionally, only 7 minutes were allotted during the assessment period to do the concept map, and students might have had more involved maps if they had been given more time. It would be my recommendation that anyone using this assessment technique in the future devote some instructional time to teaching how concept maps work and practicing that skill.

Limitations of the Present Study

The LPC school did not have ideal conditions for the posttest, which may also have affected the results of the assessment. Due to end-of-school activities schedules, the principal at the LPC school asked that I do a large group administration (all three classes combined) of the posttest. This was challenging because students were trying to complete their assessments while on the floor in the open hallway "auditorium."

Children at the LP school may have had an advantage because their campus, based on my observations, seemed the most organized for success in learning. School-wide and classroom procedures, such as orderly transitions from the classroom to another part of the building, were in place and enforced. While some of the classroom teachers at the other schools expressed an interest in their students' learning about opera in my presence, all of the teachers at the LP school expressed interest in what the students were learning about opera to me in front of the students. These are factors that might have contributed to the large gains the LP school experienced, particularly in the cognitive area.

The results of the cognitive assessments mirror those of Shehan (1986), who found that students who received curricular instruction on Dixieland Jazz faired significantly better on an achievement test than those who saw the performance alone. The results also raise the importance of having a school music teacher to plan and teach age-appropriate lessons to go along with a performance. This corroborates Hearn's (2006) finding that a campus music teacher was more effective than an Arts Partnership alone. Without substantive lessons featuring relevant musical content to accompany a performance, the performance may be little more than entertainment.

Attitude Toward Opera

The second guiding research question was "Do opera live performances and related curricula have an effect on attitude toward opera?" In this case, live performance alone seems to have little effect on attitude. In fact, the mean attitude score of the P group dropped one point out of 56 possible points from 29.71 to 28.81, which leaves the overall attitude average in negative territory (32 points would be neutral). This is in contrast to Sims (1992), who found that attendance at a performance had a significant positive effect on fifth graders' attitude toward opera when compared to a control group that did not attend the performance. Sims' study utilized a control group, and this one did not, so comparisons are not equivalent.

Responses to the eight questions show patterns in responses between the first four questions, which measure attitude in a more abstract way, and the last four questions, which are practical indicators of intent to patronize opera. All of the students had much higher mean scores on the first four questions. This poses a problem for opera educators because even a positive concept of opera does not necessarily translate into intent to seek it out. More attention should be paid to "selling" the students on the experience of consuming opera, not just tolerating it when they are forced to listen to it.

There were a few anomalies at the P school that may have had some influence on the attitude scores. The P school struggled a bit to maintain composure during the listening portion of the cognitive test. While this was more prevalent on the pretest, it also occurred to a lesser degree on the posttest. Possibly as a result of their unfamiliarity with the music, they giggled their way through the recordings of the listening examples, despite the fact that they had been asked to be quiet and work alone on the assessment. This is a form of peer influence that may have affected their attitude scores.

The performance at the P school was also unusual. The principal at the P school seemed upset from the beginning of the performance, possibly spurred by the late arrival of the LOOP performers who had to load and unload set pieces in the heavy rain. The principal threatened students before the performance began, and sat on the edge of the stage glaring at students during the performance. I believe this was an attempt to monitor student behavior, but it is possible that the way it was viewed by students was that this program was serious and they were not to have fun. Perhaps not surprisingly, of the three schools, the P school had the lowest scores and smallest gains from pretest to posttest in response to the questions, "How fun do you think opera is?" and "Would you like to attend an opera?"

LP and LPC posted gains (9.28 and 3.08 points, respectively) which left them on the positive side of attitude toward opera overall (37.06 and 35.26). The very large gain by LP could again be explained by a positive learning environment and the high degree of student enthusiasm for the live performance. It is also possible that the pretest scores were not an adequate reflection of what the students really knew. The pretest conditions at the LP school were not ideal because the students took the test on the floor of a multipurpose room. On the posttest, students were seated at individual desks.

The LPC school experienced some deviations from the ideal that might have prevented greater gains in attitude. The performance at the LPC school was in an open hallway with a stage at one side, which the school called an "auditorium." The students were seated on the floor in front of the stage. Student engagement with the performance varied. Students seated in the back were much more distracted than those in the front, and some attempted to lie down during the performance until they were prompted by their classroom teachers to sit up. Based on my

observations of the three schools, it would be my recommendation that schools with the capability to do so provide chairs for student seating at in-school performances.

The Creative sessions were only experienced at the LPC school. The first day was very exciting. Students were engaged and happy about getting to create their own opera. Our planning for the plot, setting, musical numbers and election of the Conductor and Stage Director in each class went well. I was not entirely sure about two of the three R&B songs that the students chose to re-write the lyrics to, but I promised the students that I would do my homework on them.

By the second lesson, I brought lots of supplies for the students and put them in groups to plan the technical elements of the show and write the lyrics for the songs. One class had selected a song that, upon investigation, I deemed inappropriate for school, so they had to go with their second choice. Most of the students were fine with this, though one or two were disappointed by the change, and no longer wanted to work on the lyrics with the second choice song. This could have had a negative effect on attitude toward opera by these students.

By the third lesson, students were working more independently on the stage production elements and I focused my attention on helping with the lyrics, which some classes were handling better than others. In the end, we narrowed down the performance portion from the whole five minute songs to just the first verse and chorus in an effort to get lyrics of quality, not just quantity.

The fourth lesson was a sprint, putting the final touches on props, costumes, set, and songs (with cue cards for lyrics). We were trying to complete a final run-through of the songs with the accompaniment track. Only one class managed full run-through in costume, so I had to come early for lesson five to give the other classes their run-throughs before the performance.

The final rehearsal run-throughs were very nicely done. Students were singing out and using their cue cards for lyrics. The costumes and set were simple, but were well-executed versions of student-generated ideas. The live performance, though, fell somewhat flat as students' voices seemed to wither away in front of their classmates. The final product did not meet my expectations, and might have shaded student opinion on some of the attitude questions. However, the process did seem to have an impact, as was demonstrated in the interviews, and by the largest increase (1.57 points) of the three treatment groups on the attitude question, "How fun do you think opera is?"

The creative lessons were the only portion of the treatment and administration that were not pilot tested. If I had the opportunity to do the same treatment again, I would have insisted that more time be dedicated to the musical run-throughs and prepared the students better for the pressures of performing for peers. If I had the opportunity (and adequate time granted by the school) to re-design the treatment, I would have increased the lessons to give students the opportunity to participate in more parts of the process. For instance, all of the students could contribute to the lyrics, and all of the students could have painted on the set.

Relationship Between Cognition and Attitude in Opera Education

The third guiding research question was "Is there a relationship between a cognitive understanding of opera and attitude toward opera?" A Pearson product-moment correlation indicated a significant relationship between the two, a result shared in other studies that correlate training in music to affective response to music (Hargreaves, Comber, & Colley, 1995; Milak, 1972; Peery & Peery, 1986; Shehan, 1985; Shen, 1998). Teachers who want their students to learn more about an unfamiliar genre of music may find it helpful to first influence their attitudes toward the music. This might begin with teacher enthusiasm, but also involve connecting

students to the music in a way that makes it more relatable or more intriguing. That may come in the form a musical artist of the genre, a particularly well-known piece of music from the genre, or an extra-musical component such as the historical or social context of the genre.

Factors that Influence Attitude Toward Opera

The final research question was "What are some of the factors that influence attitude toward opera?" This question was investigated through individual interviews with ten students from each school. These students were chosen via purposeful sampling in hopes of getting diverse responses to the open-ended questions on the Attitude pretest and posttests. From each campus, I selected students who reflected positive, neutral, and low responses.

At the P school, it was challenging to find students who had neutral or positive attitudes toward opera. On their open-ended questions, they were nearly unanimous that they did not like opera, and it was "so, so, so boring." A few students had marginally positive or neutral responses, "I don't know," "I liked it a little bit," and "It was kind of cool." Few students at the P school reported any change from their initial attitudes about opera after seeing the performance. Only one student from the P school had a very positive response to the open-ended question, "At first I thought it was boring, but when I heard it, it was beautiful."

At the LP school, the open-ended questions revealed very diverse opinions about opera. Before they saw the opera, students were asked, "What do you think about opera?" One student reported, "I hate the music. I never want to listen to it. It is funny music." Another student responded, "I think it is a choir, mostly in churches, and I might like them." A few responses struck (unintentionally?) comical notes, "I think opera is fun but also exhausting thing to do in the world." Another young man said, "I think that opera is a good way to pass time if you have nothing fun to do." A few comments were very positive: "It's fun and I love the different

sounds to it, and sometimes it's calming to listen to and let anger out to sing," "It is really talented people singing beautiful music." Since the LP school had the greatest increase in attitude scores, it is not surprising that their responses became much more positive on the open-ended questions on the posttest. Students had enthusiastic responses to the question, "Has this experience made you think differently about opera? If so, how?" Students replied, "At first, I thought opera was bad, but I liked it." "Opera is awesome! Opera is amazing! Opera rules!" One young lady was less enthusiastic, stating that her least favorite part of the opera experience was the lessons, "even though I don't like it." Another student reported only a slight increase in positive feelings toward opera. "After seeing all the lessons and seeing the opera, I like it a little more than I used to."

The LPC school was similar to the P school in that many of the pretest open-ended responses were negative. At the same time, they were different from the P school because they seemed to have a better idea of what opera actually was. One student said, "I think they can really sing, but it's really boring to sit there and watch them sing all day." Another student commented, "I think it's boring because it doesn't sound really good." There were a few positive responses: "I really like opera," "I think opera is a good kind of sound I would listen to sometimes." On the posttest, students almost exclusively reported on their creative experience, as opposed to the lessons or the live performance they watched. Students commented on the creative experience on the question, "Has this experience made you think differently about opera? If so, how?" A young lady replied, "Yes, because you get to do a lot of stuff like paint, hair stuff, clothes, and sing." A young man said, "I thought opera was stupid, but now I learning that it isn't." While most of the responses were positive, one student was completely opposed to the entire experience. In response to the question, "What was your least favorite part of this

Opera experience?" he replied, "Everything." There was enough variation in responses to assist me in selecting students with diverse perspectives.

Individual interviews occurred on the same day as post-testing at the LPC school, but occurred one week after post-testing at the P and LP schools. This was due to end-of-school scheduling at the LPC school. After transcribing all of the interviews from audio recordings, they were analyzed using qualitative analysis. Sixteen sub-themes were identified by open coding of the transcripts, then those sub-themes were grouped into three overarching themes: Factors Related to Music, Factors Related to Production, and Factors Related to Personal Perceptions.

Factors Related to Music

Of the factors relating to music, the most commented-upon was Volume, and almost all of the comments were negative. One student reported, "I didn't like it when they yelled like 'WAH'!" More than one student commented that if he could change something about opera, he would change "how loud it is." Only one student had a positive comment, saying "I like how they sing and make their voices get loud."

