ONLINE PROFESSIONAL DEVELOPMENT IN PRESCHOOL SETTINGS:
MUSIC EDUCATION TRAINING FOR EARLY CHILDHOOD GENERALISTS

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by

Terri Brown Lenzo

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Dissertation written by

Terri Brown Lenzo

B.M., University of Cincinnati College-Conservatory of Music, 1983

M.F.A., University of Iowa, 1987

Ph.D., Kent State University, 2014

Approved by

____________________

Craig M. Resta, Ph.D., Chair, Doctoral Dissertation Committee

____________________

Patricia Grutzmacher, Ph.D., Member, Doctoral Dissertation Committee

____________________

Christopher Venesile, Ph.D., Member, Doctoral Dissertation Committee

____________________

Martha Lash, Ph.D., Member, Doctoral Dissertation Committee

Accepted by

____________________

Ralph Lorenz, Ph.D., Acting Director, Hugh A. Glauser School of Music

____________________

John R. Crawford, Ed.D., Dean, College of the Arts
Preschool generalists are often responsible for leading musical activities despite the fact that they may not have received training. The online format showed promise for ameliorating training barriers such as time commitment, cultural misconceptions regarding music education, and self-efficacy for leading musical activities. Therefore, the purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities.

This was research of the quasi-experimental genre in which a one-group pretest-posttest design was utilized. The researcher conducted four preschool music classes which were videotaped by an assistant. Selected recordings were combined with narrated PowerPoint presentations to create three separate video-training modules focused on teaching techniques for leading singing, instrumental, and movement activities. The modules were posted online and designed to allow unlimited asynchronous access for a two-week period.

Using purposeful sampling methods, participants were recruited by contacting affiliates of the National Association for the Education of Young Children. Snowball sampling was also employed. The sample \( n = 26 \) included classroom educators working in child care centers and independent settings from all six regions of the United States. Data were collected via Qualtrics online survey service and analyzed with IBM SPSS.

At an alpha level of .05, overall teacher self-efficacy for leading musical activities increased significantly \( (p = .005) \). Self-efficacy for leading specific singing, instrumental, and
movement activities increased in 21 of 22 categories, and 14 of those findings were statistically significant. The significant findings for teaching musical concepts and facilitating the development of creativity were particularly meaningful as previous researchers have found these activities lacking in preschool curricula. Significant results were also obtained for beliefs about inherited musical talent.

Given an appropriate training design, study data support the use of an online delivery method for the music education professional development of in-service preschool generalists. Implications exist for the training of other generalist populations and music specialists. Considering the critical nature of early childhood musical development, additional training programs should be implemented with classroom teachers and music educators.

Keywords: online training, self-efficacy, early childhood, musical development, music education, musical activities, child care centers, preschool students, classroom teachers
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Thanks be to God! Although the purpose of this research was accomplished, the greater purpose has yet to be revealed. May I be sensitive to God’s will as I move into the next phase of my life and career. I offer this in the tradition of J.S. Bach:

Soli Deo Gloria-Glory to God alone.
CHAPTER ONE

INTRODUCTION

Background

While on a recent trip to a local department store, I heard a young voice singing the popular song *Frosty the Snowman*. As I turned the corner, the singer came into view—a boy around the age of three or four—confined to a cart and attempting to entertain himself as his mother shopped. In stores, or the family vehicle, during playtime, bath time, and at supposed nap times, young children may be observed singing and moving to recorded music or making music of their own. Likewise, adult caregivers might be seen and overheard as they nurture children through use of lyrical speech, lullabies, and rocking movements.

Perhaps due to the prevalence of these examples in our society, musical experience is often viewed as a natural part of childhood by parents and educators. However, within a preschool setting, this informal recognition of the value of music does not ensure that teachers will implement instruction designed to facilitate musical development. Although preschool students may be engaged in musical activities, Kelly (1998) and Nardo, Custodero, Persellin, and Fox (2006) found that musical development and the study of musical concepts usually do not receive priority in preschool curricula. Nardo et al. (2006) also found that preschool teachers are expected to develop music curriculum and lead musical activities, even though they are frequently unprepared for those tasks. It seems that two major contradictions exist within early childhood education. First, there can be a dichotomy between teacher preparation and job requirements. Second, there is often a lack of music education in what may be a music-filled environment.
Throughout the 20th- and 21st-centuries, research in the fields of general education and music education has supported the importance of early childhood music-making. Rather than simply including musical activities in the curriculum, an effort should be made to facilitate the musical development of young children by teaching musical concepts. The difference between using music in the classroom and promoting musical development was recognized by Montessori (1948) who stated that exposure to music does not constitute music education. The support of many educators and professional organizations can be seen as an attempt to elevate the status of music in the early childhood curriculum.

Maria Montessori (1870-1952), physician and educator, espoused education in sound as preparation for music education (Montessori, 1948, 1964). Early childhood specialists, Copple and Bredekamp (2009), have outlined developmentally appropriate practice (DAP) in music for students in preschool through grade three. Zoltán Kodály (1882-1967), composer, ethnomusicologist, author, and educator, believed that music instruction should begin “nine months before birth, and then amended to say nine months before the birth of the mother” (Choksy, 1981, p. 57). Fifty years of research by Edwin Gordon (b. 1927), music educator, researcher, and author, illustrates the importance of music learning in early childhood (Gordon, 2007).

Results of several symposia have included recommendations for early exposure to music. The Tanglewood Symposium was a self-study of the music teaching profession initiated by the Music Educators National Conference (MENC) in the spring of 1967. The subsequent Tanglewood Declaration contained recommendations for music teacher training to equip educators to work with “the very young, with adults, with the disadvantaged, and with the emotionally disturbed” and a conclusion that “schools and colleges should provide adequate time
for music in programs ranging from preschool through adult or continuing education” (Choate, 1968, p. 139).

Thirty years later, another major event recommended early childhood music education; Vision 2020: The Housewright Symposium on the Future of Music Education co-sponsored in 1999 by MENC and Florida State University (Madsen, 2000). Inspired by the Tanglewood Symposium, MENC president June Hinckley initiated and directed the project. Named for Wiley Housewright, MENC president for two years immediately following Tanglewood, this symposium also supported “meaningful music instruction for all people beginning at the earliest possible age and continuing throughout life” (Madsen, 2000, p. 220). Music standards are also emphasized through the recommendation that “time must be allotted for formal music study at all levels of instruction such that a comprehensive, sequential, and standards-based program of music instruction is made available” (Madsen, 2000, p. 219).

The overarching principle in these examples, the importance of music study from a young age, was described by Bryson (1982) who conducted an extensive historical review on the role of classroom teachers as music educators. In extant research from as early as 1907, many studies sought the opinion of classroom teachers regarding the importance of music in the elementary curriculum. Throughout the literature “it appeared that to label music as unimportant was as un-American as denouncing motherhood and apple pie” (Bryson, 1982, p. 56).

While parents and educators may agree that music is an important component of child development (McDonald, 1989), reaching a consensus about the type of musical experiences that children should receive can be challenging. During my 12-year career as an early childhood music educator teaching in an independent studio, I worked with families who enrolled their infants, toddlers, preschoolers, and first through second-graders in classes which were based on
the philosophies of Jaques-Dalcroze, Kodály, and Orff. Many families maintained consistent enrollment for their children from infancy through completion of the program at age seven. It was not uncommon for me to receive a registration for a child that had yet to be born. These families clearly valued early musical experiences.

When studio parents began enrolling their children in academic preschools between the ages of three and four, they often described the type of music instruction their children were receiving. I gathered additional anecdotal evidence on my own when presenting programs in preschools. These informal observations have been confirmed in the literature. In a majority of preschool environments, music specialists are not employed, leaving classroom teachers with the responsibility for music instruction and curriculum development, even though they may lack preparation to perform those duties (Daniels, 1992; Gharavi, 1993; McDonald, 1980; Nardo, Custodero, Persellin, & Fox, 2006; Tarnowski & Barrett, 1997).

Within the early childhood classroom, music often functions in a subservient role. Singing songs and moving to music were the most prevalent activities, although they were primarily used to encourage social-emotional development, to provide structure for the school day, to facilitate transitions between activities, or to teach other subjects (Golden, 1989; Gawlick, 2002; Hash, 2010; Nardo et al., 2006). Integrating music with other subject areas often takes precedence over the teaching of musical concepts (Nardo et al., 2006). Kelly (1998), Gawlick (2002), and Nardo et al. (2006) found that administrators and teachers were largely unaware of the prekindergarten music education standards which were published by the MENC in 1994.
According to the literature, the current state of preschool music education in child care centers shows that the subject is valued, yet in many cases, the teachers who are responsible for instruction do not possess adequate knowledge and skills (Daniels, 1992; Kirsten, 2006). For the early childhood classroom teacher it is likely that a discrepancy exists between their preparation and their job description. Left to design their own curriculum, teachers include the musical activities they believe in or feel confident in leading (Byo, 2000; Hash, 2010). As a result of these conditions, preschoolers may not receive a developmentally appropriate music education during a critical period in their lives.

If classroom teachers are charged with the music education of their students during such a crucial developmental period, then it is important that their knowledge and training are addressed (Daniels, 1992; McDonald, 1980; Nardo, 1996; Nardo et al., 2006; Tarnowski & Barrett, 1997). Research studies from the last thirty years have maintained that teachers are not receiving the knowledge they need. One wonders why these conditions persist. Perhaps availability of training is a contributing factor.

While it is common for elementary school teachers to receive exposure to arts education through a university-based methods course, the educational backgrounds of preschool teachers can be much more varied (Nardo et al., 2006) and access to music education training can be limited (Kim & Robinson, 2010; McDonald, 1980; Nardo, 1996; Nardo et al., 2006). Perhaps because there are few training programs to be studied, the bulk of music education research conducted with preschool generalists has been directed toward other areas such as the types of musical activities included in the curriculum or teacher attitudes toward music education (Daniels, 1992; Golden, 1989; Nardo et al., 2006; Tarnowski & Barrett, 1997). Although few
projects have been directed at the musical preparation of preschool classroom teachers outside of a methods course, results have been promising.

Studies show that training of early childhood generalists can increase their self-efficacy (de l’Etoile, 2001; Ebbeck et al., 2008; Nichols, 1993; Siebenaler, 2006). Musical skills of generalists have shown improvement as a result of instruction received in an undergraduate methods course (Koops, 2008; Siebenaler, 2006; Smith, 2002; Vannatta-Hall, 2010) and during in-service workshops for child care providers and classroom teachers (de l’Etoile, 2001; Nichols, 1993). Nichols (1993) conducted a training program for teachers working in child care centers in New York State. Results showed that an increase in teacher self-efficacy for modeling musical concepts led to an increase in student achievement. Therefore, since music education professional development programs have been helpful to preschool teachers and students, and because there is a lack of research in this area, additional training programs are warranted. This supposition has been supported by Daniels (1992), Gawlick (2002), Neelly (2000), and Tarnowski and Barrett (1997), among others.

When designing professional development programs for teachers working in child care centers, it is important that their specific needs are addressed (Daniels, 1992; McDonald, 1980; Nardo et al., 2006). Teachers in child care centers often work long hours for low pay (de l’Etoile, 2001; Gharavi, 1993) and may possess a view of music education based on cultural definitions rather than professional guidelines and standards (C. Richards, 1999; Nardo et al., 2006; Siebenaler, 2006). Self-efficacy for leading musical activities may also be affected by negative feedback received in previous musical experiences, resulting in mental presets that must be overcome (Rideout, 1992). Consequently, factors that may constrain professional development in music—time commitment, training format, misconceptions concerning music
teaching and musical development, and issues of teacher self-efficacy—should be considered by those who design workshops and methods courses.

Responses received directly from preschool teachers have shown that brief workshops are desired (de l’Etoile, 2001; Holz, 1996; Kirsten, 2006). Keast (2004) utilized an online instructional component for graduate music majors and commented that online training, by definition, is designed for brief encounters. Based on these findings, use of an internet-based format may alleviate some concerns about training access and time commitment.

Anecdotal information suggests that other advantages of online education may be asynchronous learning, privacy, and affordability. Asynchronous participation may ease concerns of time and expense, offering lifestyle accommodation for those who can access the internet via personal electronic devices or other means. Social discomfort may be lessened when teachers are able to participate in a place of their own choice which would provide privacy. With easy access to training via the internet, considerations of time and cost might be removed as deterrents to professional development. A brief, affordable, accessible online program may result in higher numbers of children receiving musical experiences aligned with the prekindergarten music standards during their preschool education.

Need and Purpose of the Study

Nardo et al. (2006) conducted a national survey of teachers working in early childhood centers accredited by the National Association for the Education of Young Children (NAEYC). The authors stated that the consistency of two major findings over the past 30 years calls for the creation of accessible music education professional development for preschool teachers: (1) Preschool classroom teachers, rather than music specialists, are responsible for creating the music curriculum and leading the activities with the students, and (2) Due to a lack of training,
classroom teachers are often unprepared to facilitate standards-based musical development. This dichotomy between job expectations and training offers several implications for the music education of generalists.

In an attempt to reconcile the gap between teacher preparation in music and job requirements, designers of education programs for pre-service and in-service teachers should work to develop teacher self-efficacy for facilitating musical development. Byo (2000) and Hash (2010) found that the content of early childhood music curricula can be constrained by teacher self-efficacy. If teachers include the activities they feel confident in leading, and if they have received little training for doing so, then it follows that limited musical experiences would be offered to students. While personal experiences and the resulting level of self-efficacy possessed by individual teachers can limit the curriculum, it also seems likely that such a curriculum would be quite diverse. In fact, studies spanning nearly 20 years have confirmed that a wide range of music education practices exist in early childhood education (Golden, 1989; McDonald, 1980; Nardo et al., 2006; Scott-Kassner, 1999).

It can be very difficult to nurture the musical development of students using such a casual, arbitrary approach, within a curriculum designed primarily according to the desire and limited training of the teacher. The creation of music standards was designed to bring a systemized approach to the teaching of music in early childhood (Byo, 2000). Training preschool teachers to implement the standards may reduce the random approach to music education and increase the number and variety of experiences made available to students. Experiencing diverse music and musical styles is integral to preschool music education (Copple & Bredekamp, 2009; MENC, 1994).
In order to equip preschool generalists with the knowledge and skills required to provide effective instruction, there is a need to study format and content options for the music education professional development of these teachers (Daniels, 1992; McDonald, 1980; Nardo et al., 2006). McDonald (1980) shared a response from a participant who stated that “The specific needs of early childhood education need to be addressed. Many college methods courses focus on arts instruction for elementary school children neglecting goals and techniques for younger children” (p. 2).

Despite consistent findings and recommendations, the music education professional development of preschool classroom teachers has not been thoroughly addressed in the research literature (Gawlick, 2002; Neelly, 2000), and specific studies concerning early childhood generalist self-efficacy for leading musical activities are also lacking (Vannatta-Hall, 2010). If teachers are responsible for the music education of their students, they should be properly trained, and constructs that may limit their teaching effectiveness should also be studied. Efforts to facilitate the musical preparation of classroom teachers could prove productive, especially if the program is designed to improve access to training. An online format shows promise for increasing the availability of music education professional development for teachers working in child care settings and independent preschools. As a result of needs revealed in the literature review, the purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities.
Research Questions

The research questions were developed based on information discovered in readings I completed for my doctoral coursework and in research I conducted for a previous study: “Music Education Philosophies and Practices of Early Childhood Educators” (Lenzo, 2013). Studies showed that beliefs and experiences can affect self-efficacy for leading musical activities, and these findings influenced the formation of the questions. The first question was designed to investigate teacher beliefs prior to training in order to provide a context for the post-treatment results and to inform future researchers and training developers. Concerning the second research question, results reported by other researchers have shown that beliefs and experiences can affect self-efficacy, but no single studies were found where patterns between the three areas were examined in detail. That was the goal of the second research question. The aim of the third question was to determine if an online training program could successfully remediate false beliefs about musical development and music teaching while also increasing self-efficacy for leading musical activities.