Knowing the volume at which most students choose to listen to other forms of music, I wonder if Volume in this case is really a misnomer for another characteristic like timbre or vibrato. Other studies have demonstrated student preference for music with less vibrato (LeBlanc & Sherrill, 1986). An ear that is unfamiliar with the operatic voice might perceive it as loud, especially after learning that opera singers do not use microphones because of their ability to project. Projection is not only about volume, but also about opera singers' ability to manipulate acoustics using vocal resonance and placement.

Rhythm was a musical factor that several students commented on when they mentioned their own musical tastes. Students said, "I like the beat," and "It have [sic] a lot of beat." A few students made recommendations for opera related to rhythm. In response to the question, "What would you change about opera to make you like it more?" one student replied, "I say change the styles of the song and the rhythm." While opera can be quite rhythmic, it does not have the drum set or electronically produced rhythmic "tracks" that students are accustomed to hearing on the radio.

Students identified pitch as a musical factor that negatively impacted their opinions of opera. One student said, "The only thing I didn't like was the high pitches." Another student linked pitch to an inability to understand the text: "Uh, I would say that they could do some regular words instead of, like, the high pitch, to where the people can understand them." It is true that opera challenges the human voice in ways in which most mainstream pop music does not. While the music of opera is melodious, it is not easy for students to sing along, as they can with most Top 40 hits.

Many students reported a new appreciation for the musical talent required to sing opera: One young lady who wasn't particularly impressed with opera did express her appreciation for their talent when she emphatically told me, "First I want to say, opera singers, they sing good." Other students mirrored her sentiment. "I think it's, like, talented people," "I used to think it was easy to do opera, but you have to be really talented to do it." A young woman at the LP school said, "I really enjoy…if everybody could do it, 'cause it's really hard to get that pitch in your throat." To some extent, the students are blurring the lines between talent and training, but there is no doubt that not everyone has what it takes to be an opera singer, hence the lack of opera karaoke bars. The idea of the perception of opera singers as musically talented can be seen in the

quantitative Attitude test data in this study, where the question "How talented do you think opera singers are?" received the highest scores out the the seven possible points across all three treatment levels (Posttest mean scores: P, 5.33; LP, 6.12; LPC, 5.83).

Students reported negative reactions to the genre/musical style of opera. "I don't like the style of singing." Another student commented on the age of the music: "[It's] old-fashioned how it sounds." Some students recommended that opera could benefit from influences of newer genres of music: "Like, I say mix it up with R&B music," "Try it, like, to better music." These genre-related comments may have more to do with the previously mentioned areas of vibrato, high pitch, and lack of backbeats in the music. Students' communication skills are still emerging and not all of them have the technical vocabulary to express themselves fully about their opinions of the music.

An additional factor related to the musical presentation of opera was diction. Because the opera performance that the students saw was in English with no supertitles, there were concerns about being able to understand the text. In response to the question, "What would make you like opera more?" two students responded, "I don't know. Like, maybe if they sing it more clearly?" and "If I could understand what they were saying." Another student reported a negative reaction to opera and explained it, "What I didn't like about it is that I couldn't understand what they were saying." I know that the director of the performing troupe was concerned about the diction and gave students frequent reminders to enunciate clearly. There are particular hazards of singing an English translation of a piece written in another language. The composer did not intend for the vowels and consonants that are being sung on challenging pitches to be sung that way. Diction in opera is something that people of all ages complain about and that almost all professional opera houses have addressed with the use of supertitles. It is impractical to provide

supertitles at most school touring shows, so the problem of diction remains. While the singers were very well-prepared and well-trained, they were not professional singers, and it is possible that more experienced singers might have been better able to navigate the diction challenges.

Instrumentation was a musical factor considered by some students. One student was very positive about the instrumentation: "The piano was very good." Other students had recommendations for improving opera with changed instrumentation: "Probably how, like, like, the piano – that ya'll could put, like, drums and guitars in it," "Like, if it some…like, a little beat to it…something like that , 'stead of just piano. Some other instruments, like trumpet." Of course, in a full-scale opera performance there would be many more instruments, including trumpets. Students have been found to prefer instrumental to vocal music (Byrnes, 1997; LeBlanc, 1979). As a result, it seems likely that more instrumental music in the opera would be appealing to them. Drums and guitars are usually not associated with opera, though opera's microphone-wielding cousin, musical theatre, seems to be embracing the popular instruments more and more, as seen in recent rock-influenced Broadway musicals *American Idiot* or *Spring Awakening*. As new operas continue to be produced, it will be interesting to see how far the composers will take instrumentation. And, at what point does alternative instrumentation exclude the work from being called an opera? I believe that the students would have really enjoyed hearing a complete orchestra play this opera, but it is impractical for a touring show.

Factors Related to Production

The second major theme in responses was Factors Related to Production. These responses mentioned visual production aspects separate from the singing or music. Within this category were Performance Aspects and Personality of the Performers. Within Performance Aspects, costumes received a mixed review. Four students reported that they liked the costumes:

"Something I liked was the outfits." One student said he didn't approve of "the way they dress." Many students registered some pleasant surprise that opera performance was more than standing and singing. "It was, like, in a play, kind of." "Uh , at first, uh, I didn't like it, 'cause I thought they was just singing, they wasn't gonna perform, so it changed when I saw the performance." "I used to think that it was just going to be somebody just singing like a country song or something. So, I didn't think there was going to be acting." This corroborates the findings of Geringer, Cassidy, and Byo (1997), who found a link between visual aspects of performance and learning gains.

Music educators may need to re-think the old-fashioned ways of teaching opera. Oxford Music Online defines opera as "drama set to music" (Oxford Music Online, 2007). If the music and performance aspects of opera cannot be separated by definition of the genre, then why do so many of us (myself included) use only audio recordings in our teaching, and then wonder why the students don't like opera? It is the pageantry and over-the-top performances, coupled with the dramatic musical interpretation, that make opera such a unique art form.

The "star power" and personality of the singers in the live performance was another factor that contributed to positive impressions of opera. In response to the question, "What changed to make you like opera better?" one student answered, "We got to see the opera singers in person." Another student said, "I kind of liked it because how…the way they performed." Opera has a long tradition of hero worship and arts partnership literature indicates that the more face time with a musician, the more the students will want to pursue musical interests (Abeles, 2004).

Because students were strongly influenced based by the production components of the opera, I would recommend that opera performing groups present production values of the highest

quality possible in performances. Knowing the limitation of the venues, this will mean that troupes will either have to travel with more equipment (i.e. portable light trees) or focus on production components that are easier to transport (i.e. props and costumes). It is also worth considering that performances in the opera company's mainstage theatrical venue would be more conducive to high-end production values. Where possible, students should be transported to a venue that is better equipped for quality productions.

Factors Related to Personal Perceptions

The overarching theme, Factors Related to Personal Perceptions, was a broad category of responses that included students' personal musical tastes, as well as personal factors that contributed to an opinion about opera. Relatability was one characteristic that students reported as being important to adopting a musical style. One student reported liking Lil' Wayne's music because "it's like he where I'm from." Another student reported liking rap because "it talks about real stuff." Students also reported that their musical tastes tended toward music that was culturally relatable. "I like it because it's cool, and it's just in style." Another student said that opera could be improved "when they make it to real life and make it on movies and stuff." The Metropolitan Opera has been trying to make opera more accessible in one of modern society's cultural staples, the movie theatre. Live broadcasts and encore performances of The Metropolitan Opera's performances can be seen in movie theatres around the country. It is easy to understand how music written by European men centuries ago may not be relatable to a young urban population, but many of the themes of love, revenge, elation, and despair are timeless. Perhaps imaginative stage directors can think of ways to make the stories of the operas culturally relatable to a younger generation. Also, teachers could relate more familiar music with similar themes to operatic selections to improve relatability.

Students were very expressive about the role that their own musical tastes play in managing their emotions. When asked what they liked about their favorite music, they responded, "I can express myself. Like when I get mad, especially." "Um, like, when I'm bored or mad, it help [sic] me calm down, stuff like that." "So I like that you can really relax to it." "It, like, makes me so happy when I listen to it and I get so excited." "Some of her songs, the song how she sings, you can go listen to it, and if you be mad, it calms your nerves down." Only one student mentioned a similar reaction to opera, "I feel good when I listen to it."

Students' musical tastes are also influenced by their personal values and morals. Two students reported selecting their favorite music because "it's not too grown [up]" and "because I don't really like the songs with all the cursing." One student reported liking his favorite rap artist because "He inspired me." Being able to relate to an artist and see the artist as a role model are qualities that students are seeking in their musical genre. In the case of these diverse schools, it was very important for students to have performers they could look up to. As an aside, I asked several of the students who their favorite performer was, and, overwhelmingly, the African American students preferred the African American performer. This is corroborated by previous studies (McCrary, 1993; Morrison, 1998). A student from the LP school explained how her preference for opera fit into her personal values: "[Opera] sends good lessons and messages." This comment is interesting, because it had to be extrapolated from the performance. At no point in the lessons (or overtly in the performance) was there any mention made of opera's "good lessons and messages."

One factor that played a role in students' preference for opera was the desire to participate in an opera in some capacity. "I would like to be in an opera one day." "My opinion is, one day I want to be in an opera." "I would love to be in one, too." This was especially true

with the LPC students, who did have the opportunity to participate: "I really liked it when we started designing our backgrounds." One particular student, who was not a big fan of opera music, did report many positive things about his participation in the process: "Um, I liked it because I got to get a lot creative when I started designing the set…. And it was really fun, just to get up there and sing….. I thought it was a little easy, before, but then it turned out to be really hard when I had to participate in an opera." The LPC group, which experienced the Creative project, did not have many demonstrable differences from the LP group, but they did have the largest increase from pretest to post-test in response to "How fun do you think opera is?" I believe that their participation in the process is what made opera fun for them. This is corroborated by the fact that, in the interviews, the LPC group students seemed the most interested in future participation in opera.

Students made repeated mention of Dance as an inseparable part of their personal musical preferences. Students expressed the importance of danceable beats: "It's like, one, when you're in a bad mood, you can just dance to it and, like, release." "Well, you can dance to the beat, and it's just fun to dance with." In response to the question, "What would make you like opera more?" students responded, "If they were dancing in it," and "If they added, like, dancing parts in it." One of the students who participated in the Creative portion of the opera education said, "Next time when we do a part like that, we should, like, add dance moves to it." The connection between music and movement is more prevalent in some cultures around the world than others, and the European operatic tradition is not known for its audience participation. However, dance onstage was historically an important part of operatic performances, so perhaps this is something that could be taken into account in outreach performances. It should be noted that there were

two short, line-style dances in *The Elixir of Love* performances, although the audience did not seem to recognize them as dance, since they recommended adding dance to the opera.

Familiarity and exposure to types of music played a role in how students perceived music. When describing their favorite kinds of music, students made comments like, "[Those types of music] are comfortable" and "I get to listen to [gospel] every Sunday and Wednesday." The connection between familiarity with a type of music and positive affective responses to that genre of music is well documented (Peery & Peery, 1986; Sims, 1992; Woody & Burns, 2001). Also, many students revealed that they had never seen or heard opera before, as in this comment from an LP student, "First, when we did the first, the little pretest, I didn't know what opera was. And then, after, like some stuff, like the lessons you taught, then I knew what it meant."

Finally, in the personal category, outside influences played a part in how students perceived opera. One student was very honest when she was asked about what she thought of the live performance at her school: "Because that time they [came], I was mad at people, and I didn't like it." This probably happens more than educators realize. Sometimes students are just not in the mental or emotional place to be able to be receptive to new learning. This is an example of the kinds of things that might happen when opera education happens in a true context.

Through the interview process, the word that was most associated with opera was "boring." One young man from the P school was not moved in his opinion of opera: "My first opinion was that it was boring. It's still boring." The notion that opera is boring is a stereotype that Opera advocates have struggled to overcome. Opera is paced differently than modern media. One single thought may be spun into an eight-minute aria. Exciting visuals could help opera performance troupes to counteract the "boring" stereotype.

Most of the students who were interviewed showed some change in thinking about opera. Those who reported a positive change toward opera in the P group seemed to have their curiosity piqued: "Before, I really wasn't interested, but now that I have, I would like to see some more." The change for the LP students seems to have occurred after the performance. "Uh, it, I really didn't like it at first, and then when it came, when it came to our school, it was like a whole different story." Another LP student said, "Uh, at first I didn't like opera, and then I liked opera after the show." Students from the LPC school were more likely to comment on the fun and the participation aspects of their own opera: "Like, at first I thought it was going to be boring, but now, it's like, kind of fun." "I really didn't like it, but when I knew that it was easy and fun, I started going [with] it." Educators who are looking for ways to influence attitude toward Opera should provide students with the opportunity to participate in an opera in some capacity. In a perfect world, every student would have the ability to create an opera, from text to music to production components. This is not always feasible, but the more involvement they have in the process, the more they will feel like they understand opera.

Summary of Findings by Treatment Group

At the conclusion of treatment, the P group had taken cognitive and attitude pretests and posttests and watched the live opera performance at their school. They experienced very slight gains on the cognitive multiple choice test and concept map, and actually lost a point on the mean attitude measure. On 5 of the 8 attitude question, their scores decreased, with a particularly large loss (almost 1 whole point on a 7-point scale) on the question, "Would you like to listen to opera music?" In the interviews, most of the P group students were unimpressed with opera, frequently referring to it as "boring." These students had a negative experience with

opera, and their results suggest that an outreach performance alone does not help students learn about opera or like it more.

The LP group experienced the three pre-performance lessons in addition to the assessments and live performance. On the Cognitive multiple choice test, the LP group gained 3.5 points (from 11.52 to 15.02 mean scores on a 20 point test), and performed significantly better than the P group. On the Concept Map, the LP group gained points and performed significantly better than the P group. On the Attitude measure, the LP group had the lowest pretest score, but the highest posttest score, and was significantly different from both the P group and the LPC group. The trend with this group in the interviews was that their curiosity about opera was piqued. As a group, they made frequent use of the word "interesting." This is corroborated by their responses on the attitude scale. They had the highest posttest scores of the three groups on six of the eight questions: "How interesting do you think opera is?" "How talented do you think opera singers are?" "Would you like to attend an opera?" "Would you like to listen to opera music?" "Would you like to sing in an opera someday?" "Would you download tracks of opera music?" This group seemed to be the most open to continued learning about opera.

The LPC group had the assessments, live performance, lessons, and the addition of a creative component where they designed and produced a short opera. This group improved their performance on the Cognitive assessment from the pretest to the posttest (10.71 o 14.29 mean scores). While their performance was significantly better than the P group, it was not significantly different from the LP group. Likewise on the Concept map, the LPC group made gains, and was significantly better than the P group, but not different from the LP group. On the Attitude measure, the LPC group made gains from the pretest to posttest and had a significantly

larger gain than the P group, but also significantly smaller gain than the LP group, who had the largest change on the attitude measure. When I interviewed the LPC group, they were fresh from their creative experience and made multiple mentions about how fun opera was and how they contributed to the production. Students were able to separate their feelings about the musical examples they had heard from their feelings about the art form as a theatrical production. The LPC group had the highest posttest scores on the attitude questions, "How interesting do you think opera is?" and "How beautiful do you think opera singing is?" I believe if this group had the opportunity to participate in the complete Creating Original Opera program over the course of an entire semester, that their results may have reflected even more learning and positive affect toward opera.

A Real-Life Context for Research

These treatments were presented in a real educational context. The musical instruction and creative sessions occurred during regular music class time. These are not results that are cultivated in a laboratory, but results that are borne of authentic student experiences in the classroom, with all the complications that entails. At two of the three study schools, there was no separate music space. All music classes at the P and LPC schools were held in the students' classrooms, with the music teachers bringing their materials around on rolling carts.

The real context implementation of this study is one of its positive points, but is also potentially a negative point. Very little experimental control can be achieved in an environment where the researcher is not ultimately in charge. The administrators, classroom teachers, and music teachers made every effort to give me autonomy over lesson presentation and data gathering, but I was not able to randomly assign students to treatment conditions or combine classes to present lesson material precisely the same way to all students. As such, the data are

not as pristine as it would be in a sterile research lab, but it is a realistic picture of how opera education is presented in the school context.

Implications of Study Findings

What do the results of this study mean for opera educators and for music educators who want to teach opera as part of their curriculum? First, this study indicates that opera performance alone does not provide an adequate opera educational experience. Music teachers have an obligation to prepare their students for performances beyond just audience etiquette. Performances become more meaningful and educational when students can use the performance as an opportunity to see their coursework in action.

School administrators who care about students' education have an obligation not to use visiting performances as the sole means of providing arts education. Performances are wonderful entertainment, and even enrichment, but they are no substitute for a qualified music teacher. Musical performances of any genre, when experienced devoid of contextual learning, may not provide a true education in the music, and may even have a negative effect on a student's opinion of the music.

A major revelation that I discovered through the interview process was that many students did not know that opera could be anything other than an audio recording. One student described her change in opinion about opera: "I used to not like opera 'cause I didn't know what it meant, like for real, and then when I watched the play, I knew what it meant." Opera is not just the music! It is music and drama on a grand scale. I am a huge opera fan, but I would not want to go to one if the performers just stood on stage in their own clothes and sang. It should be intuitive (but was not to me until this study) that any form of opera education, whether it is lessons in the classroom or a unit culminating in live performance, should emphasize both the

visual and aural worlds of opera. In our Information Age of DVDs, video broadcasts, and YouTube, it should be easy for music educators to find opera resources that engage both the eyes and the ears. Opera has an image problem; students think it is boring. A vivid, exciting visual presentation could help students realize that it may not be as boring as they believe it to be.

Because there seems to be a missing link between attitude toward opera and intent to attend an opera, listen to an opera, or perform in an opera, teachers should also provide students with pathways to experience opera in their own lives. Teachers could provide students with a YouTube suggested viewing list to take home, give students brochures for local opera companies, or tout intriguing opera artists who they might be interested in learning more about on their own.

Finally, opera was quite a foreign concept to many of the students at the public schools where the treatments were administered. When asked what they would change about opera to make them like it more, almost all of the students mentioned things that would make the music more like today's popular music. They wanted the pitches lower, less vibrato, guitars, and drums. Students were desperately looking for ways that they could connect to this alien music. An instructional strategy of many expert teachers in all fields, connecting instruction to what is known, would be a real advantage here. It would be beneficial for teachers to expose the students to little bits of opera in the younger grades, when they are still open to anything. Playing students short video clips from well-known television commercials or cartoons that feature opera might be another way to alert students that they have heard this music before. Or, a cross-curricular way to connect to opera might be to read and study the story of an opera before seeing it. That way, even if the music is completely new to the students, they can cling to the familiar storyline. A sociocultural approach, such as what has been suggested with World Music

genres (Abril, 2006), might be another way to provide students with a context of time and place before experiencing opera for the first time.

Suggestions for Future Research

While much "reporting" has been done on opera education programs, little systematic research has been done. It would be beneficial to opera companies to have results of empirical research to share with community members, parents, and educators. Also, study results could be used by opera companies to bolster applications for public and private grants. A lack of scientific study on opera education programs may mean that best practices are not being employed by opera education troupes. As a result, one area of need in music education research would be program evaluations of existing opera education programs.

The current study revealed only modest positive differences in attitude and cognition as a result of the Creative project. Perhaps the experimental design was not able to highlight the strengths of such an activity. If the treatment had been longer, or the familiar music teacher had led the Creative process, the results might have been different. Future studies could focus on investigating a Creative program's benefits.

Because of the students' repeated mention of production aspects, it appears that the production values may be an important key in unlocking student attitude toward the genre. It would be interesting to compare the results with groups who receive different levels of production values and how that influences their attitude toward opera. Similarly, educational or student level groups could be compared to full-fledged professional groups to see if there are any differences in how students perceive the production. In conjunction with production values and production costs, students who were asked what would make opera better mentioned instrumentation, and different levels of instrumentation (piano only, chamber accompaniment,

full orchestra) could be compared for their effect on attitude toward opera. Such studies could help opera companies design outreach performances.

The opera education curriculum itself could be refined by applying the results from future studies. It would be worthwhile to investigate various instructional techniques in regard to breaking down student prejudices toward opera. At the P school, students giggled uncomfortably when the opera excerpts were played. What kinds of teaching strategies would work best to acclimate students to vocal vibrato? Do video presentations of opera foster better attitudes toward it? Also, would more instruction than the three lessons be helpful? What is the ideal number of lessons before students begin to have the backlash effect mentioned by Shehan (1986)?

There is a wealth of information to be gained by exploring the inner workings of an opera education touring troupe. What are the benefits to the performer in such a group and what do they perceive to be their role in educating students about opera? It would be interesting to discover what performing skills are enhanced by participating in an opera educational touring troupe, as well as what the frustrations may be for performers. Opera companies could use this information to better prepare their performers for the educational touring process.

Repertoire selection for opera education can be controversial. My own investigation of repertoire of opera education programs indicates two schools of thought in repertoire: adapted masterworks and original children's opera (Baker, 2010). Based on the research that indicates that familiarity influences preference and is not transferable within the genre (Shehan, 1985), the Masterworks approach may be more useful for the future of opera. Possible future research could investigate which type of musical performances are the most effective based on the goals

of the performing group. Also, what is the effect of selecting an operatic piece to be performed in the original language instead of a translation on affective domains?