Therefore, the effectiveness of an online music education training program for preschool educators was studied by investigating these questions: (1) What beliefs do preschool generalists hold about teaching music to young children? (2) What relationships exist between teacher beliefs, personal musical experiences, and self-efficacy for music teaching? (3) How will beliefs and self-efficacy for teaching music change after participation in online training? Information gathered in the literature review informed the methodology which enabled me to provide answers to these questions and accomplish the purpose of the study.
**Definitions and Terminology**

Some of the terminology relevant to this topic carries different meanings in vernacular and professional usage. For terms that may be used in multiple ways, the meanings relevant to this study are defined in this section. According to the NAEYC, which is the main professional organization for professionals working in early childhood education, *early childhood* is the period of life from birth through age eight. Several terms are used to refer to the age groups encompassed by that designation: (1) Children ages zero to three are referred to as infants and toddlers, and (2) Children ages three to five are preschoolers, or those who have not yet entered kindergarten (Copple & Bredekamp, 2009). While the term *prekindergarten* is often popularly used to indicate four- or five-year olds who have not entered kindergarten, it is not used by NAEYC to define an age group within developmentally appropriate practice (Copple & Bredekamp, 2009). For the purposes of this study, *preschoolers* will indicate three- to five-year olds according to the NAEYC definition. Usage of *prekindergarten* or *pre-kindergarten* is limited to citations of previous works in which the terms were employed.

Just as several designations exist for early childhood age groups, descriptions of early childhood educational settings can also vary. Within the early childhood profession, the term *day care* has been virtually abandoned in favor of *child care*, perhaps due to the vernacular usage of day care to include populations other than children, including mature adults and pets. The terms *child care center* and *preschool* seem to be used interchangeably throughout the literature to indicate institutions offering preschool education.

NAEYC (2012b) recognizes the great variety of contexts and settings used for early childhood education, and Kirsten (2006) defined 17 different site terms. For the purposes of this investigation, the term *child care center* will indicate a setting that offers classes and child care
for children of multiple ages, including preschoolers. An independent preschool will refer to an institution that focuses on preschool education, but operates separately from a traditional PreK-12 school system. Typical independent preschools may include church-run schools or those associated with a particular approach such as Montessori or Reggio-Emilia. Distinguishing between PreK-12 institutions and others that educate preschoolers is important due to the variances in teacher access to training and professional development as revealed in the literature review.

Clarification of terms used to identify educators may also be helpful. In this work, teacher refers to an adult with or without post-secondary education who is responsible for engaging groups of children in learning activities. Classroom or generalist teachers are responsible for instructing students in a variety of subjects. The music specialist, someone trained and certified specifically in music education, is mentioned in this discussion, but is not a focus of the investigation.

Information gathered in the review of literature indicated that defining musical terms is helpful when conducting research with generalists. Therefore, particular consideration was given to the terminology used in the pre-and post-training surveys and in the training modules. For example, usage of the term improvisation is not prevalent outside of musical domains; therefore, it was defined as “making your own idea up on the spot” and paired with the terms creativity or critical-thinking at appropriate moments in the training modules. This same philosophy was applied to terms used to investigate or describe concepts related to musical development.

Gordon (2007) has defined musical aptitude as the individual potential for musical achievement. That terminology was used throughout this document; however, because
generalists may be unfamiliar with Gordon’s research, the terms *ability* and *abilities* were used in the training modules and surveys to denote “the quality or state of having the power to perform” (Merriam-Webster, 2004). Within the dissertation, these terms are used when describing applicable sections of the study materials.

Early childhood generalists and specialists may be expected to operate under standards for developmentally appropriate practice developed by NAEYC, which:

> As NAEYC defines it, *developmentally appropriate practice* (DAP) is a framework of principles and guidelines for best practice in the care and education of young children, birth through age 8. It is grounded both in the research on how young children develop and learn and in what is known about education effectiveness. The principles and guidelines outline practice that promotes young children's optimal learning and development. (NAEYC, 2009a)

The National Association for Music Education (NAfME) is the largest professional organization for music educators. It has undergone various name changes since its inception in 1907, resulting in the establishment of the current name in 2011. Many publications, symposia, and initiatives cited in this document bear a former name—Music Educators National Conference (MENC). MENC will be used for historical references and NAfME will refer to current policy.

In 1994 MENC funded a multi-disciplinary project to create K-12 educational standards for dance, music, theatre, and visual arts. The resulting document, *National Standards for Arts Education*, was published that same year by the Consortium of National Arts Education Associations (CNAEA, 1994). MENC published the standards in several separate documents which will be cited when appropriate. The prekindergarten standards and the K-12 standards were published in *The School Music Program: A New Vision* (MENC, 1994). Another publication, *Prekindergarten Music Education Standards: Guidelines for Early Childhood Educators, Music Specialists, Parents, And Day-Care Providers* (MENC, 1995), contains just
the guidelines for infants – four-year-olds. Instruction aligned with the prekindergarten music education standards will help students develop readiness skills for achieving objectives contained in the K-12 standards (MENC, 1994).

Developing teacher self-efficacy for leading musical activities was the main focus of the training program used in this study. Bandura (1977, 1986) found that self-efficacy can increase when individuals successfully perform a task, and he defined this as mastery experience. Results of this investigation suggested that there were connections between self-efficacy for leading musical activities and two types of mastery experiences: (1) those related to personal musicianship, such as participation in an ensemble or other musical activity, and (2) those that teachers may gain by leading musical activities with students.

**Scope of the Study**

The literature review will address the training and role of classroom teachers as music educators from the time of Lowell Mason to the present day. Educational philosophies of famous generalists and specialists provide a foundation, along with recommendations issued by NAEYC and NAfME. An examination of the literature points to the design of an online format as a possible solution to the lack of training, and as a means of easing the barriers of accessibility and cost often faced by this population. If an online program is found to be effective in increasing the musical self-efficacy of preschool teachers, many more children could receive training during a crucial period of their development.

While it might be appropriate to study the musical preparation of all those responsible for the education of young children—parents and other caregivers, classroom teachers, and music specialists, this study will focus on the music education practices of preschool generalists working in child care settings or independent preschools. Classroom teachers often do not
receive training in the practical skills needed for including music in their curricula, even though they may have completed a music methods course (Venesile, 1992). For the teacher working in a child care center who may not have had the opportunity to study music education methods, training can be even more limited (Nardo et al., 2006). In addition, the literature reveals specific obstacles to professional development faced by this teacher population, such as barriers to training and issues related to self-efficacy.

Purposeful and snowball sampling methods were utilized in order to gain participants who met the following criteria: preschool classroom teachers employed in settings that operate independently of any PreK-12 school system. Preschoolers were defined as three-to-five-year old children who have not entered kindergarten in keeping with the NAEYC definition (Copple & Bredekamp, 2009). Through use of purposeful sampling methods, state and local NAEYC affiliates in all 50 states were contacted. Music education professionals, preschool administrators, and preschool teachers were asked to share the study in accordance with snowball sampling methods. The sample size was \( n = 26 \), and respondents represented all regions of the United States. Neither generalist teachers working in PreK-12 settings nor music specialists were recruited for this investigation or included in the sample, although implications for their professional development are provided based on the results of the study. Further details regarding the population and the sampling procedures are provided in chapter three.

Time constraints present one barrier to training for this population (de l’Etoile, 2001), and several elements of the study were designed to alleviate that obstacle. This was a one-group pretest-posttest quasi-experimental study. In keeping with protocol for the research design, data is representative of beliefs and opinions of this particular sample at the time of their study.
participation. However, given the specific characteristics of this sample, results may be generalizable.

Training format and materials were also created to ameliorate the obstacle of time commitment. Participants had unlimited, asynchronous access to the online modules for a two-week period. The post-survey was offered immediately after the training period, and there was no follow-up survey to determine whether teacher practice changed as a result of the training. The focus of this study was teacher self-efficacy for music teaching and not teacher practice; however, specific survey questions addressed participant intent to employ the activities and strategies modeled in the training modules. Results appear in the fourth chapter.

The training program contained selected areas of developmentally appropriate practice or DAP (Copple & Bredekamp, 2009) and the prekindergarten music education standards (MENC, 1994). Teacher modeling of singing, movement, and playing instruments is central to DAP, and my active involvement in each of those areas was shown in the training modules. Other areas of DAP represented in the demonstration videos were: exploring the elements of music through joyful participation, labeling of musical terms, and integrating music with other subject matter (Copple & Bredekamp, 2009).

All four content areas of the prekindergarten music education standards (MENC, 1994) were represented through the use of selected achievement standards: (1a) Children use their voices expressively as they speak, chant, and sing; (1c) Children experiment with a variety of instruments and other sound sources; (2a) Children improvise songs to accompany their play activities; (2b) Children improvise instrumental accompaniments to songs, recorded selections, stories, and poems; (3b) Children respond through movement to music of various tempos, meters, dynamics, modes, genres, and styles to express what they hear and feel in works of
music; (4a) Children use their own vocabulary and standard music vocabulary to describe voices, instruments, music notation, and music of various genres, styles, and periods from diverse cultures, and (4b) Children sing, play instruments, move, or verbalize to demonstrate awareness of the elements of music and changes in their usage.

These specific areas of music education were chosen because they are represented in professional guidelines offered by NAEYC and NAfME. Integrating musical activities with other subject matter was of particular importance for three reasons: (1) Musical integration is one element of developmentally appropriate practice for preschool music; (2) Activities which integrate music with literature and language development are included in the prekindergarten music standards, and (3) Several studies have shown that generalists value music integration. For example, in a study that preceded this investigation, 77% of the participants requested additional training in music integration (Lenzo, 2013).

Achievement standards for creating (2b) and responding (3b) to music were specifically selected based on research that shows they are often the least-used activities within the preschool classroom (Nardo et al., 2006). In addition, exposure to the prekindergarten music education standards is important, as preschool teachers may be unaware of their existence (Kelly, 1998; Kirsten, 2006).

Specific materials, activities, and procedures were employed within the training modules in an effort to increase teacher self-efficacy for leading musical activities and accomplish the purpose of the study. The integration of developmentally appropriate music practice and the prekindergarten music education standards with activities commonly included in the preschool curriculum is one example of this intentionality. A detailed description of the design elements related to self-efficacy is included in the third chapter.
Although the focus of this study was the training of preschool classroom teachers working in independent preschools or child care centers, this training model offers possibilities for the education of generalists working in other contexts and for music specialists. The musical preparation of those populations is outside the parameters of this study; however, implications warranted by the findings are discussed in chapter five.

**Limitations of the Study**

Access to the study was provided through officers of NAEYC state and local affiliates and it is possible that distribution of the recruitment notice was restricted in some way. I requested that the executive directors offer the training to all eligible members according to the sample criteria. However, it could be that only certain teachers were notified of the opportunity, according to the personal motivation of the contact person (Gay et al., 2009). Also, teachers may have been sent the link to the study, yet missed the chance to participate because the organization did not possess their correct e-mail address.

Nardo et al. (2006) suggested that a site study be completed prior to designing professional development programs so that the specific needs of the teachers could be addressed. That was not possible in this nationwide study; therefore, the training was designed using global needs and implications for the population as revealed in the literature, developmentally appropriate practice, and the prekindergarten music education standards.

Cook and Campbell (1979) stated that when data is self-reported, participants may provide what they feel is a desired answer, rather than one that represents an accurate assessment of the phenomena under investigation. For that reason, it is possible that survey responses may not represent an accurate self-assessment of beliefs and self-efficacy. The surveys were designed
in consideration of that possibility. Multiple questions about self-efficacy and beliefs allowed for cross-checking of answers, and findings for self-efficacy were triangulated.

With this online training program, there was not a method for determining the exact level of participant interaction with the material. Portions of the training may have been studied multiple times; conversely, modules may have been skipped entirely. Although items addressing this issue were included in the post-training survey, data were also self-reported and may not represent the exact amount of time that the participants spent viewing the training modules. However, responses to these items are congruent with answers to questions about self-efficacy and beliefs.

This study employed a cross-sectional survey design which is appropriate for gathering data that describes actions or beliefs at a specific point in time (Gay, Mills & Airasian, 2009). Survey items were used to examine the intent of the teachers to implement the training content, but their continued interest or ability to incorporate standards-based music instruction beyond the term of this study was not investigated. According to Bandura (1977, 1986) the development of self-efficacy can increase as individuals begin to experience success—a phenomenon defined as mastery experience. In the final section of the training module, teachers were given suggestions for implementing the modeled strategies and activities in their own classrooms, but because there was no interaction with the participants after the completion of the study, mastery experiences in teaching were not observed. Nevertheless, results offer implications for mastery experiences related to leading musical activities and for those related to the development of personal musicianship. Discussion of these issues is contained in the fifth chapter.
Summary

The current state of music education in preschool classrooms has been described in this chapter—conditions that seem to have remained mostly constant for the last thirty years. The state of affairs is examined in more detail in chapter two. Possible causes and solutions are highlighted as revealed in the literature. Sources from general education and music education, including professional organizations, NAEYC and NAfME, will inform the discussion.

The focus of this study is the development of musical self-efficacy for the preschool classroom teacher working in a child care or independent school setting. Although research in that specific area is lacking, results from studies of elementary generalists trained within university music methods courses can be generalizable. Differences exist between the two populations, but in the area of musical preparation generalists teaching at all age levels—in various contexts—can be asked to assume teaching duties in a subject for which they are often unprepared. Therefore, chapter two contains research about the musical training of generalist teachers serving children from early childhood through fifth-grade whose teaching contexts encompass public schools and various out-of-home settings.

The chapter begins with a historical review of classroom teachers functioning as music educators. An analysis of survey research studies provides a picture of current musical practices employed by generalists. Philosophies of renowned educators are outlined in regard to inherited musical abilities and the defining of early childhood as a critical period for musical development. An overview of academic preparation, certification, and professional standards for classroom teachers follows. Inquiry into music education professional development of preschool generalists reveals several obstacles for training designers and providers. The barriers to musical training are discussed, and the implementation of an online educational program is suggested as
a remedy. Finally, in order to counteract cultural misconceptions about early childhood music education, several characteristics of effective early childhood music educators are outlined.

The third chapter begins with a review of the rationale, purpose, research questions, and population characteristics. Procedures used for the design and implementation of the surveys, pilot-study, and formal training program are outlined. Validity and reliability measures are discussed. Details about sampling methods, data collection, and data analysis are provided. The goal of the training was to increase self-efficacy and alleviate specific obstacles faced by this population: cultural misconceptions concerning early childhood music teaching and musical development, mental-presets developed through prior musical experiences, and training format.

Chapter four contains an analysis of the pre- and post-survey data. A discussion of the findings is found in the fifth and final chapter. Based on the results of this study, I have set forth recommendations for the preparation of generalist teachers in the area of early childhood music education. Additional implications and recommendations are offered for music specialists, administrators, and designers of methods courses and in-service training sessions. Emerging lines of music education research are also presented. Ultimately, the goal of this study and my subsequent implications and recommendations, was to provide more teachers and children with opportunities to develop their musical potential.
CHAPTER TWO
LITERATURE REVIEW

Introduction

Based on informal observations of the frequent use of music in the culture of young children and by the attention it receives from professional organizations such as NAEYC and NAfME, it appears that music education in early childhood is perceived as important by parents and teachers. Survey research shows that preschool teachers often espouse a belief in the importance of early childhood music (Scott-Kassner, 1999). Job descriptions for preschool generalists often include responsibilities for leading musical activities (Kirsten, 2006; McDonald, 1989; Nardo et al., 2006) and for developing music curriculum (Nardo et al., 2006).

These findings illustrate the contradictions faced by generalists. While their personal observations may support a belief in the importance of music, and though they may be required to teach music in their classrooms, they are often unprepared to do so (Kirsten, 2006; Nardo et al., 2006; Scott-Kassner, 1999). Teachers have also self-reported a lack of confidence for leading musical activities (McDonald, 1980; Gawlick, 2002; Nardo et al., 2006). Perhaps as a result of these factors, music is often relegated to a subservient role within the preschool curriculum, and the teaching of musical concepts is lacking (Kelly, 1998; Kirsten, 2006; Nardo et al., 2006; Scott-Kassner, 1999). However, it is encouraging that teachers have expressed a desire for music education training (McDonald, 1980; Gawlick, 2002; Nardo et al., 2006).