No longitudinal studies have been done to measure the effects of opera education programming on students over time. While much anecdotal and even correlation evidence exists to suggest a link between opera education as a child and participation as an adult, it would be interesting to check in with students who had a meaningful opera education experience after a year, five years, or more. At what point does a one-time exposure to opera "wear off?" Did their experience translate into operatic music downloads, ticket sales, or support for operatic organizations in the future? Did the experience make the students identify as an "opera fan"? Student groups with repeated exposures to opera over time could be compared to student groups with a one-time opera experience.

Conclusion

Opera is a centuries-old art form that needs torch-bearers to keep it alive and relevant into the next century, and educational programming is one way that the current generation of opera lovers hopes to pass the torch. It is foolhardy to invest time and resources into a project like this without knowing whether or not it is effective. In response to this need, this experiment was designed to compare various levels of opera education on music cognition and attitude. The results indicate that live performance alone is not as effective as performance plus additional instruction when it comes to learning about opera or liking opera. Music educators should strive to provide students with meaningful instruction prior to attending a performance to help students get the most out of the performance. It is also important for teachers to help students to connect opera to familiar music and media, so they are less alarmed by the differences from their "own" music. Finally, opera is not merely a musical genre. It is music-drama, and every effort should

be made to present it with both audio and engaging visual to help stave off the “boring” stereotype.

REFERENCES

Abeles, H. (2004). The effect of three orchestra/school partnerships on students' interest in instrumental music instruction. *Journal of Research in Music Education, 52*(3), 248-263.

Abeles, H., Hafeli, M., Horowitz, R., & Burton, J. (2002). The evaluation of arts partnerships and learning in and through the arts. In R. Colwell & C. Richardson (Eds.), *The New Handbook of Research on Music Teaching and Learning* (pp. 931-940). New York: Oxford University Press.

Abril, C.R. (2006). Learning outcomes of two approaches to multicultural music education. *International Journal of Music Education, 24*, 30-42.

Abril, C.R. & Flowers, P.J. (2007). Attention, preference, and identity in music listening by middle school students of different linguistic backgrounds. *Journal of Research in Music Education, 55*(3), 204-219.

Americans for the Arts. (n.d.). *Arts and economic prosperity III*. Retrieved from http://www.artsusa.org/information_services/research/services/economic_impact/default.asp

Andreasen, A.R. & Belk, R.W. (1980). Predictors of attendance at the performing arts. *The Journal of Consumer Research, 7*(2), 112-120.

Baker, S.H. (2010). [A comprehensive analysis of opera education programs]. Unpublished raw data.

Bauerlein, M. (Ed.). (2009). National Endowment for the Arts: a history 1965-2008. Washington, D.C.: National Endowment for the Arts. Retrieved from http://www.nea.gov/pub/nea-history-1965-2008.pdf

Bresler, L. (1995). Ethnography, phenomenology, and action research in music education. Retrieved from http://users.rider.edu/~vrme/v8n1/vision/Bresler_Article___VRME.pdf

Brophy, T. S. (2000). *Assessing the Developing Child Musician: A Guide for General Music Teachers*. Chicago: GIA Publications, Inc.

Burrack, F., & Maltas, C. (2006). Engaging elementary-age children with opera. *Update: Applications of Research in Music Education, 25*, 82-89.

Byrnes, S.R. (1997). Different-age and mentally handicapped listeners' response to Western Art Music selections. *Journal of Research in Music Education, 45*(4), 568-579.

Cassidy, J.W. & Geringer, J.M. (1996, November). The effects of video conditions on children's descriptions and affective responses to music. Paper presented at the meeting of the National Association for Music Therapy, Nashville, TN.

The Center for Public Education. (2009). Examples of state and district funding cuts. Retrieved from http://www.centerforpubliceducation.org/Main-Menu/Public-education/Cutting-to-the-bone-At-a-glance/Examples-of-state-and-district-funding-cuts.html

Colley, B. (2008). Partnerships and local K-12 arts education policy development: significant beginnings. *Arts Education Policy Review, 109*(5), 9-18.

Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage Publications.

Criswell, J.R. & Criswell, S.J. (1995). Modeling alternative classroom assessment practices in teacher education coursework. *Journal of Instructional Psychology, 22*(2), 190. Retrieved from EBSCOhost.

Demorest, S.M., & Schultz, S.J.M. (2004). Children's preference for authentic versus arranged versions of world music recordings. *Journal of Research in Music Education, 52*(4), 300-313.

Edie, D.G. (2009). *The Elixir of Love Libretto*. Opera for the Young.

Francis, R.W. (2006). Using concept maps as assessment tools: Defining understanding. *College Quarterly, 9*(3). Retrieved from http://www.eric.ed.gov/PDFS/EJ835419.pdf

Fung, C.V. (1996). Musicians' and nonmusicians' preferences for world musics: Relation to musical characteristics and familiarity. *Journal of Research in Music Education, 44*(1), 60-83.

Geringer, J.M., Cassidy, J.W., & Byo, J.L. (1997). Nonmusic majors' cognitive and affective responses to performance and programmatic music videos. *Journal of Research in Music Education, 45*(2), 221-233.

Giving USA. (2010). The annual report on philanthropy for the year 2009. Retrieved from http://www.cfbroward.org/cfbroward/media/Documents/Sidebar%20Documents/GivingUGi_2010_ExecSummary_Print.pdf

Güvenç, H., & Ün Açikgöz, K. (2007). The effects of cooperative learning and concept mapping on learning strategy use. *Educational Sciences: Theory & Practice, 7*(1), 117-127.

Han, A. (2010). Public funding for the arts: 2010 update. Grantmakers in the Arts. Retrieved from http://www.giarts.org/article/public-funding-arts-2010-update

Hanning, B.R. (2006). A concise history of Western Music (3rd ed.). New York: W.W. Norton & Company.

Hargreaves, D.J., Comber, C., & Colley, A. (1995). Effect of age, gender, and training on musical preferences of British secondary school students. *Journal of Research in Music Education, 43*(3), 242-250.

Hearn, E.L. (2006). Collaborative partnerships for experiential education in music: a case study of a higher education school of music educational outreach program and its K-8 partners. (Doctoral dissertation, The University of Michigan, 2006). *Dissertation Abstracts International, 67*(2).

Hevner, K. (1936). Experimental studies of the elements of expression in music. *American Journal of Psychology*, 246-268.

Hostetter, S. (1979). Video Verdi: preparing for an opera telecast. *Music Educators Journal, 66*(2), 38-41.

IBM Corporation. (2010). SPSS (Version 19) [computer software]. Somers, New York: IBM Corporation.

LeBlanc, A. (1979). Generic style music preferences of fifth-grade students. *Journal of Research in Music Education, 27*(4), 255-270.

LeBlanc, A. (1981). Effects of style, tempo, and performing medium on children's music preference. *Journal of Research in Music Education, 29*(2), 143-156.

LeBlanc, A. (1983). Broaden students' music preferences. *Music Educator's Journal, 69*(7), 47-48.

LeBlanc, A., & Cote, R. (1983). Effects of tempo and performing medium on children's music preference. *Journal of Research in Music Education, 31*(1), 57-66.

LeBlanc, A., Jin, Y.C., Simpson, C.S., Stamou, L., & McCrary, J. (1998). Pictorial versus verbal rating scales in music preference measurement. *Journal of Research in Music Education, 46*(3), 425-435.

LeBlanc, A. & Sherrill, C. (1986). Effect of vocal vibrato and performer's sex on children's music preference. *Journal of Research in Music Education, 34*(4), 222-237.

LeBlanc, A., Sims, W.L., Siivola, C., & Obert, M. (1996). Music style preferences of different age listeners. *Journal of Research in Music Education, 44*(1), 49-59.

Leung, A., & Kier, C. (2008). Music preferences and civic activism of young people. *Journal of Youth Studies, 11*(4), 445-460.

Louisiana Department of Culture, Recreation, and Tourism. (2009). *Louisiana Arts Education School Survey*. Retrieved from http://www.kidsmart.org/LA_school_survey.pdf

Louisiana Department of Education. (2004). *Louisiana Arts Content Standards*. Retrieved from http://www.doa.louisiana.gov/osr/lac/28v51/28v51.pdf

Louisiana Department of Education. (2010). *East Baton Rouge Parish: District-at-a-glance*. Retrieved from http://www.louisianaschools.net/dag/default.aspx

Luftig, R.L. (2000). An investigation of an arts infusion program on creative thinking, academic achievement, affective functioning, and arts appreciation of children at three grade levels. *Studies in Art Education, 41*(3), 208-227.

Lunden, J. (2009). In lean times, fat lady sings for some operas. *All Things Considered*. Retrieved from http://www.npr.org/templates/transcript/transcript.php?storyId=100598724

Madsen, C.K., & Geringer, J.M. (2008). Reflections on Puccini's La bohème: investigating a model for listening. *Journal of Research in Music Education, 56*(1), 33-42.

Mark, M.L., & Gary, C.L. (2007). *A history of American music education*. (3rd ed.). Lanham, Maryland: Rowman & Littlefield Education.

The Massachusetts Historical Society. (2011). Adams quotations. Retrieved from http://www.masshist.org/adams/quotes.cfm

McCrary, J. (1993). Effect of listeners' and performers' race on music preferences. *Journal of Research in Music Education, 41*(3), 200-211.

Milak, J. (1972). The Parker Road Project: an experiment on the effects of young audience concerts and a related curriculum on the cognitive and affective development of elementary school children. *Missouri Journal of Research in Music Education, 3*(1), 5-44.

Morrison, S. J. (1998). A comparison of preference responses of white and African-American students to musical versus musical/visual stimuli. *Journal of Research in Music Education, 46*(2) 208-222.

National Assembly of State Arts Agencies. (2010). *State arts agency funding and grant making*. Retrieved from http://www.nasaa-arts.org/Research/Grant-Making/2010_funding_and_grantmaking.pdf

National Assembly of State Arts Agencies. (2011). *Legislative appropriations preview fiscal year 2011*. Retrieved from http://www.nasaa-arts.org/Research/Funding/State-Budget-Center/FY2011-Leg-Approp-Preview.pdf

National Assessment for Educational Progress. (2003). 1997 arts assessment strategies. National Center for Educational Statistics. Retrieved from http://nces.ed.gov/nationsreportcard/pubs/strategies/P1SBP1.asp

National Endowment for the Arts (1995). *American participation in opera and musical theater 1992*. (NEA Research Report No. 32). Retrieved from http://nea.gov/research/reports/NEA-Research-Report-32.pdf

National Endowment for the Arts. (2009). *2008 Survey of public participation in the arts*. Retrieved from http://www.nea.gov/research/2008-SPPA.pdf

North, A. C., & Hargreaves, D.J. (2007a). Lifestyle correlates of musical preference: 1. Relationships, living arrangements, beliefs, and crime. *Psychology of Music, 35*, 58-87.