It is important to investigate this state of affairs where generalists are given the responsibility for facilitating music development but have not been afforded appropriate training opportunities. With insight and recommendations gained from the research literature,
I will propose a training model that may resolve the dichotomy that exists between job expectations and the musical preparation of preschool generalists.

A lack of training may be an obvious contributor to low self-efficacy for music teaching, yet there are other elements to consider. Teachers may be unaware of the recommendations and standards that can guide their practice (Kelly, 1998; Kirsten, 2006). Standards-based practice for early childhood music education (MENC, 1994) and developmentally appropriate practice for the use of music in early childhood (Copple & Bredekamp, 2009) are outlined in the literature review. The largest professional organizations for classroom teachers and music educators, NAEYC and NAfME respectively, have published guidelines and standards for teaching training and teacher practice in music education (Choate, 1968; CNAEA, 1994; MENC, 1994; Madsen, 2000; NAEYC, 2009a, 2009b, 2011). These recommendations are described in this chapter.

While classroom teachers in child care and PreK-12 institutions may be inadequately prepared to guide musical experiences, those working in child care settings often face unique obstacles to professional development (Tarnowski & Barrett, 1997). These include accessibility, format, cost (de l’Etoile, 2001; Gharavi, 1993; Kirsten, 2006; Nichols, 1993), musical self-efficacy (Hash, 2010; Kim & Robinson, 2010), lack of knowledge regarding the characteristics of an effective early childhood music teacher (C. Richards, 1999; Siebenaler, 2006), and a distorted view of musical development based on cultural misconceptions (Ebbeck et al., 2008).

Research on the musical philosophies and practices of generalists preparing to teach in PreK-12 settings is most prevalent, perhaps because often the researchers are also the methods course instructors. Studies focusing on use of music by practitioners working in independent preschools are rare, yet some results from studies of elementary school teachers may be generalizable due to similarities in expectations regarding music education.
It is helpful to recognize some differences between classroom teachers working in PreK-12 settings and preschool teachers working in child care centers or independent preschools. In the latter case, teachers assume more caregiver responsibilities and work longer hours due to their dual roles as educators and care providers (de l’Etoile, 2001; United States Department of Labor, 2012). While early childhood generalists pursuing associate’s or bachelor’s degrees traditionally receive some music preparation in a university-based methods course, they may also feel unprepared to teach music. Studies show that in many cases, preschool generalists working outside a traditional school system have not had the same opportunities to study musical development or music teaching methods (Kirsten, 2006; McDonald, 1989; Nardo et al., 2006). Unfortunately, even if an educator received training in a college or university-based methods course, content was likely focused on the needs of older children (McDonald, 1980) or on music theory rather than practical teaching skills (Venesile, 1992).

Addressing the music education preparation of preschool generalists working in child care settings and independent preschools can be more challenging as the educational backgrounds of the teachers can be quite varied. Although the entry level of education required in most child care settings is a high school diploma (United States Department of Labor, 2012), Lenzo (2011) found that the educational backgrounds of teachers in two child care centers in Ohio ranged from those with a high school diploma and no preparation for early childhood music education, to those with associate’s or bachelor’s degrees who had been enrolled in a music methods course.

Even though there are some variances in the duties of elementary and preschool teachers based on their work settings, a major commonality exists. When being asked to teach music they face the same predicament—a responsibility for promoting achievement in a subject for which
they may be unprepared. Therefore, much of the research concerning music teaching practices of elementary educators will be helpful to this investigation.

**Classroom Teachers as Music Educators**

Before investigating current music education practices of preschool generalists, a historical perspective will be helpful. The roles of music specialists and generalists have converged throughout the history of music education. The earliest documented music teaching by specialists occurred prior to the establishment of public education. Independent singing schools were founded in the early 18th-century as a means of teaching people to read music notation—most often for the purpose of improving hymn singing. Singing school masters operated in much the same way as private lesson teachers do today—setting their own schedules and fees and teaching in one community or in several simultaneously (Mark & Gary, 2007).

During the late 18th- and early 19th-centuries, many Europeans immigrated to the United States. European-trained musicians began educating students through choral societies, usurping the role of the singing school in many areas. Interest in teaching church hymns declined and an interest in European music increased. Common schools began to be established in the 1820s, followed soon after by the introduction of music instruction into the curriculum in the late 1830s. Lowell Mason is recognized as a major advocate for the inclusion of music instruction in the common school curriculum, and as the first music teacher to be officially hired by a public school board. After a year of volunteer service, he was officially hired by the Boston School Board in 1838 (Mark & Gary, 2007).

Due to the natural musical inclinations of children, generalists likely included musical activities in their instruction before documentation of teaching practices began. When the subject was first introduced in the common schools, music specialists provided instruction.
However, because many schools often lacked specialists, “the responsibility for imparting information on the elements of music and for developing skills was turned over to the classroom teacher. Music specialists became supervisors who visited the schools on a regular schedule to test the pupils, improve the quality of their singing, and assign new material to be learned” (Mark & Gary, 2007, p. 188). In the early days of the public schools, specialists and generalists often worked together to provide music learning opportunities for students.

With the advent of common schools and the inclusion of music education within the curriculum, teacher training programs for generalists and specialists were needed. In addition to his work as a public school music teacher and advocate, Lowell Mason trained other adults to be music teachers. He assisted in the founding of the Boston Academy of Music in 1832 and is officially recognized as its fourth leader (Mark & Gary, 2007). One of the purposes of the academy was to train music teachers.

Around that same time, a new form of music teacher education was evolving from the choral societies—summer music conventions. Mason worked to establish the academy as a major force in the convention movement. The conventions offered training in pedagogy and singing. Eventually, the two purposes separated into normal institutes which focused on music pedagogy and choral organizations which concentrated on singing (Birge, 1928). Mason and his colleague, George Root, led the establishment of normal institutes for training music educators in “methods, theory, voice, and piano” (Mark & Gary, 2007, p. 151).

As the public school system grew, a more systemized approach to teacher education was needed. Following the Civil War, normal schools began training classroom teachers to work in the public schools. Normal schools in Cincinnati and St. Louis included music instruction as
part of the course of study for classroom teachers, but this type of training was not available for music educators (Mark & Gary, 2007).

Ironically, a classroom teacher was the first to develop a training program for music supervisors. Julia Crane initiated formalized music supervisor training with the founding of the Potsdam Musical Institute in 1886 (Seller, 1994). The institute is recognized as the first music supervisor training program in the United States to be associated with a normal school. The evolution of Crane’s career emphasizes how personal musical experiences can influence the practice of generalists—a factor that is relevant to this investigation of musical self-efficacy.

Seller (1994) stated that Crane was educated as a classroom teacher at the Potsdam Normal and Training School and began her teaching career in 1874. As a young child, she studied in singing schools held in Potsdam, sang in her church choir, and also took piano lessons. Instruction in voice, piano, violin, and music theory were offered intermittently at the normal school, but the specific musical preparation Crane received there was not described. As her teaching career progressed, she began to focus more on music education and attended summer music institutes in Boston in 1875 and 1876 (Seller, 1994).

Crane taught music and other subjects at a normal school in Pennsylvania and also operated a private voice studio. In 1884 she was asked to assume the position of music teacher at the Potsdam Normal School. She increased the amount of music instruction given to pre-service classroom teachers and designed a curriculum that would educate pre-service music teachers in educational methods. Her efforts were successful and led to the establishment of the Crane Normal Institute of Music in 1886—the first training program for music teachers associated with a normal school. During the first two decades of the 20th-century, the Potsdam Normal School held classes for the musical preparation of classroom teachers, and the Crane
Normal Institute of Music offered classes for the training of music specialists. The state of New York purchased the school in 1926, and it operates today as the Crane School of Music at Potsdam College of the State University of New York (Seller, 1994).

It seems clear that the personal musical experiences Crane enjoyed as a child influenced her classroom teaching and subsequent work as a teacher educator. When working directly with children, she began including musical activities in her curriculum and sought music education professional development at a summer institute. She trained generalists and specialists in music education techniques as a teacher educator at the Potsdam Normal School. The establishment of the Crane Normal Institute of Music followed. The importance of the personal musical experiences of classroom teachers will inform the current investigation.

The convergence of music education and general education can also be seen in the work of Friedrich Froebel who created the kindergarten in 1840 as a play-based environment that would educate the whole child (National Froebel Foundation, 2012a). Froebel placed music “at the core of preschool education” (McDonald, 1989, p. 7). In keeping with training he received as a student of Pestalozzi (McDonald, 1989), music was viewed as a tool to promote discovery learning led by the child rather than the teacher (Alper, 1982).

Throughout the 18th- and 19th-centuries, children were the recipients of musical experiences and training from both specialists and generalists. When the study of music education became more systematized within the public school system, generalists and specialists worked separately and together to teach musical skills and concepts to their students. As the subject gained standing within the curriculum, teacher preparation gained importance for specialists and generalists alike.
Normal schools and institutes were developed for both populations with classroom teachers receiving musical training in institutions such as the Potsdam Normal School (Seller, 1994) or in normal schools associated with a specific school system (Mark & Gary, 2007). In a similar manner, great advancements were being made in the music education preparation of classroom teachers and music specialists due to the work of Lowell Mason, Friedrich Froebel, Julia Crane, and others. As a result, “at the end of the 19th-century, music as a part of early childhood education was generally accepted by the educational establishment” (McDonald, 1989, p. 10).

**Early Childhood Music Education Philosophies of Specialists and Generalists**

Renowned educator Maria Montessori, along with music educators Zoltán Kodály, and Shinichi Suzuki developed hypotheses about musical development which have been confirmed in the findings of contemporary music educator and researcher Edwin Gordon. While each of these teachers has opposed the thought that heredity is responsible for musical skill, Gordon (2007) extended the knowledge about musical development by contrasting innateness with inheritance. Additionally, his research shows how environmental experiences combine with innate factors to contribute to the musical growth of the young child. An outline of the theories put forth by Montessori, Kodály, and Suzuki, combined with findings of Gordon, illustrates the importance of early childhood music education.

The philosophy of Zoltán Kodály was revealed in the quote that introduced this study. Kodály stated that musical training should begin “at nine months before birth, and then amended to say nine months before the birth of the mother” (Choksy, 1981, p. 57). Kodály (1974) provided further details in his *Music in the Kindergarten* lecture, stating that “. . . the years between three and seven are educationally much more important than the later ones. What is
spoiled or omitted at this age cannot be put right later on. In these years man’s future is decided practically for his whole lifetime” (p. 129). These statements emphasize the importance of early childhood education, from which we could infer a belief that musical abilities are developed, not inherited.

Montessori (1964) also described early childhood as a critical period for education and strongly opposed the thought that musical abilities were determined by heredity. Montessori (1948, 1967) identified sensitive periods of development—windows of opportunity when children are innately prepared to accomplish certain tasks. From shortly after birth until about age three, children absorb sounds from their environment unconsciously without direct help from adults. The sensitive period for sound extends through approximately age six, although the learning no longer takes place unconsciously (Crain, 2011).

Montessori (1967) defined four classes of auditory sensations: (1) silence; (2) speaking voice; (3) noises, and (4) music. The major goal was to teach children to distinguish between various stimuli, and regarding music, to develop the musical senses in preparation for more formal music learning. Musically, “one must not confuse the sense-education of the musical sense in general technique, which delimits it, with musical education” (Montessori, 1948, p. 186). This philosophy can provide a model for classroom teachers, showing them that the general development of listening skills can help prepare students to achieve in music, and that music education involves more than exposure to music.

Dr. Shinichi Suzuki also advocated early childhood music education and refuted the concept of inherited musical abilities. He stated that “one’s future fate, or his ability in later life, is determined by his training in infancy and childhood” (Suzuki, 1973, p. 10). The Suzuki Method for teaching preschoolers to play stringed instruments is known as Talent Education due
to his belief that all students have the capacity for musical achievement (Kirsten, 2006).

According to Suzuki, children can learn to play violins and cellos just as they learned to speak, through listening and imitating the adults in their environment (McDonald, 1989).

The *Suzuki Concept* (Mills & Murphy, 1973) includes a chapter written by Suzuki which is titled “Children Can Develop Their Ability to the Highest Standard.” In this work, the duplicate appearance of the word *ability* is not a mistake, but points to his strong belief in early childhood education and the importance of nurture over nature. Suzuki clearly expressed his position by stating that “we are often asked to believe that human ability is given by nature, but in fact it is developed” (Suzuki, 1973, p. 9).

Kodály, Montessori, and Suzuki espoused the belief that early childhood was a crucial period for musical development, and this hypothesis has been supported in the findings of Edwin Gordon (2007). It is also evident that Kodály, Montessori, and Suzuki each felt that education, rather than heredity or natural abilities, was the contributing factor to musical achievement. Through his research, Gordon (2007) refuted the notion of inherited musical talent. However, he offered another important contribution by clarifying the distinction between innate and inherited characteristics—something that was not expounded upon by the other three educators. Furthermore, he explained how musical aptitude is the product of both innate characteristics and musical experiences in early childhood.

As a result of fifty years of research and work with young children, Gordon (2007) defined *musical aptitude* as individual potential for musical achievement. Using tests he designed, Gordon found that musical aptitude is not inherited, but results from a combination of innate characteristics (nature) and environmental factors (nurture):

Although genetic makeup is a determining factor in one’s level of music aptitude, it is important not to confuse innateness with heredity. There is sufficient evidence to suggest
innate factors and the interaction of unique combinations and connections of genes and neurons influence one’s level of music aptitude. However, there is no evidence to suggest heredity plays a role in determining those factors. Although physical characteristics may be hereditary, ancestry will not reliably predict one’s level of music aptitude after birth. Regardless of parents’, grandparents’, or great grandparents’ levels of music aptitude, a child may be born with high, average, or low music aptitude. Unequivocally, a child is born with a particular level of music aptitude. That level changes in accordance with the quality of the child’s informal and formal music environment until about age nine. (p. 47)

Gordon (2007) found that musical aptitude is highest at birth and immediately begins to decrease because sounds in the environment do not automatically strengthen awareness of pitch and duration. These findings offer further clarification regarding the relationship between nature and nurture:

Nature supplies children with an abundance of neurons and synapses during gestation and again immediately after birth. If the environment does not cause a child to make use of these genetic indicators at one or both of these periods of early development, they are soon lost, not to be regained. It is believed that some or most of the unused neurons and synapses that might have been used for developing sensitivity to music move to support another sense or medium, such as the visual or linguistic, compensating for lack of musical development. (p. 50)

Consequently, according to Gordon (2007), early childhood music education is vital because musical aptitude, the potential for musical achievement, stabilizes by age nine. To substantiate this finding, students’ aptitudes were retested through junior high and high school, and no change was found; their potential for musical achievement had stabilized (Feierabend, 1990).

**Current State of Affairs in Preschool Music Education**

Survey research studies investigating the state of affairs in preschool music education have been numerous since foundation of the MENC Early Childhood Music Special Research Interest Group (SRIG) in 1980. Several results have been consistent since that time. Daniels (1992), Kirsten (2006), and Tarnowski and Barrett (1997) found that it is most often the classroom teacher, rather than a music specialist, who is responsible for the music education of
preschool students. However, in many cases, preschool classroom teachers are often unprepared to lead meaningful music instruction (Gawlick, 2002; Kirsten, 2006; McDonald, 1980; Nardo et al., 2006).

In addition to being responsible for leading musical instruction, classroom teachers may lack published resources, requiring them to develop their own music curriculum (Nardo et al., 2006). When faced with this situation, teachers tend to implement activities that are in agreement with their personal music education philosophies and their perceived musical strengths (Byo, 2000; Hash, 2010). A lack of training, appropriate teaching resources, and low self-efficacy for leading musical activities can limit the educational experiences of the children.

Musical skill development often receives a low priority in the preschool curriculum (Kelly, 1998; Nardo et al., 2006). Non-musical objectives such as using music to teach other subjects (Burton, 2002; Kirsten, 2006; Kretchmer, 2002; Nardo, et al., 2006) or to promote enjoyment and recreation (Golden, 1989) are often emphasized. Findings for the types of activities used to achieve those objectives have also been consistent. Singing is often the most frequently used musical activity (Bryson, 1982; Ebbeck et al., 2008; Gawlick, 2002; Golden, 1989; Nardo et al., 2006; Tarnowski & Barrett, 1997), and composing and improvising the least-used (Ebbeck et al., 2008; Gawlick, 2002; Golden, 1989; Hash, 2010; Nardo et al., 2006).

Preschool teachers are often presented with conflicting information regarding their role as facilitators of musical development. Professional guidelines advocate integration of music throughout the curriculum as developmentally appropriate practice in early childhood teaching (Copple & Bredekamp, 2009), so it seems feasible that classroom teachers would value the use of music in this way. However, when asked about the content of their music education training,
teachers reported that they received little preparation for integrating music into the curriculum (Kretchmer, 2002; Kelly, 1998).

While integration is an expressed interest of classroom teachers and is represented in developmentally appropriate practice and the prekindergarten music standards, music educators have placed an importance upon teaching musical skills and concepts (Venesile, 1992). Gordon (2007), however, identifies early childhood as a period of musical enculturation and informal learning that prepares students for the direct learning of musical concepts upon entering kindergarten. As a result of these differing value systems, classroom teachers may be conflicted about their role as music teachers.

Findings from other studies also offer guidance for training designers and providers. Ebbeck et al. (2008) found that teachers used few activities related to creativity and improvisation and suggested that clarification of the terms might help teachers include these in their curricula. Several researchers found singing activities prevalent within the preschool curriculum, yet many teachers still feel uncomfortable with their own voices (Nardo et al., 2006; Siebenaler, 2006). A cultural perception of singing quality may affect teacher attitudes, specifically, that an early childhood teacher should sing at the level of a professional singer (C. Richards, 1999).

Expectations for early childhood music teaching can vary based on the demands teachers place on themselves, often erroneously as a result of cultural misconceptions (C. Richards, 1999; Siebenaler, 2006). For generalist preschool teachers who have received training, the desire to develop practical skills often contrasts with course content. While they may prioritize use of musical activities as a tool to promote social development or achievement in other subject areas, music specialists tend to emphasize music theory and fundamentals (Venesile, 1992).
An understanding of the characteristics and role of an early childhood music teacher and an awareness of the prekindergarten music standards should help clarify appropriate music practice and could lead to increased use of musical activities by generalists. Although researchers have recommended training of in-service preschool teachers and collaborative activities with music specialists (Daniels, 1992; Nardo et al., 2006, Upitis, 1990), the music education preparation for teachers working in early childhood settings—generalists and specialists—has not been thoroughly addressed (Gawlick, 2002; Neelly, 2000).

**Professional Guidelines for Teaching Music in Early Childhood**

Research studies have revealed a lack of standard practice within preschool classrooms in regard to music education (Golden, 1989; McDonald, 1980; Nardo et al., 2006; Scott-Kassner, 1999). Throughout the literature review it has been emphasized that few preschools employ music specialists, leaving the generalist with the responsibility for teaching and curriculum development in an area for which they may not have been well-prepared. Professional guidelines from general education and music education can help standardize practice by offering a starting point for decision making.

It is likely that many preschool teachers are aware of the guidelines for developmentally appropriate practice offered by NAEYC which is the professional organization for early childhood practitioners. However, many teachers are unaware of the prekindergarten music standards (Kirsten, 2006). Highlighting points of agreement between developmentally appropriate practice and the prekindergarten music standards could positively affect teacher attitudes toward music education and their self-efficacy for music teaching. The result might be an increase of musical activities offered to students.
Developmentally Appropriate Practice

Developmentally appropriate practice (DAP) is a set of research-based strategies that outline best practice for teaching in early childhood. The core of DAP is represented by three principles: (1) Knowledge must inform decision making; (2) Goals must be challenging and achievable, and (3) Teaching must be intentional to be effective (NAEYC, 2009a).

The first principle of DAP, informed decision-making, guides the design of instruction. Teachers should begin with research-based knowledge about the typical age-related developmental characteristics of their students. At the same time, they must also be cognizant of the unique attributes of each individual student—including information about their social and cultural contexts. The second principle of DAP concerns matching educational objectives to the unique developmental level of each student. Knowledge about overall child development should be combined with an understanding about the developmental stage of each individual student in order to plan instruction that will promote learning.

The third principle directs teachers to pay conscious attention to all matters that may affect student progress. Deliberate decisions should be made regarding the classroom environment, curriculum, teaching strategies, assessment, and interactions with students and their families. Further guidelines for developmentally appropriate practice within each of the three core principles are provided in the NAEYC Position Statement for developmentally appropriate practice in early childhood programs (NAEYC, 2009a).

Musical applications may be inferred from these general principles, especially when considering the social and cultural contexts of students, yet NAEYC specifically addresses the use of music within DAP and advocates the inclusion of music within a comprehensive curriculum. Developmentally appropriate practice dictates that “teachers plan for learning
experiences that effectively implement a comprehensive curriculum so that children attain key goals across the domains (physical, social, emotional, cognitive) and across the disciplines (language literacy, including English acquisition, mathematics, social studies, science, art, music, physical education, and health) (NAEYC, 2009a, p. 18).

In regard to curriculum development, guidelines for developmentally appropriate practice state that “because children learn more in programs where there is a well-planned and implemented curriculum, it is important for every school and early childhood program to have its curriculum in written form” (NAEYC, 2009a, p. 20). A developmentally appropriate approach to curriculum planning includes musical development and the use of applicable standards:

Desired goals that are important in young children’s learning and development have been identified and clearly articulated. (1) Teachers consider what children should know, understand, and be able to do across the domains of physical, social, emotional, and cognitive development and across the disciplines, including language, literacy, mathematics, social studies, science, art, music, physical education, and health; (2) If state standards or other mandates are in place, teachers become thoroughly familiar with these; teachers add to these any goals to which the standards have given inadequate weight; (3) Whatever the source of the goals, teachers and administrators ensure that goals are clearly defined for, communicated to, and understood by all stakeholders, including families. (NAEYC, 2009a, p. 20)

Situation studies point to the fact that preschool teachers are commonly charged with developing the music curriculum for their classrooms (Nardo, 1996; Nardo et al., 2006).

According to developmentally appropriate practice, when teachers are faced with the responsibility for writing a curriculum, “they make certain it targets the identified goals and they use strong, up-to-date resources from experts to ensure that curriculum content is robust and comprehensive” (NAEYC, 2009a, p. 21).

Finally, within developmentally appropriate practice NAEYC (2009a) recommends that teachers understand child development throughout all domains, including music, and use
published standards in the creation of a strong curriculum. Therefore, the prekindergarten music education standards would be helpful to generalists in the planning of their music curriculum.

Prekindergarten Music Education Standards

The National Association for Music Education recognizes the important role of early childhood generalist teachers:

The years before children enter kindergarten are critical for their musical development. . . The increasing number of day care centers, nursery schools, and early-intervention programs for children with disabilities and children at risk suggests that information should be available about the musical needs of infants and young children and that standards for music should be established for these learning environments as well as for K-12 settings. (MENC, 1995)

The prekindergarten music education standards were designed to address a critical period in musical development. In general, the preschool years are important for developing readiness skills that facilitate a successful transition to kindergarten. Musical readiness skills should be included in that preparation (MENC, 1994; Copple & Bredekamp, 2009; MENC, 1995). When teachers incorporate the prekindergarten music education standards into the curriculum, students will have the opportunity to acquire the skills that will prepare them for musical achievement guided by the national standards for grades K-12.

Unfortunately, studies spanning several years show that preschool teachers are often unaware of the music standards (Kelly, 1998; Kirsten, 2006; Nardo et al., 2006). Music educators must share the responsibility for the current situation. Researchers have persistently urged specialists to pursue collaborative activities with their generalist colleagues (Daniels, 1992; Nardo et al., 2006; Tarnowski & Barrett, 1997; Upitis, 1990). Yet, Kirsten (2006) found “that few teachers were aware of the standards and that little effort had been put forth to inform teachers of the standards” (Kirsten, 2006, abstract). However, despite the lack of knowledge, teachers were supportive of the standards (Kirsten, 2006). These findings show that designers of
music education training programs for generalists and specialists should consider including information about the prekindergarten music education standards and collaborative practice.

**Academic Preparation of Preschool Teachers in Child Care Settings**

The importance of music making in early childhood may be recognized informally by persons who interact with young children. Formal recommendations for early childhood music study and teacher preparation have been issued by NAEYC and NAfME and by well-respected generalists and specialists over a period that spans decades (Choate, 1968; Feierabend, 1990; Gordon, 2007; Madsen, 2000; McLaughlin, 1988; Montessori, 1948, 1964; NAEYC, 2009a, 2009b, 2011). NAEYC (2009a) includes musical activities as part of its standards for developmentally appropriate practice. NAfME (MENC, 1995) emphasizes early childhood as the period for building a musical foundation through the use of the prekindergarten music education standards. Training guidelines offered by NAEYC and NAfME are outlined in the next section.

**Guidelines for Professional Practice and Preparation**

NAEYC (2012a) published its first guidelines for teacher preparation in 1982. Since that time, the standards have been periodically revised and expanded resulting in the current version—NAEYC Standards for Early Childhood Professional Preparation Programs (NAEYC, 2009b) which are intended for multiple populations of adults working with young children in a variety of contexts. The enormity of that task is evident:

The standards were designed for use in a variety of ways by different sectors of the field while also supporting specific and critical policy structures, including state and national early childhood teacher credentialing, national accreditation of professional early childhood preparation programs, state approval of early childhood teacher education programs, and articulation agreements between various levels and types of professional development programs. (National Association for the Education of Young Children, National Association of Child Care Resource & Referral Agencies, 2011, p. 1)
As part of its continuing process to provide standards for teacher education, voluntary accreditation programs for institutions granting associate, baccalaureate, and advanced degrees have been developed (NAEYC, 2011).

The *NAEYC Standards for Early Childhood Professional Preparation Programs* (NAEYC, 2009b) recommend that “the teacher of children from birth through age 8 must be well versed in the essential content knowledge and resources in many academic disciplines. Because children are encountering those content areas for the first time, early childhood professionals set the foundations for later understanding and success” (p. 16). The preparation standards also call for training that enables teachers to design curricula that include learning objectives and assessment in “the arts—music, creative movement, dance” (p. 16). In just two statements NAEYC calls for the music education training of early childhood generalists and addresses their vital role in developing a foundation for future learning.

Musical preparation of classroom teachers was addressed by NAfME at three pivotal symposia: the Tanglewood Symposium of 1967, The Interlochen Symposium of 1988, and Vision 2020: The Housewright Symposium on the Future of Music Education of 1999. Although separated by thirty years, the resulting declarations contained similar edicts for teacher education. The *Tanglewood Declaration* (Choate, 1968) included recommendations for training programs that would equip teachers to engage all members of society in music education learning—from early childhood through adulthood. A recommendation formed at the Interlochen Symposium was more specific, stating that classroom teachers should receive 12 semester hours of credit in arts methodology and materials (McLaughlin, 1988).

The *Housewright Declaration* (Madsen, 2000) issued a directive to music educators, encouraging them to “join with others in providing opportunities for meaningful music
instruction for all people beginning at the earliest possible age and continuing throughout life”
(p. 220). This suggestion supports the implications of other researchers; that music educators
should seek collaborative partnerships for the purpose of improving music education
opportunities (Daniels, 1992; Nardo et al., 2006; Tarnowski & Barrett, 1997; Upitis, 1990).
NAEYC also supports collaboration:

Because NAEYC’s standards are generalist standards that cross academic disciplines, they may overlap with the standards of those disciplines such as language and literacy, math, science, social studies, visual arts, music, movement, dance and physical education. NAEYC turns to these specialists in developing the knowledge base for the standards. In some cases, NAEYC has developed joint position statements with these specialists that describe how these academic content areas can best be taught and learned in the early childhood years. (NAEYC, 2011, p. 20)

NAEYC standards and NAfME recommendations for teacher preparation and practice point to the importance of building a musical foundation in early childhood. Combined with the research of Gordon (2007), who defined early childhood as a critical period for attaining musical readiness skills, and the foundational importance of early childhood music education as outlined in the Prekindergarten Music Education Standards (MENC, 1995), the significance of music education training for this teacher population is clear. However, many teachers are not being sufficiently prepared to promote the musical achievement of their young students (Kirsten, 2006; Nardo et al., 2006).

There is a lack of standardization in the preparation of preschool generalists, and this may stem from the size and diversity of the early childhood teaching population and the variety of teaching contexts in which they function. NAEYC states that “professionals in the field of early childhood education include individuals who provide direct services to young children (from birth through age 8) and their families, as well as those who administer the programs in which these individuals work and those who provide professional development for these individuals”
(NAEYC, 2012b). This broad definition includes those designated as teachers or caregivers working in very diverse settings: child care centers associated with universities and community colleges, half-day preschools administered by private institutions, government-sponsored programs such as Head Start, and other settings (NAEYC, 2012b). The needs of the children in these contexts may be quite different, and according to DAP, teachers should be prepared to meet those needs (Copple & Bredekamp, 2009).

Although NAEYC (2009, 2011) clearly offers guidelines for the training of early childhood teachers and for accreditation of degree programs, participation is voluntary and much of the decision-making occurs at the state level. In light of this factor, collaborative efforts between NAEYC and NAfME might be beneficial. On the local level, music educators might consider the recommendations of their colleagues and pursue professional learning activities with teachers working in early childhood (Daniels, 1992; Madsen, 2000; Nardo et al., 2006; Tarnowski & Barrett, 1997). It is with these conditions in mind that the current study has been proposed. If shown to be successful, an online training program, with the advantages of distance-learning, could facilitate such collaborative efforts.

Music Education Professional Development

Classroom teacher preparation in music has been suggested by NAfME (Choate, 1968; McLaughlin, 1988; Madsen, 2000) and by NAEYC (2009b, 2011). Koops (2008), Valerio (2009), and Vannatta-Hall (2010) found that participation in a 15-week music methods course increased the confidence and skill levels of teachers. Siebenaler (2006) found that pre-service early childhood teachers increased their abilities to lead songs and singing games, teach movement activities, listening lessons, and music notation after 15 weeks of instruction. Studies
within the context of a university-based music methods course are abundant, perhaps because the researcher often functions as the teacher for the course.

Ebbeck et al. (2008) investigated the music teaching confidence of in-service and pre-service early childhood teachers in Hong Kong. Participants included pre-service teachers enrolled in a university-based early childhood education program and in-service teachers working in kindergarten and nursery school settings. Findings for both populations indicated a significant relationship between confidence and happiness levels for conducting musical activities with young children. The correlation between confidence and happiness holds implications for teacher self-efficacy.

Few research studies have investigated the musical preparation of preschool teachers working in child care settings, yet results are positive. Nichols (1993) found that in-service training helped teachers become more effective at modeling musical behaviors and at motivating the children to attend to their models—actions that positively influenced the musical responses of the students. Results showed that “teachers benefit from education in music—they need knowledge of the elements of music, the advantage of musical experiences, and practical help in providing a variety of activities for young children” (p. 94).

De l’Etoile (2001) addressed the music education preparation of infant and toddler teachers through the implementation of in-service training sessions. Findings included increased use of positive affect, movement modeling, rhythmic accuracy, and appropriate songs. Teachers also gained additional knowledge concerning age-appropriate musical activities and the benefits of early music study.

Pre-service teachers preparing for early childhood teaching careers within a PreK-12 setting and classroom teachers working in independent preschool settings can be similarly
challenged by being asked to assume responsibility for teaching music when they may have been inadequately trained. In the case of the preschool classroom teacher working in a child care setting, who most likely has not had access to a music methods course (Nardo et al., 2006) or in-service training (Daniels, 1992; Tarnowski & Barrett, 1997) specific barriers to professional development must be overcome.

In previous sections of this document, NAEYC and NAfME guidelines for teacher preparation and teacher practice in early childhood music education were outlined. Due to the fact that many similarities exist, a foundation for collaborative practice could be offered by outlining the points of agreement amongst NAEYC and NAfME philosophies. Both organizations recommend teacher preparation in early childhood music education. Each organization also offers guidelines for the types of activities that should be included in a music curriculum for young children; NAEYC (2009a) includes instruction in music as part of developmentally appropriate practice, and MENC (1995) has published the Prekindergarten Music Education Standards.