North, A.C., & Hargreaves, D. J. (2007b). Lifestyle correlates of musical preference: 2. Media, leisure time and music. *Psychology of Music, 35*, 179-200.

North, A.C., & Hargreaves, D.J. (2007c). Lifestyle correlates of musical preference: 3. Travel, money, education, employment and health. *Psychology of Music, 35*, 473-497.

Office of Management and Budget. (2011). *Fiscal year 2012: Terminations, reductions, and savings*. Retrieved from http://www.whitehouse.gov/sites/default/files/omb/budget/fy2012/assets/trs.pdf

Opera. (2007). In *Oxford Music Online*. Retrieved from http://www.oxfordmusiconline.com.libezp.lib.lsu.edu/subscriber/article/opr/t237/e7485?q=opera&search=quick&pos=2&_start=1#firsthit

OPERA America. (n.d.). *Music! Words! Opera!* Retrieved from http://www.operaamerica.org/content/education/mwo/

OPERA America. (2009). Professional company members. Retrieved from http://www.operaamerica.org/applications/membership/fullList.aspx?compType=1

OPERA America. (2010). *Quick opera facts 2009-2010*. Retrieved from http://www.operaamerica.org/content/research/quick0910.aspx

Opera Cleveland. (2010). *Opera's place in education*. Retrieved from http://www.operacleveland.org/education/operas-place-in-education/

Opera for the Young. (n.d.). Retrieved from http://operafortheyoung.org

Parsad, B. & Spiegelman, M. (2011). *A snapshot of arts education in public elementary and secondary schools: 2009-2010*. National Center for Educational Statistics. Retrieved from http://nces.ed.gov/pubs2011/2011078.pdf

Payne, D.A. (2003). *Applied educational assessment* (2nd ed.). Toronto, Ontario, Canada: Wadsworth Thompson Learning, Inc.

Peery, J.C. & Peery, I.W. (1986). Effects of exposure to classical music on the musical preferences of preschool children. *Journal of Research in Music Education, 34*(1), 24-33.

Pitts, S.E. (2004). 'Everybody wants to be Pavarotti': the experience of music for performers and audience at a Gilbert and Sullivan festival. *Journal of the Royal Musical Association, 129*(1), 143-160.

Price, H.E. (1986). A proposed glossary for use in affective response literature in music. *Journal of Research in Music Education, 34*, 151-159.

Rabkin, N. & Hedberg, E.C. (2011). *Arts education in America: what the declines mean for arts participation*. Washington, D.C.: National Endowment for the Arts. Retrieved from http://nea.gov/research/2008-SPPA-ArtsLearning.pdf

Redfield, D.L. (1990). Evaluating the broad educational impact of an arts education program: The case of the Music Center of Los Angeles County's Artists-in-Residence Program. (Report No. TM-016-203). Los Angeles: UCLA Center for the Study of Evaluation. (ERIC Document Reproduction Service No. ED329578)

Robinson, K. (2010). Changing educational paradigms. TED. Retrieved from http://www.ted.com/talks/ken_robinson_changing_education_paradigms.html

Rodriguez, C.X. (2001). Issues in the use of verbal data to assess children's affective responses to music. *Research Studies in Music Education, 16*, 57-65.

Ross, A. (2011, May 9). Flummoxed: Struggles at City Opera and across the country. *The New Yorker*, 78-79.

Ruppert, S.S. (2010). Creativity, innovation, and arts learning: Preparing all students for success in a global economy. Arts Education Partnership. Retrieved from http://www.aep-arts.org/files/Creativity_Commentary_02-03-10.pdf

Shaw, C.N. & Tomcala, M. (1976). A music attitude scale for use with upper elementary school children. *Journal of Research in Music Education, 24*(2), 73-80.

Shehan, P.K. (1984). The effect of instruction method on preference, achievement, and attentiveness for Indonesian gamelan music. *Psychology of Music, 12*, 34-42.

Shehan, P.K. (1985). Transfer of preference from taught to untaught pieces of non-Western music genres. *Journal of Research in Music Education, 33*(3), 149-158.

Shehan, P.K. (1986). Music instruction for the live performance. *Bulletin of the Council for Research in Music Education, 88*, 51-57.

Shen, M.L. (1998). Effects of grade level, and familiarity on music preference for signing Asian and Western songs in original languages versus in English. *Texas Music Education Research*. Retrieved from http://www.tmea.org/assets/pdf/research/Sh1998.pdf

Sidford, H. (2011). *Fusing arts, culture, and social change: high impact strategies for philanthropy*. National Committee for Responsive Philanthropy. Retrieved from http://www.ncrp.org/paib/arts-culture-philanthropy

Siebenaler, D.J. (1999). Student song preference in the elementary music class. *Journal of Research in Music Education, 47*(3), 213-223.

Sims, W. L. (1992). Effects of attending an in-school opera performance on attitudes of fourth-, fifth-, and sixth-grade students. *Bulletin of the Council for Research in Music Education, 114*, 47-58.

Tambling, P. (1999). Opera, education and the role of arts organisations. *British Journal of Music Education, 16*(2), 139-156.

Todd, D. (2011). How to use concept map as an assessment tool in elementary school. Retrieved from http://connected.waldenu.edu/learning-and-perception/assessing-student-learning/item/1624-how-to-use-concept-map-as-assessment-tool-elementary-school

Washington National Opera. (n.d.). *Kids Create Opera*. Retrieved from http://www.dc-opera.org/education/schoolprograms/kidscreateopera.asp

Wolf, D. P. (1999). Why the arts matter in education or just what do children learn when they create an opera, in E.B. Fiske (Ed.), *Champions of Change: The Impact of the Arts on Learning*. Retrieved from http://www.aep-arts.org/files/publications/ChampsReport.pdf

Woody, R.H. & Burns, K.J. (2001). Predicting music appreciation with past emotional responses to music. *Journal of Research in Music Education, 49*(1), 57-70.

Yarbrough, C. (1996). The future of scholarly inquiry in music education: 1996 senior researcher acceptance address. *Journal of Research in Music Education, 44*(3), 190-203.

Yick-Ming, R. W. (2005). Music in education is education for life. *International Journal of Music Education*, 23, 107-109.

APPENDIX A

PERMISSION FORMS

Application for Exemption from Institutional Oversight

LSU

Institutional Review Board
Dr. Robert Mathews, Chair
131 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.6792
irb@lsu.edu
lsu.edu/irb

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/ projects using living humans as subjects, or samples, or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This Form helps the PI determine if a project may be exempted, and is used to request an exemption.

– Applicant,Please fill out the application in its entirety and include the completed application as well as parts A-E, listed below, when submitting to the IRB. Once the application is completed, please submit two copies of the completed application to the IRB Office or to a member of the Human Subjects Screening Committee. Members of this committee can be found at http://www.lsu.edu/screeningmembers.shtml

– A Complete Application Includes All of the Following:
(A) Two copies of this completed form and two copies of part B thru E.
(B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)
(C) Copies of all instruments to be used.
*If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
(D) The consent form that you will use in the study (see part 3 for more information.)
(E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (http://phrp.nihtraining.com/users/login.php.)
(F) IRB Security of Data Agreement: (http://www.lsu.edu/irb/IRB%20Security%20of%20Data.pdf)

1) Principal Investigator: Sara Harris Baker **Rank:** Ph.D. Candidate

Dept: Music **Ph:** (254) 541-0252 **E-mail:** sarabaker@lsu.edu

2) Co Investigator(s): please include department, rank, phone and e-mail for each

Jane Cassidy, Professor, Vice-Provost, ~~578-~~, jcassid@lsu.edu
578-8863

IRB# E5464 LSU Proposal #_____

Complete Application

Human Subjects Training

3) Project Title: The Effect of In-School Opera Performance and Related Curriculum on Music Cognition and Attitude

Study Exempted By:
Dr. Robert C. Mathews, Chairman
Institutional Review Board
Louisiana State University
203 B-1 David Boyd Hall
225-578-8692 | www.lsu.edu/irb
Exemption Expires: 3-23-2014

4) Proposal? (yes or no) No **If Yes, LSU Proposal Number**

Also, if YES, either ◯ **This application completely matches the scope of work in the grant**

OR ◯ **More IRB Applications will be filed later**

5) Subject pool (e.g. Psychology students) 5th Grade Students

*Circle any **"vulnerable populations" to be used:** (Children <18, the mentally impaired, pregnant women, the ages, other). Projects with incarcerated persons cannot be exempted.

6) PI Signature Baker **Date** 3/21/11 (no per signatures)

**** I certify my responses are accurate and complete.** If the project scope or design is later changes, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Screening Committee Action: Exempted X Not Exempted ____ Category/Paragraph ____

Reviewer S. Kim MacGregor **Signature** S. Kim MacGregor **Date** 3/24/2011

EAST BATON ROUGE PARISH SCHOOL SYSTEM

Accountability, Assessment, and Evaluation
Christa McAuliffe Center
12000 Goodwood Boulevard
Baton Rouge, Louisiana 70815
(225) 226-7625 FAX– (225) 226-7605

April 28, 2011

Sara Harris Baker
Louisiana State University
203 B-1 David Boyd Hall
Baton Rouge, LA 70803

Dear Ms. Baker,

Your request to conduct the following research in East Baton Rouge Parish School System is approved.

> *"The Effects of In-School Opera Performance and Related Curriculum on Music Cognition and Attitude"*

We require that all data you collect protect the anonymity of participants, unless they specifically provide you with permission to identify them. It is my understanding that you will provide the East Baton Rouge Parish School System a summary of your research findings, once your project is completed.

We appreciate the opportunity of working with you. If I can be of further assistance, please contact me at (225) 226-7625 or lfrischhert@ebrschools.org

Sincerely,

Liz Frischhertz

Liz Frischhertz
Chief Officer of Accountability, Assessment, and Evaluation

4-29-11
Date

Approved:

John Dilworth

John Dilworth
Superintendent
East Baton Rouge Parish School System

05/02/11
Date

Parental Permission Form

Project Title: The Effect of In-School Opera Performance and Related Curriculum on Music Cognition and Attitude

Performance Site: Selected East Baton Rouge Parish Elementary Schools

Investigators: The following investigator is available to answer questions,
M-F 9 a.m. – 12 noon
Sara Harris Baker
College of Music & Dramatic Arts, LSU
(225) 578-4068

Purpose of the Study: The purpose of this study is to determine the effectiveness of Opera Outreach Programs in providing Music Education to students.

Inclusion Criteria: 5th grade students who are part of the music instruction at the selected elementary schools

Exclusion Criteria: Children who are not in 5th grade or do not attend school on the days of the curriculum and/or performance dates.