A comparison of developmentally appropriate music practice and the prekindergarten music education standards shows that a consensus already exists on the following points: (1) building a repertoire of songs; (2) singing songs and playing instruments from a variety of cultures; (3) providing an environment for exploration where students can freely participate in and enjoy musical activities; (4) building an awareness about the elements of music such as pitch, rhythm, dynamics, and tempo; (5) providing opportunities for children to express the elements of music through movement activities, and (6) integrating musical activities with other curriculum areas.
As professional organizations for generalists and specialists have some agreement about teacher preparation and practice in music education, what now remains is for this information to be made more readily available to teachers. According to the literature, an effective vehicle is needed for disseminating this information to teachers working in child care centers who face specific obstacles to training.

**Training Access and Format**

While studies have affirmed training effectiveness, financial considerations, time investment, and social factors are particular concerns for teachers working in child care centers (de l’Etoile, 2001; Gharavi, 1993; Kirsten, 2006; Nardo et al., 2006; Nichols, 1993; Siebenaler, 2006). According to the U.S. Bureau of Labor Statistics (2012), median pay reported for child care workers in 2010 was $19,300 or $9.28 per hour. Due to low wages and long work days, De l’Etoile (2001) stated that child care teachers are unlikely to pursue professional development unless it is a requirement for continued employment. Gharavi (1993) cited low pay, understaffing, and employee turnover as barriers to training and suggested that those challenges may take precedence over music education professional development.

Kirsten (2006) and Nichols (1993) found that the time commitment required for training could also present an obstacle for this population. Nichols (1993) studied the in-service music education training of preschool teachers working in New York State and recommended informal, brief workshops. Kirsten (2006) surveyed classroom prekindergarten teachers in 36 states representing all six MENC divisions and found that those who were undecided about training participation “expressed concerns about time and or cost associated with additional training” (p. ii). Perhaps because of those factors, teachers working in child care settings indicated a preference for on-site in-service workshops (Lenzo, 2013); however, it can still be difficult to
schedule training opportunities in that environment. De l’Etoile (2001) implemented an in-service training program that took place at a regularly scheduled meeting when several other topics were on the agenda. Time for music training was limited.

Recognizing the financial and time constraints faced by teachers in child care settings, Tarnowski and Barrett (1997) stated, “. . . the vehicles traditionally used to disseminate music education information and ideas–written resources and in-service meetings–are often impractical options for these caregivers” (pp. 6-7). The authors urged music specialists and professional music organizations to seek opportunities for outreach initiatives that would address the unique challenges faced by this teacher population. Due to the low salaries received by this teacher population, a professional development program should be affordable and easily accessible, so that time away from work and travel expenses are removed as barriers. An online training program with asynchronous access offers a solution.

Research findings also point to the effectiveness of the online format for communicating educational content to participants in order to increase their knowledge, skill, and self-efficacy for leading musical activities. Bandura (1977) found that learning can occur through observation of live or symbolic models. Viewing teachers-in-action, or live models, is a long-established practice that continues to be included in music methods courses; yet advances in technology have provided access to forms of symbolic modeling, such as use of videotaped observations and computer-assisted instruction (CAI). Results of studies completed by Burton (2002), Barrett and Rasmussen (1996), Holz (1996), Keast (2004), and Kretchmer (2002), showed that viewing symbolic models within an online platform would be effective for music education professional development.
The United States Distance Learning Association defined CAI as a precursor to online learning (USDLA, 2012). Holz (1996) utilized CAI to study the singing development of classroom teachers and found that “the pilot study produced similar gains using either traditional class instruction with a live vocal model or CAI with the vocal model incorporated into the computer software” (p. 3). Computer-assisted instruction was recommended for pre-service and in-service music education training (Holz, 1996).

Although site observations are frequently employed in methods classes, Burton (2002) found that viewing of videotaped observations can eliminate distractions that occur during such visits. Barrett and Rasmussen (1996) also found that watching videos of music classes helped shift the focus of the pre-service teacher from themselves to the students, and Kretchmer (2002) found that when teachers observed increased achievement in their students, discomfort for including new activities in the curriculum was eased. Taking notice of student achievement as portrayed in the study videos may help develop teacher self-efficacy.

Burton (2002) studied a pre-service teacher training program which utilized video-case study analysis. Three important findings relative to this investigation were reported: (1) After viewing recordings of lessons and teacher reflections, participants increased their belief in the importance of their role as facilitators of musical development; (2) Knowledge of developmentally appropriate music teaching increased, and (3) Participants recognized the significance of instruction provided by a music specialist. These findings, along with those of Barrett and Rasmussen (1996) and others, show that vicarious learning through viewing of videotaped classes can be effective for increasing several skills beneficial to music teaching.

Web-based training may also assist in the development of constructivist learning necessary for the continued professional development of in-service teachers. Keast (2004) stated
that rather than relying on an instructor to guide learning and deliver information, “learners must construct their own knowledge based on interacting with website content” (p. 131). This is the type of reflective practice required of in-service teachers; the ability to self-reflect on the effectiveness of their instruction and find solutions for improvement when needed. For the preschool generalist already trained in the principles of Piaget, constructivist learning would be a relatable concept. Seddon and Biasutti (2008) found that participants enjoyed working autonomously in an asynchronous e-learning environment.

These findings point to the educational possibilities offered by videotaped observations disseminated via a web-based program. It is also been shown that issues of accessibility, cost, and time commitment can be alleviated using an online format; however, as with any course or workshop, the content of the training must also be carefully considered. To accomplish the purpose of this study, the training materials were specifically designed to increase teacher self-efficacy.

**Training Content**

For teachers educated through a university methods course, studies show that the content is often focused on music theory and fundamentals rather than the practical skills needed to facilitate musical development with their students (Kretchmer, 2002). Keast (2004) also suggested that “the material needs to be connected to the participants’ life in order for the activity to be meaningful and useful in their actual teaching” (p. 133). Viewing the modeling of practical skills has also been found to increase the self-efficacy of the observer (Bandura, 1977). Therefore, an online training program which includes videos of a teacher demonstrating practical musical skills might be particularly useful.
For early childhood teachers seeking to incorporate musical activities into their curricula, practical skills can be defined as those that help children receive a developmentally-appropriate, standards-based music education. NAEYC and NAfME provide guidelines for music teaching and inclusion of musical activities that are developmentally appropriate and standards-based. According to Copple and Bredekamp (2009) developmentally appropriate music practice at the preschool level dictates that:

- Teachers have a repertoire of songs to sing with children for their enjoyment and for mastering recall of both melody and lyrics. They provide musical instruments for children to use. Teachers include songs and instruments from various cultures, especially those of the children in the group. Music is integrated with other curriculum areas, such as literacy (e.g., for teaching phonological awareness) and mathematics (e.g., for counting beats or building spatial awareness). The joy of music is central in the experiences teachers share with children. In ways that don’t interrupt that enjoyment, teachers highlight elements such as pitch, duration, tempo, and volume, and they engage children in varying and exploring these elements. Teachers encourage children to engage in full-body activities that require rhythm and timing, such as swinging; teachers join them in such movement. (p. 177)

Based on that description, developmentally appropriate practice in music could be summarized as joyful, active music-making in an environment characterized by exploration and improvisation. Children are given opportunities to experience the music of many cultures through singing songs, playing instruments and engaging in movement activities.

The general guidelines for developmentally appropriate music practice for preschoolers are also represented in the prekindergarten music education standards (MENC, 1994). The governing bodies for specialists and generalists appear to be in agreement about the activities that should be offered in preschool classrooms. Using standards for practice offered by NAEYC and NAfME, course designers may be able to address the needs of preschool generalists by facilitating development of practical skills.
In addition to choosing appropriate content, it is necessary to gain attention and maintain focus of the participants. Darling-Hammond and Bransford (2005) found that when using live or videotaped teaching examples, novice teachers need guidelines for the observations in order to notice vital events and techniques. An environment free from distractions is also helpful for focusing trainee attention. According to Burton (2002), viewing of videotaped observations can eliminate distractions that occur during site visits. An online video training format offers opportunities for course designers to focus the attention of trainees on specific lesson content.

Based on findings presented throughout this chapter, participants may gain knowledge, skill, and increased self-efficacy for leading music activities through guided symbolic observations of developmentally-appropriate, standards-based music teaching. In order to design effective training content, it is also important to consider the broader context within which teachers operate. Theory and practice can be influenced by culture and philosophy. Ebbeck et al. (2008) found that Western teachers expressed a belief in folk psychology that perpetuates the false concept of inherited musical abilities. Teachers of music education programs for generalists may need to counter that and other erroneous assumptions about musical development and music education.

Culture and Philosophy

Although misunderstandings concerning music development persist (Gordon, 2007), most teachers in child care centers offer musical experiences to their students (de l’Etoile, 2001). Advocacy efforts to promote the inclusion of music within the preschool curriculum are often unnecessary because of the spontaneous singing and dancing exhibited by young children—music making is a natural part of their world. However, musical activities are frequently used to
promote learning in other subjects, and the teaching of musical concepts often receives a low priority (Kelly, 1998; Kirsten, 2006; Nardo et al., 2006; Tarnowski & Barrett, 1997).

An examination of teacher philosophies may provide an answer for this situation; specifically, that cultural misconceptions contribute to misunderstandings about musical development and music teaching. In American society there is a mistaken belief that musical abilities are dependent upon inheritance (Ebbeck et al., 2008; Gordon, 2007). Certainly, teacher practice would be affected by this philosophy. An educator whose parents were described as unmusical might feel that training would offer little benefit to them. In the classroom, musical activities might be offered only to children whose parents were known to be musical.

Well-known early childhood educators in general education and music education have vehemently opposed the notion that musical aptitude results from heredity. Montessori (1964) addressed the subject by stating, “One might as well claim that it is the privilege only of genius to distinguish one color from another somewhat like it” (p. 322). Suzuki named his method Talent Education due to his belief “that children’s growth depends on how they are raised. Education begins from the day of birth” (Suzuki, 1973, p. 9). Clearly, these two educators did not support the notion of inherited musical talent.

What Montessori (1964) and Suzuki (1973) stated intuitively has been shown in the research of Gordon (2007); that musical aptitude, often expressed vernacularly as musical talent, is not inherited. After decades of teaching and research involving young children and their parents Gordon (2007) found that the musical aptitude of a child—the potential for musical achievement—could not be predicted based on the aptitude of the parents. Testing revealed that the musical aptitudes of children and their parents were often conversely related (Gordon, 1987).
According to Gordon (2007), innate potential results from the unique formation of brain cells belonging to each individual. Musical aptitude, then, results from a combination of innate potential and informal and formal musical experiences. When a child receives a musical enculturation prior to age nine, informal learning similar to that which leads to language development, innate potential is developed. If children are not exposed to a variety of sounds in early childhood, the unused brain cells assigned to auditory learning will be allocated to other functions. Musical achievement can still occur throughout adulthood, although maximum potential is determined by the time a child reaches nine years of age (Gordon, 2007).

Based on his extensive teaching and research career, Gordon (2007) emphatically described the cultural fallacy of inherited musical talent:

That a child's level of music aptitude cannot be predicted accurately on the basis of ancestry should encourage realist thinking. Time and time again parents say, "Well, we can't expect our children to become accomplished in music because neither of us is musical and no one in the family is musical.” Unfortunately, some teachers reinforce that belief. It is nonsense. (p. 47)

Despite these findings, the belief in inherited music abilities persists in Western society (Ebbeck et al., 2008).

The talent notion is also eschewed in developmentally appropriate practice. Copple and Bredekamp (2009) advocate teacher modeling as developmentally appropriate practice in order to show that all students are capable of musical achievement. When music education is not aligned with developmentally appropriate practice, “Teachers offer only the kinds of music they know best and enjoy. They don’t sing or play themselves because they ‘can’t carry a tune,’ implying to children that making music is only for those with ‘talent’” (p. 177).

Agreement with the false notion of inherited musical talent can negatively influence teacher practice in terms of curriculum content and the specific children who are included in the
activities. It can also adversely affect teacher self-efficacy for leading musical activities (Ebbeck et al., 2008). Seddon and Biasutti (2008) found that participants expressed support for the talent factor. At the same time, some also believed that musical skills could be improved. However, participants expressed low self-efficacy for music teaching due to their lack of formal music education training. Teachers need to be aware that musical achievement can continue through adulthood and that it is not a function of heredity (Gordon, 2007).

Another cultural misconception concerns the societal definition of an effective early childhood music teacher. Siebenaler (2006) studied the singing development of pre-service elementary classroom teachers during a 15-week methods course. Teachers were asked to describe whether or not each was a “good singer” (p. 21). Although the number of participants who answered affirmatively increased after the completion of the course, this amounted to less than half of the teachers. Siebenaler (2006) theorized that even though their skills had increased, they still did not consider themselves to be good singers. C. Richards (1999) suggested that teachers may define good singing according a “professional musician standard” and not just “singing pleasantly and in tune” (p. 10).

Due to a lack of training in musical development and pedagogy, classroom teacher philosophy and practice may be constructed using false information based on misunderstandings perpetuated in our culture. Therefore, a training program should contain both the research-based information about musical development and the characteristics of an effective early childhood music educator. In order to increase teacher self-efficacy, it might be particularly important to share findings of Gordon (2007) that show musical talent is not inherited and that musical achievement can continue throughout adulthood.
Teacher trainers might also emphasize that non-music specialists may possess more musical abilities than they realize due to their own informal uses of music (Upitis, 1990). Ironically, the type of informal learning advocated in early childhood, that which is received through listening to music and being exposed to it in daily life, can also be beneficial to teachers (Upitis, 1990). However, for the population of preschool teachers who have not had access to a university-based methods course, training opportunities may be limited and constrained by other factors.

Characteristics of an Effective Early Childhood Music Educator

It has been established that misinformation about musical aptitude may prevent some teachers from using musical activities in their classrooms. Generalists may also be operating with mistaken beliefs about the skills required to promote musical development in young children. Upitis (1990) supports the assertion that as members of our society, classroom teachers have acquired a musical background that would allow them to include music as an element of expression in their curriculum. Upitis (1990) also stated that while it is important to facilitate the singing development of young students, there are many other ways to further musical achievement. It would be especially important to communicate this to teachers who are uncomfortable with their own singing voices.

Upitis (1990) advocated collaborative music practice involving specialists and generalists where the musical learning offered by the classroom teacher would complement that offered by the music specialist, and the lives of students would be more fully enriched by music. Integrating music is developmentally appropriate practice (Copple & Bredekamp, 2009) and is often one of the most frequent uses of music in preschools (Nardo et al., 2006; Tarnowski &
Barrett, 1997). However, if music is to be used as a means to teach other subjects, teachers must develop musical skills (Feierabend, 1990).

Classroom teachers have likely developed some musical skills as a result of participation in our culture (Upitis, 1990). Likewise, Neelly (2000) stated that generalists and music specialists need to understand that music learning for children and adults involves enculturation. Classroom teachers might relate to this type of music education and include it more readily in their practice if it is equated with language learning. Young children acquire language skills by listening to the speech present in their environment, by imitating what they hear, and then by experimenting with words, phrases, and sentences on their own and through interaction with others (Reynolds, Valerio, Bolton, Taggart, & Gordon, 1998). According to Reynolds et al. (1998), those activities, experienced early in life, provide readiness skills for formal language instruction.

Parents and teachers can help children acquire music readiness skills by utilizing a process of enculturation similar to that used for language development. Informal activities such as those contained in the prekindergarten music education standards (MENC, 1994) would be useful: (1) Sing a variety of songs from different cultures and in various keys and tempi; (2) Explore and experiment with vocal sounds, instruments, and other objects in the environment; (3) Give children opportunities to create songs during play activities or to add vocal and instrumental sounds to stories and poems; (4) Listen to and identify a wide variety of environmental sounds, and (5) Move freely to demonstrate an awareness of music concepts. As Upitis (1990) recognized, singing is important, but there are a variety of activities teachers can use to promote musical development.
Feierabend (1990) suggests the use of recorded music for teachers and caregivers who are uncomfortable with their singing voices. He cautions that the teacher should sing with the recording and not use it as a substitute. Using a recording as a vocal partner would allow the teacher to model enjoyment of music (Copple & Bredekamp, 2009; Lehmann, Sloboda, & Woody, 2007) while simultaneously scaffolding vocal development for teacher and students.