Description of the Study: Students will be assigned to one of three treatment groups. The first group will view a live Opera performance at their school. The second group will view the live performance, but also receive preparatory lessons about Opera as part of the regular music class. The third group will view the live performance, receive the preparatory lessons, and engage in a creative Opera experience following the live performance as part of the regular music class. All three groups will be assessed before and after the treatment using two measures: a multiple choice test, and an attitude survey. Ten students on each campus will be selected for a one-on-one 15-minute interview that will be recorded via digital audio recorder.

Benefits: Students will be able to watch a free live Opera performance and expand their knowledge of this musical and cultural phenomenon.

Risks: There are no known risks.

Right to Refuse:	Participation is voluntary, and a child will become part of the study only if both child and parent agree to the child's participation. At any time, either the subject may withdraw from the study or the subject's parent may withdraw the subject from the study without penalty or loss of any benefit to which they might otherwise be entitled.
Privacy:	Results of the study may be published, but no names or identifying information will be included for publication. Subject identity will remain confidential unless disclosure is required by law.
Financial Information:	There is no cost for participation in the study. Students will receive a small reward for returning their signed permission forms.
Signatures:	The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigator. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Chairman, Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb. I will allow my child to participate in the study described above and acknowledge the investigator's obligation to provide me with a signed copy of this consent form.

Parent's Signature:_____ Date:_____

The parent/guardian has indicated to me that he/she is unable to read. I certify that I have read this consent from to the parent/guardian and explained that by completing the signature line above he/she has given permission for the child to participate in the study.

Signature of Reader:_____ Date:_____

Child Assent Form

I,_____, agree to be in a study about Opera learning and attitude toward Opera. The lessons about Opera and the activities will be part of my regular music class and the whole class will do them whether or not they are participating in the study. I may be chosen to be interviewed about my opinions about Opera. I can decide to stop having my information used for the study at any time without getting in trouble.

Child's Signature:_____ Age:_____ Date:_____

Witness _____ Date:_____

Study Exempted By:
Dr. Robert C. Mathews, **Chairman**
Institutional Review Board
Louisiana State University
203 B-1 David Boyd Hall
225-578-8692 | www.lsu.edu/irb
Exemption Expires: 3-23-2014

APPENDIX B

OPERA LESSON PLANS AND MATERIALS

Day 1 – Opera 101

Louisiana State Standards:

> Historical/Cultural Perception HP-3M-M1 understanding characteristics of musical styles representative of various historical periods and cultures; (2, 4)
>
> Critical Analysis CA-4M-M4 recognizing historical or cultural characteristics that determine the source of a musical style. (2, 3, 4)

(Power Point Presentation)

Opera Definition (5 minutes)

Origin of Opera (3 minutes)

Synopsis of *The Elixir of Love* (3 minutes)

Score (2 minutes)

Composer Bio (3 minutes)

Libretto

> Activity: Read a short portion like a play (7 minutes)

Opera Vocabulary

> Opera, Score, Composer, Libretto, Librettist, Synopsis
>
> Quick and Easy Crossword – Formative Assessment (5-7 minutes)

Day 2 – Voices of Opera

Louisiana State Standards:

> Creative Expression CE-1M-M6 exploring the elements of music through listening to a variety of musical examples; (1, 4)
>
> Aesthetic Perception AP-2M-M2 recognizing that the concept of beauty differs from culture to culture; (4, 5)

Languages and Opera Explanation (2 minutes)

Voice Types & Listening (10 minutes)

Opera Musical Numbers & Listening (10 minutes)

Opera Vocabulary

Soprano, Mezzo-soprano, Tenor, Bass, Aria, Duet, Chorus, vibrato

Activity: Music Listening Matching (8 minutes)

Day 3 – Careers in Opera/Attending an Opera

Louisiana State Standards:

Creative Expression CE-1M-M7 investigating relationships among music, other arts, and disciplines outside the arts. (2, 3, 4)

Critical Analysis CA-4M-M1 demonstrating and discussing behavior appropriate for the context and style of music performed, both as audience and performer; (1, 4)

Careers in Opera (Met Opera)

Activity: (20 minutes) Career Matching (Bags with job titles, visual representations and descriptions. Students with the bags read the job descriptions, then the other students take turns reading slips of papers with job duties. The student, with help from other class members if needed, files the slip in the appropriate bag.)

Vocabulary: House Manager, Costume Designer, Stagehand, Singer, Conductor, Stage Director, Lighting Designer, Supertitle Operator, Prop Manager, Stage Manager, Set Designer, Hair & Makeup Designer, Marketing Director

Opera Etiquette (5 minutes)

Activity: Opera Etiquette Checklist (5 minutes)

Opera 101

What is Opera?

OPERA is a story told to music.

What is Opera?

OPERA is a story told to _____.

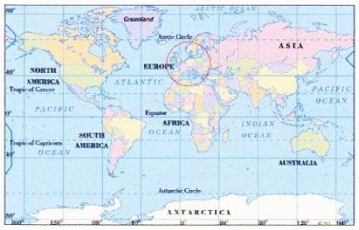
What is Opera?

OPERA is a _____told to _____.

What is Opera?

OPERA is _ _____ _____ __ _____.

Where did Opera Begin?

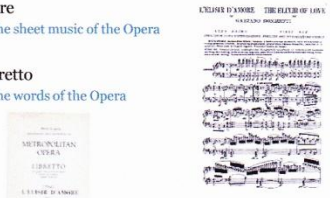


Who creates the Opera?

- Composer
  - The person who writes the music
- Librettist
  - The person who writes the words

What do they create?

- Score
  - The sheet music of the Opera
- Libretto
  - The words of the Opera



Composer: Gaetano Donizetti

- From Italy
- Born 1797
- Youngest of 3 sons
- From a poor family
- Father worked at a pawn shop
- Went to Music School on scholarship from age 9
- Wrote 75 Operas
  - Only a few are still performed
  - Wrote *The Elixir of Love* in 1832
- Died 1848 (Age 50)

Libretto – *The Elixir of Love*

- The original libretto for this Opera is in Italian
  - Can you think of why the libretto was in Italian?
- A new English libretto for the story has been created by Diane Garton Edie.

Synopsis – *The Elixir of Love*

- Synopsis – a short version of the story

In this version of the story, Jimmy is in love with Addy, but doesn't have the guts to tell her. When the handsome Billy comes to town and tries to woo Addy, Jimmy is desperate to get Addy to love him. He buys a "magic potion" from a sleazy salesman named Dr. Dulc. It's not really a magic potion, but thinking that it has power gives Jimmy the courage to tell Addy how he feels about her.

Reading a Libretto

- In this section of the libretto, Jimmy just drank the potion and is expecting it to work right away on Addy. Addy is confused by Jimmy's strange behavior. The characters are not speaking to each other, but to the audience.
- One special featuring of singing instead of speaking the text is that each character can sing a different line of text simultaneously.

Jimmy: (singing a tune to himself) Tra la la la.

Addy: Is he carefree or faking? His mood cannot be real.

Jimmy: Tra la la la la.

Addy: I think he wants to fool me.

Jimmy: I guess it takes a while.

Addy: He's acting very strangely.

Jimmy: It's not what I expected.

Addy: Ha! Ha!

Jimmy: She's laughing at my love for her, that heartless, cruel tormentor.

Addy: I'm getting mighty angry now. How rudely he is acting!

Jimmy: Tomorrow she will surely fall, she'll fall in love with me.

Addy: He's strutting, posing, swaggering.... He seems to be carefree.

Jimmy: Elixir, do not fail me, please, oh change how she is acting.

Show What You Know

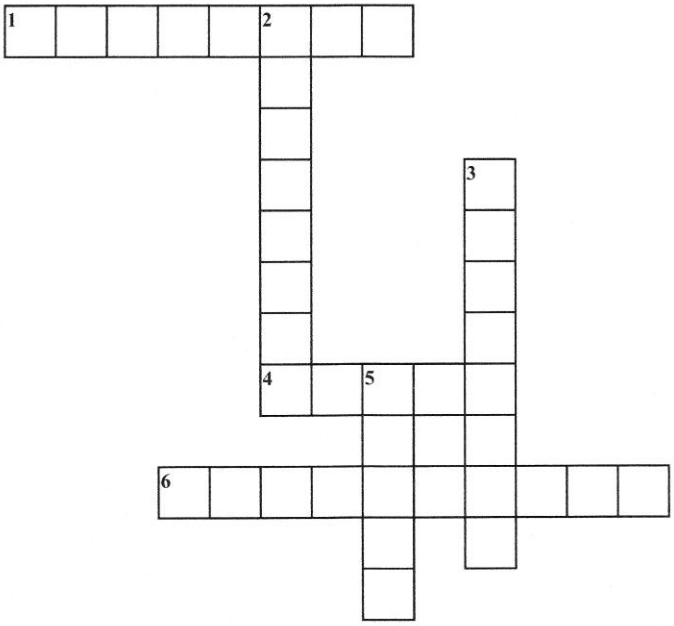
- Complete the Opera 101 Crossword Puzzle

Name _____ Date _____

(Key # 1 - 975030)

Opera 101

Complete the crossword puzzle.



SCORE **SYNOPSIS** **LIBRETTO**
COMPOSER **LIBRETTIST** **OPERA**

Across

1 The person who writes the music for the Opera

4 The sheet music for the Opera

6 The person who writes the words for the Opera

Down

2 A short version of the story of the Opera

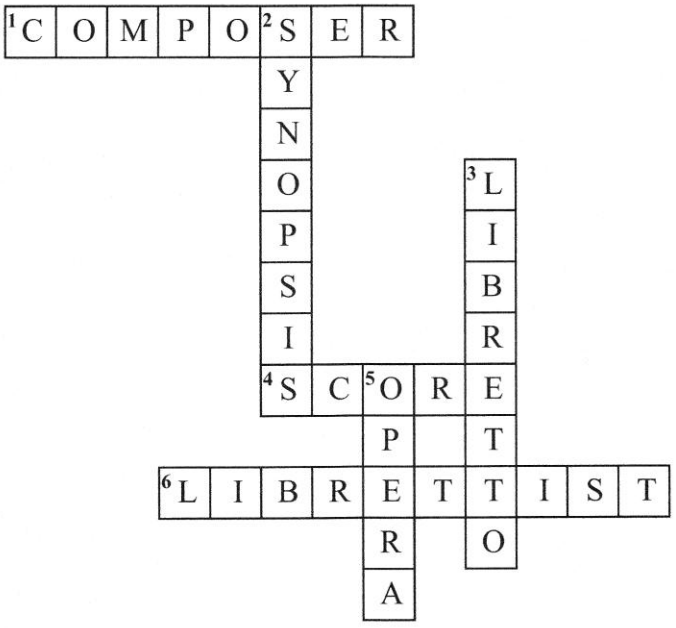
3 The words for the Opera

5 A story told to music

Answer Key: Key # 1 - 975030

Opera 101

Complete the crossword puzzle.



Voices of Opera

Review – What is OPERA?

OPERA is a story told to music.

Languages and Opera

- Western Opera is sung in many different languages.
- Why?
- What are some of the languages that are commonly sung in operas?

Languages and Opera

- How many of these did you guess?
  - English
  - Italian
  - French
  - German
  - Spanish
  - Czech
  - Russian
  - *Chinese Opera is a different art form than Western Opera, but you should look it up and learn more about it!

Listening to Opera

- Special Characteristics of Opera Singers
  - They must be able to sing without a microphone over a full orchestra.
  - Sometimes this is a 50 to 1 ratio of instrumentalists to a singer
- Vibrato
  - The "wavy" soung in a Opera Singer's voice
  - Caused by volume of singing
  - Considered "beautiful" in Opera singing

Voice Types in Opera - Soprano

- There are actually many voice types in Opera, but we are going to discuss the four most popular.
- The highest pitches in Opera are sung by a Soprano
- She often plays a young woman character or the heroine of the story
- Listen to this excerpt from The Magic Flute

Voice Types in Opera – Mezzo-Soprano

- Another female voice type who sings lower pitches than the soprano is the mezzo-soprano.
- In a choir, this singer is referred to as an alto.
- She often plays older or wiser women characters, like the mother or the best friend. In some cases, she plays a boy.
- Listen to this excerpt from Carmen

Voice Types in Opera - Tenor

- The man with a changed voice who sings the highest notes is called a Tenor.
- He usually plays the hero or the young man.
- Listen to this excerpt from La Bohème

Voice Types in Opera - Bass

- The man with a changed voice who sings the lowest notes is called a Bass.
- He often plays the villian, the father, or a funny friend
- Listen to this excerpt from The Marriage of Figaro

Musical Types - Aria

- An aria is sung by one person alone. It could be a man or a woman.
- An aria is the operatic term for "solo."
- All of our previous listening examples have been arias.

Musical Types - Duet

- A duet is a musical number for two singers. It can be any combination of two singers: a man and a woman, two men, or two women.
- Listen to this excerpt from La Traviata

Musical Types - Chorus

- A chorus is a musical number for a group of singers (usually more than 6). It may be men and women separately or together.
- Listen to this excerpt from The Magic Flute

Test Your Skills

- On your paper, draw a line matching the listening example number to the vocabulary word that best describes it.
- #1
- #2
- #3
- #4
- #5
- #6
- #7

Name_____Date_____

Opera Listening Matching

Draw a line matching the listening example number to the vocabulary word that best describes it.

Voice Types

Listening Example	
#1	Soprano
#2	Mezzo-Soprano
#3	Tenor
#4	Bass

Musical Types

Listening Example	
#5	Aria
#6	Duet
#7	Chorus

Careers in Opera

Review – What is OPERA?

What is Opera?

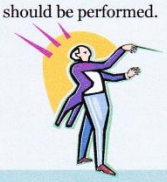
OPERA is a story told to music.

Many Careers in Opera

Musicians	Behind the Scenes	Cooperating
Conductor	Stage Director	House Manager
Singers	Stage Manager	Marketing Director
Orchestra Musicians	Costume Designer	Supertitle Operator
	Set Designer	
	Lighting Designer	
	Hair and Makeup Designer	
	Prop Manager	
	Stagehand	

Conductor

- Keeps the orchestra and the singers performing together musically.
- Gives singers and the orchestra instructions about how the music should be performed.



Singer

- Pretends to be a character in the Opera onstage.
- Performs onstage without a microphone.

Orchestra Musician

- Plays an instrument for the Opera and follows the Conductor.

Stage Director

- Tells the singers where to go onstage.
- Is in charge of all aspects of the visual presentation of the Opera.

Stage Manager

- Is in charge of all backstage areas during the rehearsals and performances of the Opera.
- Is responsible for communicating to all crew members during the performances of the Opera.

Costume Designer

- Creates and draws designs for costumes for the Opera.
- Oversees the creation of the clothing that the singers will wear onstage.

Set Designer

- Researches, then draws or builds a model of what the set for the production will be.
- Supervises the building of the set.

Lighting Designer

- Creates a plan for helping the singers be visible (in the light) onstage.
- Makes creative choices about how to create mood and atmosphere through lighting.

Hair and Makeup Designer

- Makes creative decisions about how hair will be styled during the show.
- Designs special effects for performers' skin including wounds and old age.

Prop Manager

- Makes and repairs small furniture and things people hold in their hands for the Opera.
- Keeps props organized for all of the performances of the Opera.

Stagehand

- Moves pieces of scenery before, during, and after the Opera.

House Manager

- Makes sure all audience members have a ticket and find a place to sit.
- Closes the doors and notifies the Stage Manager when everyone is seated.

Marketing Director

- Creates media (television, radio, print) campaigns that bring in audience members.
- Oversees creation and development of brochures, posters, and programs.

Supertitle Operator

- Projects the text of the Opera up on a screen above the stage.

Many Careers in Opera

Musicians
- Conductor
- Singers
- Orchestra Musicians

Behind the Scenes
- Stage Director
- Stage Manager
- Costume Designer
- Set Designer
- Lighting Designer
- Hair and Makeup Designer
- Prop Manager
- Stagehand

Cooperating
- House Manager
- Marketing Director
- Supertitle Operator

Another Important Job in Opera

AUDIENCE MEMBER!!!

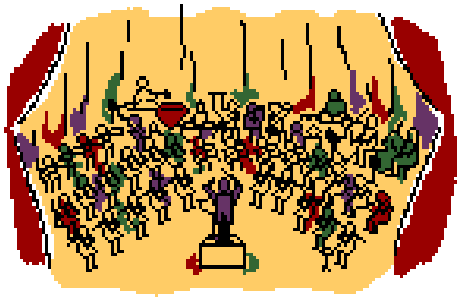
Rules for Good Audience Etiquette

- Remain in your seat and keep your hands to yourself.
- Keep your eyes on the stage.
- Listen to the performance. No talking.
- Applaud if you enjoyed the performance.
  - In Opera, it is also okay to say "Bravo!" at the end of a performance.
  - "Bravo" means "good job" in Italian.

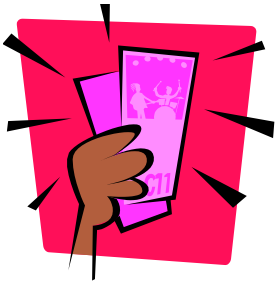
Opera Career Bag Activity

Glue each Career on a separate paper bag. Cut out job responsibilities and match to the appropriate job.

Orchestra Musician

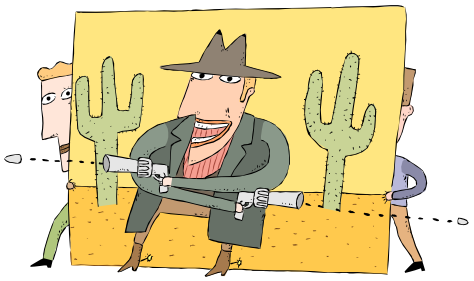


House Manager

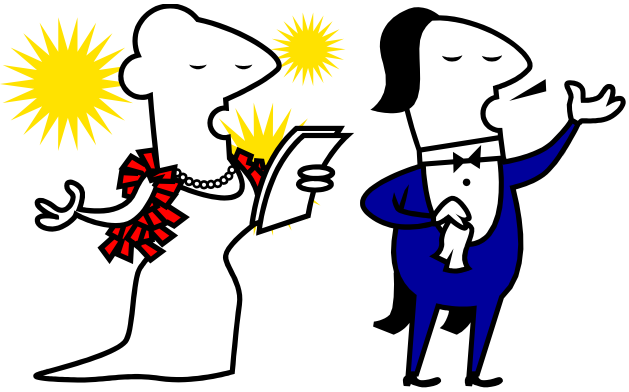


Costume Designer

Stagehand



Singer



Conductor

Stage Director

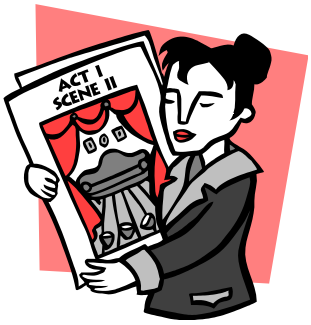
Lighting Designer

Supertitle Operator

Prop Manager

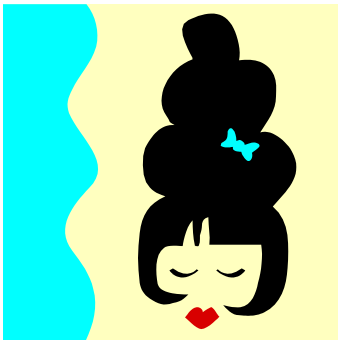
Stage Manager

Set Designer

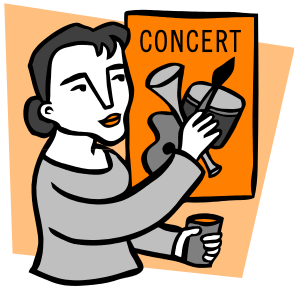


Hair & Makeup

Designer



Marketing Director



Cut apart job descriptions for matching game.

House Manager

Makes sure all audience members have a ticket and find a place to sit.

Closes the doors and notifies the Stage Manager when everyone is seated.

Costume Designer

Creates and draws designs for costumes for the Opera.

Oversees the creation of the clothing that the singers will wear onstage.

Stagehand

Moves pieces of scenery before, during, and after the Opera.

Singer

Pretends to be a character in the Opera onstage.

Performs onstage without a microphone.

Conductor

Keeps the orchestra and the singers performing in synch musically.

Gives singers and the orchestra instructions about how the music should be performed.

Orchestra Musician

Plays an instrument for the Opera and follows the Conductor.

Stage Director

Tells the singers where to go onstage.

Is in charge of all aspects of the visual presentation of the Opera.

Lighting Designer

Creates a plan for helping the singers be visible onstage.

Makes creative choices about how to create mood and atmosphere through lighting.

Supertitle Operator

Projects the text of the Opera up on a screen above the stage.

Prop Manager

Makes and repairs small furniture and things people hold in their hands for the Opera.

Keeps props organized for all of the performances of the Opera.

Stage Manager

Is in charge of all backstage areas during the rehearsals and performances of the Opera.

Is responsible for communicating to all crew members during the performances of the Opera.

Set Designer

Researches, then draws or builds a model of what the set for the production will be.

Supervises the building of the set.

Hair & Makeup Designer

Makes creative decisions about how hair will be styled during the show.

Designs special effects for performers' skin including wounds and old age.

Marketing Director

Creates media campaigns that bring in audience members.

Oversees creation and development of brochures, posters, and programs.

Name_____

Audience Etiquette

Etiquette is another word for manners. It is important to have good manners when you watch a live performance, like an opera. Put a checkmark by the sentences that describe good manners for watching a performance.