Feierabend (2000) offers six additional guidelines:

- Teachers should: (1) Possess an accurate and pleasant singing voice; (2) sing songs and speak rhymes with expression; (3) be comfortable in movement and dancing activities; (4) be knowledgeable about music and movement development of this age group; (5) be able to share all songs and rhymes from memory, and (6) be personable and comfortable with both children and adults. (p. 14)

Several research studies have been conducted on the types of vocal models that elicit the most accurate vocal production from young students. Tatem (1992) offered six different stimuli to participants: oboe, piano, resonator bells, soprano voice, trumpet, and violin. The most accurate responses were produced after hearing the soprano voice and the least accurate responses were produced in answer to the resonator bells. Green (1990) studied pitch-matching of children in first through sixth grades, and found they could most accurately imitate the voice of another child, followed by answers in response to a female vocal model. The least accurate pitch-matching occurred in response to male voices singing in the lower octave. For children who have not reached the stage of concrete operations, which according to Piaget occurs around ages 7-11, the inability to conserve may affect accurate responses to male voices singing in the lower register (Custodero, 2010).

Yarbrough, Bowers, and Benson (1992) also studied the pitch-matching of children in response to various vocal models. A female voice, singing in a clear tone without vibrato, produced the most accurate responses when compared to a child vocal model or a female voice
singing with vibrato. The authors noted that confident singers had less trouble matching the female voice with vibrato when compared to less-confident singers.

De l’Etoile (2001) consulted experts who identified skills in leadership, musicianship, and presentation as vital requirements for early childhood music teachers. Singing or chanting with confidence and enthusiasm, and modeling of physical movement are considered developmentally appropriate activities (Copple & Bredekamp, 2009). In order to develop intrinsic motivation, early musical experiences should be enjoyable and led by teachers who demonstrate positive affect and offer positive verbal reinforcement (Lehmann, Sloboda, & Woody, 2007). A review of these characteristics reveals many non-musical skills that generalists may already possess. What is left is to ensure that they have access to training and support for the development of musical skills.

In recent years a small number of researchers have designed training programs for teachers in child care settings with the goal of increasing their abilities to further musical development. De l’Etoile (2001) surveyed teachers of infant-toddler classes regarding their beliefs about the value of music in the curriculum and their abilities to lead musical activities. Following a program of three one-hour in-service training sessions, participants showed increases in their attitudes toward leading musical activities, use of positive affect, movement modeling, greater rhythmic accuracy, and use of appropriate songs. These results show that training improved several areas identified by Copple and Bredekamp (2009), De l’Etoile (2001), Feierabend (2000), and Lehmann, Sloboda, and Woody (2007) as vital for preschool music educators. One salient finding in the De l’Etoile (2001) study was increased visual and vocal engagement in students whose teachers had completed the training.
While differences exist due to variances among teaching contexts and the educational backgrounds of teachers, preschool generalists can face similar challenges when seeking professional development. Issues of accessibility, format, and content can be barriers to continuing education. Online training offers alleviation of barriers related to investment of time and finances, the convenience of asynchronous participation, the availability of multiple viewings, and the ability to start and stop the videos in order to focus on specific elements without the distractions that can occur during a live observation. These advantages will likely facilitate access to training; however, in order to increase self-efficacy, training content must be designed to correct cultural misconceptions about musical development and music teaching. Along with those items, there are other issues related to teacher self-efficacy that must be considered such as lack of preparation, negative musical experiences and attitudes, and socio-emotional comfort levels.

Musical Self-Efficacy

As expressed earlier in the chapter, preschool teachers have reported low confidence levels for directing the musical engagement of their students (Kim & Robinson, 2010; C. Richards, 1999), and these attitudes are partly influenced by a lack of training (Nardo et al., 2006). Siebenaler (2006) and Nardo et al. (2006) found that teachers can feel uncomfortable during resident training sessions due to their nascent musical skills. When considering staff development in music education, one preschool administrator stated that “it is sometimes difficult to get a music specialist because the staff will feel intimidated and inadequately prepared to do music. We would like to identify more music training to offer teachers” (Nardo et al., 2006, p. 284).
A web-based platform offers possibilities for reducing these social-emotional concerns. Holz (1996) studied the singing development of pre-service generalists and suggested that CAI may provide a safer environment in which to improve skills when compared to site-based instruction where singing in front of peers was required. Social-emotional concerns resulting from educational deficiencies can prevent teachers from participating in future learning opportunities. Therefore, the ability to pursue training privately via the internet might increase self-efficacy.

Negative feedback regarding previous musical experiences can also result in lack of confidence for music teaching (Hash, 2010; C. Richards, 1999; Rideout, 1992) by producing a detrimental effect upon the mental preset of teachers. Rideout (1992) defined mental presets as “models of musical knowledge, skill, and values formed from one’s prior experience and learning” (p. 472). In addition to modes of thinking acquired as a direct result of performance feedback, poor attitudes toward music education can be assimilated through an apprenticeship of observation (Darling-Hammond & Bransford, 2005; Hash, 2010) or when generalists are taught by persons who do not value music (Hash, 2010). These destructive mindsets can also include negative self-perceptions of the ability to teach music to preschool children (Holz, 1996).

M. Richards (1971) concluded that “In determining that the overall attitude of the children towards music is one of joy, interest and respect, the classroom teacher is the greatest ‘music teacher’ in the child’s life” (p. I-4). The connection between preparation and attitudes was emphasized by Siebenaler (2006) who found that without proper training, teachers will likely feel uncomfortable leading musical activities, inadvertently conveying uneasiness about the subject itself to their students. A similar caution was offered by Copple and Bredekamp (2009) who stated that teachers who do not model singing and playing instruments, or those who
speak negatively about their own musical abilities can reinforce a mistaken belief in inherited musical talent. In contrast, a teacher who implements developmentally appropriate musical practice will participate with the students, modeling joyful music making. These findings offer implications for designers of teacher education courses.

Consider the convergence of these elements and their possible effect upon self-efficacy for music teaching: (1) negative feedback received when participating in prior musical experiences as a young child or adult; (2) an apprenticeship of observation which instilled a negative attitude toward music education; (3) a lack of pre-service preparation for leading musical activities as an employed professional, and (4) obstacles related to time investment, cost, social-emotional concerns, and other factors that prevent in-service teachers from enrolling in professional development courses. Generalists affected by any one of those elements will likely have difficulty viewing music education as a valuable subject and might lack motivation for professional development. The negative impact upon self-efficacy will be even greater for teachers affected by multiple factors. Therefore, it is important to discover information about the previous musical experiences of teachers in order to attempt to counteract any negative experiences or misinformation during training (Hash, 2010).

Research mentioned throughout this chapter provided valuable information which was used to design the materials used in this project. However, a majority of the descriptive research studies were conducted with pre-service early childhood generalists enrolled in music methods classes and not with in-service preschool teachers working in child care or independent settings. Vannatta-Hall (2010) conducted a study of pre-service teachers and noted that research concerning early childhood generalist self-efficacy for teaching music was limited. Results of this literature review corroborated that finding, and also revealed that the study of musical self-
efficacy among in-service early childhood generalists is practically non-existent. One exception was the descriptive research of Ebbeck, et al. (2008) who compared the musical confidence of in-service and pre-service early childhood teachers working in Hong Kong.

Just as the investigation of musical self-efficacy is lacking within the community of in-service preschool teachers, so too is the development, implementation, and study of training programs. Many authors have commented on this gap in the literature, including Daniels (1992), Gawlick (2002), Nardo et al. (2006), Neelly (2000), and Tarnowski and Barrett (1997). Two contributors to this body of research were De l’Etoile (2001) and Nichols (1993) who developed and conducted in-service training sessions with teachers working in child care centers; however, increasing the musical self-efficacy of participants was not their objective. Terracciano (2011) implemented a music education training program with in-service early childhood educators which included a survey of self-efficacy; however, confidence in the areas of classroom management, student motivation, and assessment was measured and not teacher self-efficacy for leading musical activities.

Summary

Preschool generalists, rather than music specialists, often have the main responsibility for facilitating the musical development of young children; yet many teachers have not been adequately trained for the task. Teacher skills, understandings, and personality traits deemed important for furthering musical development include the recognition of early childhood music development as a process of enculturation (Neelly, 2000; Upitis, 1990), use of developmentally appropriate activities (MENC, 1994; Copple & Bredekamp, 2009; Feierabend, 2000) and music education standards (Kirsten, 2006), use of a proper vocal model (Copple & Bredekamp, 2009; Green, 1990; Feierabend, 2000; Tatem, 1992; Yarbrough, Bowers, & Benson, 1992), along with
leadership and presentation skills (de l’Etoile, 2001), and use of positive affect and positive verbal reinforcement (Lehmann, Sloboda, & Woody, 2007).

De l’Etoile (2001) and Nichols (1993) implemented in-service training programs that were found effective for increasing many traits needed for effective early childhood music teaching. The music education methods course has also been a successful vehicle for increasing classroom teacher skill and self-efficacy (Koops, 2008; Valerio, 2009; Vannatta-Hall, 2010). Unfortunately, for this population, issues of accessibility, time commitment, or cost are barriers to participation. Based on the findings of Bandura (1977, 1986), Holz (1996), Barrett and Rasmussen (1996), Burton (2002), Kretchmer (2002), and Keast (2004), an online program utilizing computer-assisted instruction and analysis of videotaped observations can provide an accessible and effective training format for in-service preschool teachers.

Increasing accessibility is important for this teacher population; yet, factors affecting self-efficacy must also be addressed. A training program must address false notions about the nature of early childhood music teaching due to cultural misconceptions concerning heredity (Ebbeck et al., 2008; Gordon, 2007) and vocal skills required of teachers (C. Richards, 1999; Siebenaler, 2006). Teachers value practical training content that can be used in their classrooms (Keast, 2004; Kretchmer, 2002; Lenzo, 2013; Nichols, 1993; Venesile, 1992), and when participants perceive the practical value of the information, self-efficacy is increased (Bandura, 1977). Challenges to self-efficacy created by negative feedback received about previous musical performance (Hash, 2010; Rideout, 1992), or gained through an apprenticeship of observation (Darling-Hammond & Bransford, 2005) must also be considered. The training program employed in this study was designed according to these findings with the specific goal of increasing self-efficacy for leading musical activities.
Regarding the music education training of in-service preschool generalists working in independent settings, the literature review revealed: (1) few professional development programs of any type that were implemented and studied; (2) no studies where a training program was specifically designed for the purpose of increasing self-efficacy for leading musical activities, and (3) no studies which utilized a web-based format. The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities. Based on the review of research as summarized above, this investigation fills a gap in the literature in regard to the purpose, which includes training format and content, and the population studied.

Looking ahead, the methodology utilized for the development of this unique music education training program is detailed in chapter three. Analysis of quantitative data and open-ended responses is contained in the fourth chapter. Implications and recommendations are provided in chapter five.
CHAPTER THREE

METHODOLOGY

Introduction

Numerous studies have been completed with elementary classroom teachers concerning the effectiveness of their music education training or use of musical activities (Bryson, 1982; Byo, 2000; Hash, 1996; Holz, 1996; Koops, 2008; Kretchmer, 2002; Siebenaler, 2006; Vannatta-Hall, 2010; Venesile, 1992). However, research regarding training programs for preschool generalists is lacking; especially for those working in child care centers or other contexts not associated with traditional PreK-12 school systems (Daniels, 1992; Gawlick, 2002; Golden, 1989; Kirsten, 2006; McDonald, 1980; Nardo, 1996; Nardo et al., 2006; Tarnowski & Barrett, 1997). While such studies are rare, results are promising and offer implications for the design of future courses and workshops.

De l’Etoile (2001) and Nichols (1993) conducted on-site training programs for child care teachers and found that time and financial commitments were often barriers to professional development. Gharavi (1993) found that preschool teachers were interested in receiving music training if concerns regarding scheduling, time commitment, and cost were addressed. Teachers expressed a particular interest in receiving additional training for leading singing, movement activities, and instrument play activities using rhythm instruments (Kelly, 1998).

At the outset of this study, I conducted an expert interview with an early childhood education specialist and center administrator who strongly recommended the online format as one that would appeal to preschool generalists working in child care centers. The administrator mentioned the possible effectiveness of the format for eliminating barriers of time and cost. Research confirms the assertion that teachers in child care settings are often concerned about the
time commitment required for in-service training (de l’Etoile, 2001; Holz, 1996; Kirsten, 2006; Olsen, 2007). Keast (2004) stated that online training is inherently suited for brief educational opportunities. Therefore, the format seems to offer unique potential for the music education preparation of preschool generalists working in child care settings or other independent preschools.

The content and design of the video training was based on the social learning theory of Albert Bandura (1977) who found that people can learn vicariously by observing live or symbolic models. This study utilized videotaped preschool music classes—a form of symbolic modeling. When investigating pre-service teacher music education in resident classes, Burton (2002) and Barrett and Rasmussen (1996) found video case-study analysis to be an effective training tool.

Studies of online music education training for other populations were also found to support the effectiveness of the format. Primary teachers in England increased their musical self-efficacy after learning to play the blues scale on a keyboard through study in an asynchronous e-learning environment (Seddon & Biasutti, 2008). Keast (2004) recommended the format after studying an online learning program used in a graduate music education class. These findings suggest that online training may facilitate learning for primary teachers and graduate students, but the review of literature revealed a paucity of research regarding online music education training for preschool generalists working in child care and independent settings.

Based on information gathered in the expert interview and the literature review, the purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities. Appendix A contains
a table that illustrates the research support for the training content, design, and format. In order to accomplish the purpose and inform future training developers, three questions were investigated: (1) What beliefs do preschool generalists hold about teaching music to young children? (2) What relationships exist between teacher beliefs, personal musical experiences, and self-efficacy for music teaching? (3) How will beliefs and self-efficacy for teaching music change after participation in online training?

This chapter contains details about the procedures used to accomplish the purpose, including design of materials, validity and reliability measures, sampling methods, and implementation of the training. The protocol was developed and employed according to the features of descriptive and quasi-experimental research outlined by Gall, Gall, and Borg (2010), Gay et al. (2009), Nardi (2006), Phillips (2008), and other important scholars of research design and planning. This was a quasi-experimental study which used a one-group pretest-posttest design according to the following protocol: (1) pre-training survey; (2) training period, and (3) post-training survey.

An asynchronous online video format allowed teachers to engage in the training at their convenience. After completing the pre-training survey, teachers received web links and a password which provided admittance to the program. Materials were disseminated through use of secure servers. Qualtrics is a research software company which offers online survey software and survey administration services. The software and related services were used to develop amended copies of the surveys based on the expert panel review and for administration of the consent form and pre- and post-training surveys. KSUTube is an educational video-sharing platform of Kent State University. It provided the secure server for the training videos. I had access to Qualtrics and KSUTube through my affiliation with Kent State University. Dropbox is
a commercial provider of secure cloud storage where the parental consent forms were uploaded for safekeeping.

This study was approved by the Institutional Review Board (IRB) at Kent State University (Appendix B). Participation posed no risk to respondents, other than what may have been encountered in daily life. No monetary compensation was provided, but two potential benefits of the training were outlined in the consent form (Appendix C): knowledge of strategies for integrating music within the curriculum and increased confidence for leading musical activities. For future course designers, studying the effectiveness of these training modules may help with the development of additional resources for this population. Therefore, the results of this study can be helpful to those responsible for the music education and the professional development of preschool generalists as well as other teacher populations.

The methodology is presented chronologically beginning with the design of the surveys and ending with the protocol for data collection and analysis. Each component of the study is presented under the appropriate heading or subheading: survey instrument; training design, content, and implementation; pilot study and other validity and reliability measures; participants and sampling methods, and finally, data collection and analysis.