- Sasha sits on her bottom, holds her hands in her lap, and does not talk during the performance
- Brian pokes his neighbor and talks to him about the singing during the performance.
- Miguel claps and says "Bravo!" at the end of the performance.
- Marcus makes faces at his teacher and other students and stares out the window during the performance.
- Maria watches and listens to the performers on stage.
- Destiny sends text messages on her phone during the performance.
- Carlos doesn't bring his phone to performances, and if he forgets and brings it, he keeps it turned off and put away.
- Walt says everything he doesn't like about the opera out loud while the performance is happening.
- Molly thinks about things she likes and doesn't like about the performance, and waits for a good time to talk about them after the performance is over.

APPENDIX C

COGNITIVE ASSESSMENT

Name_____Date_____

What Do You Know About Opera?

Part 1

Please read each question carefully and circle your choice for the correct answer.

1. Which of the following is not a voice type for Opera singers?

    A. Tenor

    B. Soprano

    C. Vibrato

2. Opera began on which continent?

    A. North America

    B. Africa

    C. Europe

3. How long has opera existed?

    A. Less than 10 years

    B. Between 10 and 150 years

    C. More than 150 years

4. Which of the following stage items is usually NOT found in an opera?

    A. Set

    B. Microphones

    C. Costumes

5. An important skill Opera Singers need is the ability to:

    A. Sing R&B songs

    B. Sing with a microphone

    C. Sing in foreign languages

6. Another word for Aria is:

    A. Solo

    B. Duet

    C. Chorus

7. In opera, an Aria is a:

    A. Song for a big group of people to sing together

    B. Song for two people to sing together

    C. Song for one person to sing alone

8. A simple definition for Opera is:

    A. A story told to music

    B. A musical game

    C. A dance

9. The voice type that sings the highest pitches in Opera is:

    A. Vibrato

    B. Tenor

    C. Soprano

10. Opera singers do not need microphones because:

    A. They use a megaphone

    B. No one is supposed to hear them

    C. They can sing very loud

11. The “shaking” sound in an opera singer’s voice is called:

    A. Libretto

    B. Vibrato

    C. Score

12. All the words of an opera make up the:

    A. Soprano

    B. Libretto

    C. Duet

13. The printed music notes of an opera are found in the:

    A. Vibrato

    B. Libretto

    C. Score

Part 2

Listen carefully to the following musical examples and circle your choice for the correct answer to the questions below.

14. The person who is singing this example could best be described by which voice type?

    A. Soprano

    B. Mezzo-soprano

    C. Tenor

15. The person who is singing this example could best be described by which voice type?

    A. Tenor

    B. Bass

    C. Mezzo-soprano

16. The person who is singing this example could best be described by which voice type?

    A. Mezzo-soprano

    B. Bass

    C. Soprano

17. The person who is singing this example could best be described by which voice type?

    A. Tenor

    B. Bass

    C. Soprano

18. This musical example would be called which of the following parts of an Opera?

    A. Aria

    B. Chorus

    C. Duet

19. This musical example would be called which of the following parts of an Opera?

    A. Overture

    B. Chorus

    C. Duet

20. This musical example would be called which of the following parts of an Opera?

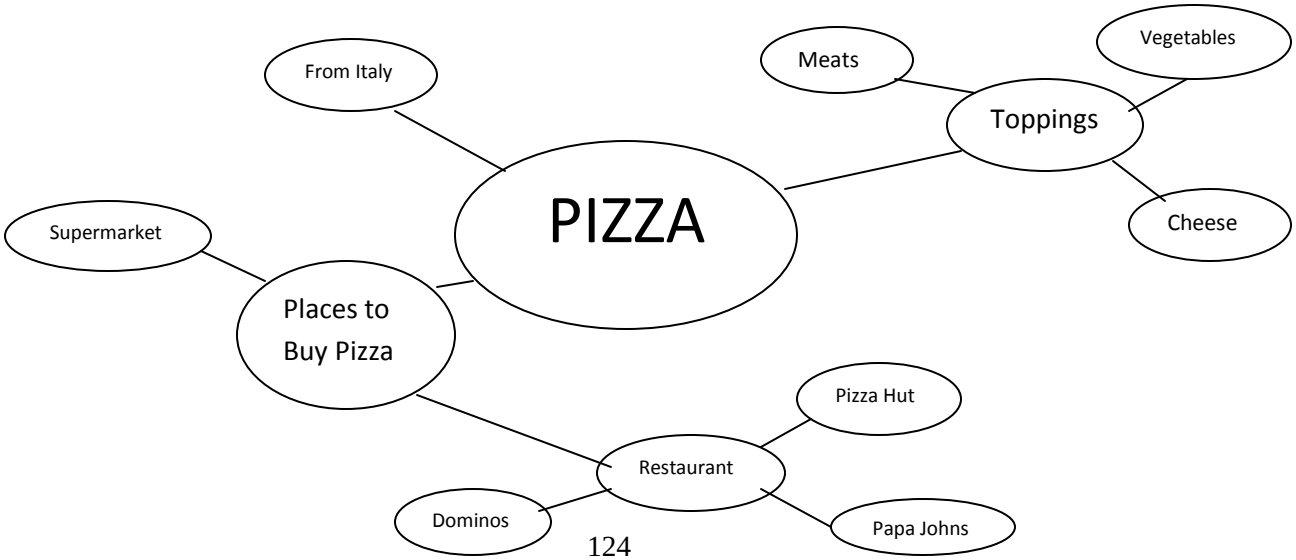
    A. Duet

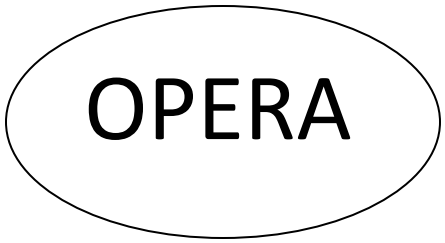
    B. Aria

    C. Overture

Part 3

Using a Web-map (Concept-map) design, with Opera as the main component, include everything you can think of that you know about Opera. Use larger circles for bigger ideas, and smaller circles for supporting details. You should use as many big ideas and details as you can. Draw lines to make connections between elements. An example using Pizza (instead of Opera) has been included here for you. On the next page, you will find the place to put your work.




OPERA

APPENDIX D

ATTITUDE ASSESSMENT

Name_____Date_____

Opera Questionnaire

Directions: Circle the number that represents your response to the following questions.

1. How fun do you think Opera is?

Most Fun 7 6 5 4 3 2 1 Least Fun

2. How interesting do you think Opera is?

Most interesting 7 6 5 4 3 2 1 Least Interesting

3. How talented do you think Opera Singers are?

Most talented 7 6 5 4 3 2 1 Least Talented

4. How beautiful do you think Opera singing is?

Most beautiful 7 6 5 4 3 2 1 Least Beautiful

Directions: Circle your answers to the questions below. Choose only 1 answer for each question.

5. Would you like to attend an opera?

really like to like to might want to don't care will if I have to don't really want to don't ever want to

6. Would you like to listen to opera music?

really like to like to might want to don't care will if I have to don't really want to don't ever want to

7. Would you like sing in an opera someday?

really like to like to might want to don't care will if I have to don't really want to don't ever want to

8. Would you download tracks of opera music?

really like to like to might want to don't care will if I have to don't really want to don't ever want to

Write your answers to the following questions.

9. Have you ever seen or heard an Opera before? If so, where and when?

10. What do you think about Opera?

Name_____Date_____

Opera Questionnaire

Directions: Circle the number that represents your response to the following questions.

1. How fun do you think Opera is?

Most Fun 7 6 5 4 3 2 1 Least Fun

2. How interesting do you think Opera is?

Most interesting 7 6 5 4 3 2 1 Least Interesting

3. How talented do you think Opera Singers are?

Most talented 7 6 5 4 3 2 1 Least Talented

4. How beautiful do you think Opera singing is?

Most beautiful 7 6 5 4 3 2 1 Least Beautiful

Directions: Circle your answers to the questions below. Choose only 1 answer for each question.

5. Would you like to attend an opera?

really like to like to might want to don't care will if I have to don't really want to don't ever want to

6. Would you like to listen to opera music?

really like to like to might want to don't care will if I have to don't really want to don't ever want to

7. Would you like sing in an opera someday?

really like to like to might want to don't care will if I have to don't really want to don't ever want to

8. Would you download tracks of opera music?

really like to like to might want to don't care will if I have to don't really want to don't ever want to

Write your answers to the following questions.

9. What was your favorite part of this Opera experience?

10. What was your least favorite part of this Opera experience?

11. Has this experience made you think differently about Opera? If so, how?

12. Do you have any other comments about Opera?

APPENDIX E

SEMI-STRUCTURED INTERVIEW PROTOCOL

1. What types of music do you like the best? What do you like about those types of music?
2. What do you think about Opera?
3. What did you like or not like about the Opera that came to your school?
4. What do your teachers think about Opera?
5. What do your family members think about Opera?
6. What do your friends think about Opera?
7. Has this experience (of watching/watching and learning about/watching , learning about, and making your own Opera) made you think differently about Opera? How has your opinion changed?
8. What do you think would make you enjoy Opera more?
9. Is there anything else you want to tell me?

VITA

Sara Harris Baker holds a Bachelor of Music Degree in vocal performance, *magna cum laude*, from Southwestern University (2002), where she earned the Outstanding Senior Music Performance Major Award. Ms. Baker was the Choir Director at Bonham Middle School in Temple, Texas, from 2002-2008 where her choirs earned multiple Sweepstakes Awards at the University Interscholastic League Concert and Sight Reading Contest. While teaching full-time, she completed a master's degree in music education from Boston University in 2008. Additionally, she directed The University of Mary Hardin-Baylor Conservatory Girls' Choir from 2006-2008. In the summer of 2005, Ms. Baker also served as Assistant Director of Operas for The Atlantic Coast Opera Festival.

While a doctoral student at Louisiana State University from 2008-2011, Ms. Baker served as Opera Production Manager for LSU Opera. She coordinated school performances and wrote curriculum for Louisiana Opera Outreach Program (LOOP) tour of schools each semester. As Opera Production Manager at LSU, Ms. Baker coordinated and stage managed all the mainstage operas and scenes programs and served ex-officio on the Patrons of LSU Opera Board.

Ms. Baker taught private voice lessons from 2008-2011 at Center Stage Performing Arts Academy in Gonzales, Louisiana. In addition, she wrote and taught vocal arrangements for the Center Stage Stars Company, winners of the Access Broadway National Championship (Broadway Cup) in 2010. In 2009 and 2010, she served as Production Manager for the Natchez Festival of Music in Natchez, Mississippi. In the fall of 2011, Baker was appointed as the Head Choir Director at Centennial High School in Burleson, Texas, where she currently serves.