**Procedures**

To investigate classroom teacher self-efficacy for leading musical activities, information from the literature review was used to create the surveys, lesson plans for the demonstration classes, and video and PowerPoint content for the training modules. Content validity and reliability were established through expert review of the surveys and through use of a pilot-study. Calculation of Cronbach’s Alpha was used to measure the reliability of the self-efficacy items. These procedures are described in detail under the appropriate headings.
Survey Instrument

Surveys employed by several researchers were examined in the preparation of this instrument. Those developed by Ebbeck et al. (2008), Hash (2010), Kirsten (2006), Kretchmer (2002), Nardo et al. (2006), C. Richards (1999), Seddon and Biasutti (2008) and Siebenaler (2006) were particularly informative. While these authors addressed many issues related to the study of generalist practice in music, the populations included in-service preschool teachers in NAEYC-accredited centers, preschool teachers working in public school or private settings, and pre-service early childhood and elementary teachers.

Center accreditation was not a criterion for participation in this study. In-service preschool teachers working in independent settings—those not affiliated with a public or private PreK-12 institution—are the focus of this research; therefore, a researcher-designed instrument was created in order to address certain areas in more detail. These include teacher beliefs about musical development, characteristics of an effective early childhood music teacher, mental presets resulting from personal feedback received during musical participation, and self-confidence for leading musical activities.

Other areas of importance to this population had little or no representation in the literature. These included investigation of training format preferences, remediation of training obstacles, and use of an online music education program. The lack of research in those areas, combined with the desire to explore musical beliefs, experiences, and self-efficacy in more detail, also necessitated the development of a new instrument. As this project appears to address unique and emerging areas of inquiry, including the development of music-teaching self-efficacy via an online training format, the development of a new survey is appropriate (Gay et al., 2009). The *Preschool Generalist Music Survey (PGMS)* was designed to collect pre- and post-training
data relevant to these particular areas of research. A source analysis by survey category is shown in Table 1.

Table 1

*Categorical Survey Analysis*

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Content validity of the survey was determined by asking professionals in the field to review the instrument (Phillips, 2008). A copy of the letter sent to the experts appears in Appendix D.

The pre- and post-training surveys (Appendices E & F) were submitted to a panel of four experts for validation of content and evaluation of the clarity and sequence of the questions. The survey validation form is contained in Appendix G. Members of the panel have experience in areas of education that are relevant to this study: a music teacher educator working at an American university; an internationally-known early childhood music specialist and author with experience in survey research involving generalists; a music teacher with several years of experience as an
instructor of an undergraduate music methods class for classroom teachers, and a music educator who prepares generalists and specialists for teaching in an early childhood music studio.

All four experts agreed that the instrument was valid for the purpose of this study. Suggested edits included the re-wording of some questions for clarity, the inclusion of additional questions, and the correction of minor grammatical errors. This feedback was valuable and helped ensure that the collection of information was consistent with the purpose of the investigation. All recommended revisions were considered, applicable edits completed, and the surveys were input into Qualtrics. Revisions did not impact the treatment of participants.

The final version of the pre-training *Preschool Generalist Music Survey (PGMS)* is primarily a structured-item questionnaire divided into five sections: (1) general information about the school or center where the participant is employed; (2) demographic information concerning general education, music education preparation, and years in the teaching field; (3) prior musical experiences and the feedback received while engaged in those activities; (4) participant self-assessment of confidence levels for leading singing, instrument play, and movement activities as represented by developmentally appropriate practice (Copple & Bredekamp, 2009) and selected categories of the prekindergarten music education standards (MENC, 1994), and (5) participant opinions about musical development in early childhood and the characteristics of an effective early childhood music teacher. The final version of the pre-training *PGMS* is contained in Appendix H.

Three open-ended response options were included in order to gather more detailed demographic information. First, teachers were given the opportunity to describe their school setting if the survey options did not pertain to them. This information was used to confirm that participants were employed in independent settings—a measure that protected the integrity of the
sample. Second, another open-ended option was offered so that teachers could describe their teaching approach or philosophy if it varied from the choices of Reggio Emilia, Montessori, and Waldorf. Third, teachers were asked to list the instrument or voice part on which they had performed in various ensembles or musical activities.

The final version of the post-training PGMS is also primarily a structured-item questionnaire divided into five sections: (1) questions about additional education or assistance received during the training program designed to control for historical interaction effect; (2) participant self-assessment of confidence levels for leading singing, instrument play, and movement activities as represented by developmentally appropriate practice (Copple & Bredekamp, 2009) and selected categories of the prekindergarten music education standards (MENC, 1994)—questions identical to those on the pre-training PGMS to allow for comparison between pre- and post-training group means; (3) participant opinions about musical development in early childhood and the characteristics of an effective early childhood music teacher corresponding to those in the pre-training PGMS in order to allow comparisons between group means; (4) questions designed to investigate participant opinions about the training format, and (5) feedback regarding the design of this specific training program. Open-ended response options were included in the fourth and fifth sections of this survey in order to obtain greater detail regarding opinions about the training design. Areas of inquiry were time commitment required for participation, training content, and improvement of survey and training design. The final version of the post-training PGMS is contained in Appendix I.

A link to the pre-training survey was included in the recruitment e-mail. When participants opened the link, the consent form appeared. If a teacher agreed to participate in the study by selecting the appropriate radio-button, the pre-training survey began automatically. A
forced-response for e-mail address was programmed into both surveys so that answers could be matched for data analysis.

The automated-response feature of Qualtrics was used to e-mail participants at the completion of the pre-training survey. The message contained directions for study participation, the password and video links, and a link to the post-training survey. A copy of this e-mail is contained in Appendix J. Participants used the links and password to gain admittance to the training which was posted on KSUTube. In accordance with findings for the benefits of an asynchronous format, teachers had 24-hour access and were allowed to view the modules as many times as desired within a two-week period. At the end of the last module, participants were directed to the post-training survey which guided them in a second self-assessment. The Qualtrics software was programmed to send a thank-you e-mail upon completion of the post-training survey.

Training Design and Content

The purpose of the training was to increase teacher self-efficacy for leading musical activities via participation in a web-based program. Based on the review of research, the program was designed to accomplish two major goals in an effort to achieve that purpose: (1) ameliorate or correct beliefs about early childhood musical development and music teaching that may have resulted from cultural misconceptions, and (2) model practical music-teaching skills aligned with developmentally appropriate practice and the prekindergarten standards.

Research has shown that self-efficacy can be increased if participants perceive the practical value of modeled behaviors (Bandura, 1977). Conveying the functional nature of the training can be particularly important for this population (Kelly, 1998; Kirsten, 2006; McDonald, 1980; Venesile, 1992). When including musical activities in their curricula, classroom teachers have prioritized the integration of music learning with other subjects and the use of music to aid
in classroom transitions (Gawlick, 2002; Golden, 1989; Hash, 2010; Nardo et al., 2006). In a previous descriptive study, Lenzo (2013) found that 77% of respondents were interested in receiving training for integrating musical activities in the curriculum. Integrating musical activities is also part of developmentally appropriate practice for preschool students (Copple & Bredekamp, 2009) and is represented in the prekindergarten music education standards (MENC, 1994).

According to those findings, it seemed very likely that preschool teachers would be motivated to participate in a musical integration training program, and that such a program would increase their self-efficacy for leading musical activities if practical teaching skills were modeled. Therefore, the lesson plans for the demonstration classes were designed to represent integration of musical concepts with other activities common to the preschool curriculum such as use of literature, storytelling, classroom routines, classroom management techniques, and development of 21st-century skills. A chart was created to show the relationship between the activities on the lesson plan, developmentally appropriate practice, the prekindergarten music education standards, and the corresponding survey categories (Appendix K).

As cited throughout the document, this study was designed, implemented, and completed while the 1994 version of the national music education standards were in effect (MENC, 1994). The revised music education standards were published by the State Education Agency Directors of Arts Education (SEADAE) in June of 2014, just after the pre-defense had concluded and edits were being made. However, it must be emphasized that the specific activities represented by the 1994 standards fall within the broader categories contained in the revision, and the knowledge and skills represented on the lesson plan remain vital and appropriate to the musical development of
young children and the training of their teachers. Future research and discussions about early childhood music education will be informed by both versions of the national standards.

Once the lesson plans were designed, the next step was to conduct the demonstration classes. The owner of an early childhood center in the midwest granted site permission so that I could offer a series of preschool music classes for the purposes of this study. Permission was needed to videotape the children, so I prepared a letter which the center director distributed to parents of preschoolers (Appendix L). The letter outlined the purpose of the study, procedures for video usage and storage, and additional measures of privacy protection. It concluded with a permission form. Two copies of the letter were provided for each family—one to be returned if their child was allowed to participate and a second to be retained by the parent. Forms were scanned upon receipt, input to Dropbox, and the hard copies were shredded.

After the permission forms were collected, I scheduled four 30-minute music and movement classes in order to compile material for the demonstration videos. These classes took place at the child care center during two weeks in December of 2012 and represented an authentic scenario. To provide a measure of comfort to the children, we spent approximately 15 minutes together two weeks prior to the first class. After the center director introduced me, I sang two short songs with the children; however, no musical instruction was given. I returned two weeks later to teach the first class, and taping began at that time. Some of the children were absent from the introductory meeting, so we had not met prior to taping. Verbal assent of the children was obtained at the first class before instruction began (Appendix M). The classes were videotaped by an assistant who signed a confidentiality agreement.

The videographer forwarded the files to me after each class, and I selected clips which I felt would be best for increasing self-efficacy according to information gathered in the literature
review. The clips included modeling of the characteristics of an effective early childhood music teacher, facilitation of musical development, and integration of musical activities with others common to the preschool curriculum as outlined earlier in this section. Each of these elements were used to model the practical value of the information, which can increase self-efficacy (Bandura, 1977, 1986).

Darling-Hammond and Bransford (2005) found that teachers in training need guidance during observations in order to be fully cognizant of important elements. Therefore, PowerPoint slides were created to support the video segments, and Audacity audio software was used to record narrations. To gain and focus attention, each video clip was introduced by a narrated PowerPoint which contained (1) the lesson objective—emphasizing practical application and connections to developmentally appropriate practice and the prekindergarten standards; (2) brief statements of research findings related to the objective for the dual purposes of highlighting functionality and refuting cultural misconceptions about early childhood music teaching; (3) a Notice statement which drew attention to important elements related to the objective, and (4) one or two questions related to the instruction, evaluation, or achievement of the lesson objective.

On the PowerPoint slide following each video segment, the question pertaining to the observation was reviewed and answered, and a segue to the next slide was provided if needed. Following the majority of the videos, I offered teaching reflections via the PowerPoint slides and audio narrative. I discussed what went well, what could have been improved, and offered suggestions for lesson extensions. When combined with the video observations, these reflections may have been particularly helpful in highlighting and communicating the practical value of the training content.
At the end of the last module, I reviewed major concepts that had been covered throughout the program: early childhood musical development and the fallacy of inherited musical talent, characteristics of effective adult singing models, and the subjects that were integrated with musical development or concepts. This was followed by a final guided reflection. Although reflections were offered throughout the program, the last one contained very specific content related to development of self-efficacy. According to Bandura (1986), verbal persuasion can contribute to self-efficacy if the participants believe they have a realistic expectation of meeting the described achievement. Therefore, the guided reflection contained positive statements which were made in order to help participants notice teaching techniques that they may already be including in their practice. I also encouraged respondents to implement the modeled activities and strategies in their own classrooms and offered a few activity extensions.

In addition to statements of verbal persuasion, it is important to warn teachers of the initial discomfort they may feel when implementing new practices (Kretchmer, 2002). However, Kretchmer found that when teachers saw evidence of student achievement, the discomfort was alleviated. For these reasons, the final slides also contained supportive statements that instructed teachers to continue reflecting on their actions and the progress of their students as they added new musical activities to their curricula. I asked teachers to be patient with themselves as they began to use their new knowledge and skills and encouraged them to work through any initial discomfort. Copies of the PowerPoint slides for modules one through three are contained in Appendices N, O, and P, respectively.

When I finished developing and editing all of the instructional materials, they were sent to the videographer for compilation. He combined the classroom demonstration segments, PowerPoint slides, and Audacity files into three separate video modules according to my
instructions. I proofed each module and sent the requested edits to the assistant. He completed the edits and returned the modules for my approval. We conducted two-to-three of these cycles for each module.

The training content corresponded to the musical activities represented on the surveys: Module #1: Singing and Expressive Use of the Voice; Module #2: Playing Instruments, and Module #3: Movement. Each module contained PowerPoint and video content regarding the specific musical activity represented by its title. In addition, the overall training goals represented by the research questions were addressed throughout all three modules—remediating incorrect beliefs about musical development and music teaching, and increasing self-efficacy for leading musical activities. This was accomplished by including researcher-modeling of musical integration in the videos which was supported by information in the narrated PowerPoint slides. Musical development was integrated with non-musical academic objectives and classroom routines.

Specific measures were taken in order to refute cultural misconceptions about music teaching and to convey the practical value of the training content—all with the goal of increasing teacher self-efficacy. Previous research findings have shown that generalist teachers have low confidence for singing often because they identify a singer as someone who performs professionally. Therefore, characteristics of effective vocal modeling for early childhood students were exhibited and discussed throughout all three training modules. When conducting the demonstration classes, a speech-to-song approach was utilized in order to scaffold singing activities for uncertain singers—both for the students in the demonstration class and the adult study participants.
To refute a similar misconception—that one must be a professionally trained music teacher in order to include musical activities in the preschool curriculum—two particular considerations were important. First, language was carefully chosen for use in the surveys and training modules. As one example, the term *music teaching* was avoided in favor of *leading musical activities with students or children*. Second, I initially did not identify myself as the teacher in the videos and only did so later in the training because I believed it would help teachers increase their self-efficacy. The following example will clarify these procedures.

During one demonstration class, I attempted to lead an extension of a previous activity. However, it took me a few minutes to realize that the children were not ready to move ahead. At that point, we were in the middle of a turn-taking activity. I knew that more children still wanted to offer their singing responses, so I finished the cycle. By this time, several students had lost interest and had followed one of their classmates in making snow angels on the floor. What was an early childhood teacher to do except follow the children, as suggested by Montessori? After the last child had taken their turn, I incorporated a verse about snow angels into the song and joined the children on the ground as we performed the new adaptation.

This video clip appeared toward the end of the training, and I revealed myself as the teacher after this segment. According to social-learning theory, development of self-efficacy can be hindered if observers cannot relate to the model, and I felt that participants might not relate to me if they knew I was a trained music educator and not a classroom teacher; therefore, I purposefully delayed identifying myself until this moment. Having done so, I reflected on the errors I had made and offered a solution because I wanted participants to see that even trained music educators make mistakes and can recover. These procedures may have helped participants feel more self-efficacious about their own abilities to lead music activities. In fact, one
participant offered this response to an open-ended question about the program: “Good training video. I loved it when the kids were lying down, and the teacher joined them on the ground for snow angels.”

In an effort to increase self-efficacy, the training content was carefully designed according to results of the literature review, and considerations about format were also influenced by previous studies (Appendix A). The major implication was that a brief asynchronous online program showed potential for the professional development of this population, and the program was designed accordingly. Total time commitment for watching the videos was 73 minutes, but participants had the option of watching the three videos separately. The length of the first module was 53:41 with a suggested break mid-way. The second module was 11:11, and the third module was 8:24. Estimating approximately 15-17 minutes to complete the surveys, the total time commitment to complete all three elements of the study was around 90 minutes.

Research was conducted to confirm the appropriateness of the length, but comparable online studies using a researcher-designed training program were not revealed in this review of literature. However, a pre-existing 60-minute online professional development course was used by Olsen (2007) to study the effectiveness of the format. Additional confirmation concerning the suitability of the program length was obtained in an interview of an early childhood center administrator who shared that one-hour training sessions are the norm for this population. Lending further support to the length of the training and use of an asynchronous format are several findings that indicate two major barriers to teacher training—time commitment and accessibility (de l’Etoile, 2001; Gharavi, 1993; Nichols, 1993; Olsen, 2007). The training modules were designed in an attempt to alleviate these barriers. Post-survey questions were created in an attempt to
discover the actual amount of time spent viewing the training and whether or not the modules were watched more than once. However, a limitation may be that the precise amount of time invested by each participant cannot be determined.

The modules were password-protected and posted to the secure KSUTube site so that they could not be viewed by the general public—two features that provided additional protection for the children in the videos. Participants received access to the training upon completion of the pre-training *Preschool Generalist Music Survey* (*PGMS*). When teachers finished the survey, an automated response was e-mailed to them via a prompt programmed into the Qualtrics survey software. The e-mail contained the training links, password, and a link to the post-training *PGMS*.

Providing password-protected video links facilitated asynchronous participation which may also have benefited this population by providing flexibility for engagement in the program. Each module had a video counter so that teachers could stop and resume later or view sections multiple times according to their personal schedules. Using the links and password, participants had unlimited access to the training for at least a two-week period. Launch dates and time periods appear later in this chapter.

In summary, the program was implemented in an effort to achieve two major objectives related to concerns about self-efficacy as revealed in the literature review: (1) remediation of cultural misconceptions about musical development and music teaching, and (2) increased confidence for leading musical activities with preschool students. To achieve the goals and accomplish the purpose of the study, participants were asked to view three video-training modules. The content consisted of short clips of the researcher engaging a class of four-year-olds in musical activities integrated with other academic subjects, 21st-century skills, classroom
routines, and transitions. While each module had a specific focus, integration of these areas was present throughout the entire program.

The focus of the first module was integration of singing, musical concepts, and use of literature. Content of the second module focused on integration of instrument play, musical concepts, and storytelling. The focus of the third module was integration of gross-motor movement and musical concepts. Recall that the specific musical concepts modeled in the classes are listed on the lesson plan in Appendix K. Within the individual modules, each video segment was supported by narrated PowerPoint slides (Appendices N, O, & P). The slides were converted to video format and incorporated with the demonstration clips to form the three separate modules.

Pilot Study

While validity of the surveys was determined via an expert-panel review, a pilot-study was conducted to determine validity and reliability of the complete program—pre-training survey, training, and post-training survey. In preparation for the pilot study, additional questions were added to the post-training Preschool Generalist Music Survey in order to investigate opinions concerning training content and design in more detail. Participant input was also sought for: (1) workflow required for completion of the three study components; (2) receipt of the e-mail prompts programmed into the surveys through Qualtrics, and (3) clarity of all materials.

To gain participants, I contacted administrators at five preschools in a suburban area of a Midwestern state and requested that they offer the study to their teachers. Two of the sites were chosen based on my previous connection with them, and three sites were suggested by dissertation committee members. The school settings were representative of the diversity of
teaching contexts that exist in early childhood education: a church-based school, two for-profit schools, and two independent schools. The pilot-study was available for three weeks beginning in late March of 2013, and six teachers participated.

After an analysis of the responses, some changes were made to the wording and format in order to provide for greater clarity. Participant recommendations regarding presentation and workflow were employed if the issues were unrelated to learning style. For example, one teacher who piloted the program suggested that the quantity of text on the narrated PowerPoint presentations be reduced. That idea was not implemented because someone with a greater affinity for visual learning may find the text helpful. Two teachers experienced difficulties when viewing the first module. They stated that it would pause and not re-start. After consulting with a representative from multimedia services at Kent State University, it was determined that the issue was likely due to their personal internet connection or computer equipment and not a function of the training design.

Concerning the validity of the surveys, three major areas of music teaching were included so that the purpose of the study could be accomplished: (1) Singing and Expressive Use of the Voice; (2) Playing Instruments, and (3) Moving to Music. Cronbach’s Alpha was calculated to determine the reliability of those questions for measuring the construct of self-efficacy. Reliability was high at .921, which indicated that the instrument could be “trusted to yield similar results repeatedly” (Phillips, 2008, p. 196). This finding, along with comments received from the expert-review panel, shows the validity of the survey questions for determining the self-efficacy of the participants.

Responses to open-ended questions received from pilot-study participants also supported the validity of the training. One teacher stated, “This was a great topic for online training! It
made me very excited to try the different ideas with my class.” Another participant commented, “This sparked my interest to provide new activities in music education for my class!” Participant feedback such as this, combined with comments from the survey review panel and calculation of Cronbach’s Alpha, showed that the materials were valid and reliable for the purpose of the study—researching teacher self-efficacy for leading musical activities.

Participants and Sampling Methods

Teachers working in preschool settings associated with traditional PreK-12 schools are often believed to have taken a music methods course in order to satisfy state certification requirements. However, standard certification requirements appear non-existent for those working in contexts outside of PreK-12 institutions, and music education training seems lacking. Therefore, based on needs revealed in the literature review, the population was defined according to very specific criteria in order to include preschool classroom teachers who may have been afforded the fewest opportunities for music education professional development.

When defining a purposeful sample, Gay et al. (2009) stated that “clear criteria provide a basis for describing and defending purposive samples” (p. 135). Several specific characteristics were defined in order to identify participants. This study was designed for preschool classroom teachers, not music specialists, employed in settings that operate independently of any PreK-12 school system. Therefore, teaching contexts could have included generalists working in independent preschools, schools affiliated with religious organizations or government agencies, for-profit child care centers, home-based care sites, or any setting other than a traditional PreK-12 institution. For the purposes of this research, the definition of preschoolers as defined by NAEYC was employed; children ages three to five who have not yet entered kindergarten (Copple & Bredekamp, 2009).
In keeping with the recommendation from Gay et al. (2009), materials and procedures were meticulously designed to preserve the integrity of the sample. Five specific measures were utilized. First, participant criteria were carefully described during each recruitment call or e-mail made when conducting purposeful and snowball sampling. Second, both the consent form and the pre-training survey directions contained this statement: “This study has been designed for classroom teachers (not music specialists) of preschool children who are employed in schools or centers operating independently of a PreK-12 school system” (Appendix C; Appendix H). Third, another statement on the consent form and pre-survey directions (Appendices C & H, respectively) was used to remind potential participants to exit the study if they did not possess the required characteristics.

As a fourth step, the survey software was programmed to remove teachers who described their setting as one affiliated with a PreK-12 public or private school system. The fifth measure employed to protect the sample integrity involved detailed analysis of raw data received in response to demographic questions regarding school setting, teaching approach, educational preparation, music education preparation, professional affiliations, and musical experiences. There was nothing to indicate that music specialists had participated; however, some participants were dismissed for other reasons, and details appear in the next chapter.

The first study period was April 23rd through May 15th of 2013. While pilot-study revisions had been completed a bit earlier, the formal program was launched on this date in order to avoid a conflict with the Week of the Young Child, an annual event for early childhood educators. The sample was obtained using purposeful and snowball methodologies. Multiple sampling methods are supported in various research texts such as those written by Gay et al. (2009) and Nardi (2006). Initially, the sample was purposefully recruited from the ten largest

Using information available on the NAEYC website, the executive officer of each state affiliate was contacted by e-mail. The study was introduced using the recruitment script (Appendix Q), and a request was made that they share the participation opportunity with their members. During the first week of the launch, there was a low response rate at the state level, so I began to contact presidents of local affiliates in the ten selected states. The number of affiliates per state ranged from 10 to 32. A reminder e-mail was sent after two weeks. At the end of the recruitment period, officers from affiliates in California, Ohio, New Jersey, New York, North Carolina, and Pennsylvania had agreed to share the study opportunity with their members.

The end of the school year is a busy time for teachers, and I began to receive requests for an extension; therefore, I extended the training period through the end of May 2013 and notified all previous contacts of the new deadline. Approximately one week prior to the end of this period, I was contacted by an officer from a Florida affiliate who expressed interest in the study but was required to obtain board approval prior to sharing the opportunity. The board eventually agreed to share the study link with their membership. In order to accommodate potential participants from this affiliate, and in response to other requests, I extended the study a second time through June 5th, 2013. With the addition of the Florida affiliate, I had confirmation that teachers representing seven states had been offered the training opportunity.

When discussing this project with colleagues, it became clear that snowball sampling would also be a useful and natural methodology for gaining participants who met the strict criteria.
Through in-person, phone, and e-mail conversations, I conducted snowball sampling directly, but it also occurred indirectly as contacts distributed the recruitment e-mail without my knowledge. This practice was revealed when I began receiving e-mails from individual teachers whom I had not contacted directly and whose affiliates had not confirmed participation. It is commonplace for users of the worldwide web to forward e-mail correspondence and web links to others, and this inherent nature of internet culture facilitated snowball sampling, although in a non-quantifiable manner.

In addition to the forwarding of the recruitment e-mail by individuals, other internet practices contributed to snowball sampling. According to information provided by affiliate officers who confirmed participation, the study was shared in multiple ways: by sending e-mails directly to members, through articles published in e-newsletters, and by posting the link on chapter websites and social media sites such as Facebook and Twitter. Once these practices were revealed and the feasibility of multiple sampling methods was confirmed, attempts were made to increase the sample size by posting of recruitment scripts on the Facebook pages of the National Association for the Education of Young Children along with its state and local affiliates from the ten targeted states. Some affiliates could not be contacted in this manner, either because they did not maintain a presence on Facebook or they did not allow open access to their group.

Efforts to increase the sample size were ongoing throughout the study period. Participant progress was monitored through Qualtrics, and those with partially completed surveys were contacted and encouraged to continue. I spoke with colleagues at a national music conference and presented the study at a poster-session at the state convention of the Ohio Association for the Education of Young Children (OAEYC). However, due to several factors, it was not possible to represent the sample size as a percentage of the population. The open access and undocumented
snowball sampling afforded by web-postings, e-newsletters, use of listservs, and the proclivity of persons to forward e-mail and web page information preclude the calculation of an exact population size. Issues related to internet reliability, spam protocol, and the prospect of incorrect e-mail addresses were also contributing factors.

In summary, the initial study period began during the third week of April 2013, and due to teacher requests was extended twice before closing on June 5th of 2013. At that time the sample size was \( n = 13 \). After consultation with my advisor, it was determined that additional efforts should be made to increase the sample size, and a relaunch period was set for September 18th through October 18th of 2013.

Before the study could be re-opened, several edits were required. To track new responses, the surveys were copied and re-posted in Qualtrics, and the access dates were updated. New web links were created for the surveys and inserted into the recruitment materials and the video descriptions on KSUTube. Dates were changed on all recruitment materials and the pre-survey e-mail prompt. The video editor was contacted and the new post-survey link was added to the final training module. No changes were made to the content of the surveys or videos, as they needed to remain the same for the additional participants. The new links and prompts were re-tested, and recruitment procedures began.

I expanded recruitment efforts by contacting additional colleagues and preschool administrators with whom I had worked with as an early childhood music teacher. I re-contacted NAEYC officers and others who had shared the study opportunity during the first launch. The initial sample \( n = 13 \) was contacted and asked to recommend the study to others. Teachers who completed only the pre-training survey were contacted with a request to finish the study. The
training opportunity was re-posted via social media sites. A member of my dissertation committee
provided assistance by recommending the study to colleagues in another state.

In a further attempt to increase the sample size, I contacted local affiliates from the
remaining 40 states and extended the deadline through October 31st, 2013. At the end of the
relaunch, 23 additional teachers had completed the training and post-training survey for a total of
36. However, as presented in the next chapter, 10 teachers had to be dismissed, resulting in a
sample size of $n = 26$. The fact that this second study period occurred during the first month of the
school year, another busy time for teachers, may have limited participation, but as a result of the
relaunch and additional recruitment efforts, the sample size was doubled.

**Data Collection and Analysis**

Data collection was completed through use of Qualtrics survey service. Data analysis was
conducted using Qualtrics and IBM SPSS Statistics (SPSS), along with the advice of a statistical
consultant. At the conclusion of the formal study, the researcher exported raw data from Qualtrics
to a comma separated values file and converted it to an Excel file. The Excel file was input into
SPSS by the statistical consultant. The researcher conducted the data analysis using SPSS.

Responses were analyzed using procedures aligned with the scale of measurement
represented in each survey question. Information shown by a nominal measurement scale is
reported as percentages and frequency counts. Opinions and confidence levels were treated as
interval data according to protocol for educational research (Gall, Gall, & Borg, 2010). These
data were analyzed using measures of central tendency and dependent $t$ tests. Data are shown as
means, standard deviations, $t$ statistics, and $p$ values calculated at an alpha level of .05. Analysis
and discussion of the findings will provide answers to the research questions and show that the
purpose of the study was accomplished.
Summary

This research was designed to meet a need revealed in the literature—the music education preparation of preschool generalists working in contexts independent of PreK-12 institutions. According to results of previous studies, preschool teachers working in child care centers or other independent settings can be lacking in self-confidence for including music activities in their curricula and can face specific obstacles to professional development. Although comparable investigations were not revealed in this research, studies which used some features of this program, such as videotaped case studies (Barrett & Rasmussen, 1996; Burton, 2002), asynchronous participation (Seddon & Biasutti, 2008), and content posted online (Keast, 2004) showed that an online format holds promise for alleviating training barriers and delivering music education professional development to this population. Therefore, it was the goal of this researcher to design and implement such a program.

In order to accomplish that objective, information gained from the literature review was used to design distinctive questionnaires and training materials. Survey validity was determined by expert-panel review. Validity and reliability of the complete study was determined through implementation of a pilot-study. Cronbach’s Alpha was calculated in order to determine the reliability of items used to measure the construct of self-efficacy. Reliability was high at .921.

The training was based on the social-learning theory of Bandura (1977) who stated that persons can increase their self-efficacy by watching a live or symbolic model, and that development of self-efficacy is facilitated if the observers perceive the practical or useful nature of the information. The researcher taught the demonstration classes. The instructional model included activities aligned with developmentally appropriate practice for preschool music teaching along with various musical concepts from the prekindergarten music education
standards integrated with use of literature, storytelling, 21\textsuperscript{st}-century skills, classroom management, and routines.

An assistant videotaped the classes and forwarded the files to the researcher who selected observations that best represented the training goals and survey categories. Narrated PowerPoint presentations were created to focus participant attention and provide information about musical development and teaching. Due to the fact that the researcher taught the classes, she was able to provide practical information to participants through offering her own personal reflections. When appropriate, the researcher discussed what went well or what could have been improved. According to social-learning theory (Bandura, 1977, 1986), the symbolic modeling, practical nature of the information, and verbal persuasion contained in the reflections may lead to increased self-efficacy for leading musical activities.

Purposeful and snowball sampling methods were employed during two separate study periods offered in the spring and fall of 2013. Strict criteria were prescribed to ensure homogeneity of the sample. Teachers of preschool children (ages three – five) working in independent settings not associated with a PreK-12 school system were sought as participants. Participants engaged in a researcher-designed training program which was created for the specific purpose of increasing teacher self-efficacy. In order to determine the effectiveness of the training, an original instrument was designed to gather data from teachers. Participants accessed the online modules at their own convenience. Qualtrics survey service was used to collect the data. Data analysis was conducted using IBM SPSS Statistics along with suggestions obtained from a statistical consultant.

The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities. When
conducting the literature review, no comparable studies were found; therefore, this work seems to be unique in its purpose, training format and content, and the population under investigation. The results presented in chapter four will reveal the usefulness of this particular program and may inform others as they seek to provide music education training for generalists or music specialists.
CHAPTER FOUR

RESULTS

Introduction

The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities. In order to gather data and accomplish the purpose of the study, teachers working in child care or preschool settings not affiliated with a PreK-12 institution were recruited using purposeful and snowball sampling methods. There were three components in this quasi-experimental study: (1) a pre-training survey; (2) a set of video-training modules which offered instruction in early childhood musical development along with practical teaching skills for activities utilizing singing, playing instruments, and creative movement, and (3) a post-training survey. The total time investment required to complete the entire study was approximately 90 minutes.

Based on findings from the literature review, the researcher designed the pre- and post-training surveys to gather information that could be used to answer the research questions: (1) What beliefs do preschool generalists hold about teaching music to young children? (2) What relationships exist between teacher beliefs, personal musical experiences, and self-efficacy for music teaching? (3) How will beliefs and self-efficacy for teaching music change after participation in online training?

Questionnaires were constructed primarily of closed-end items along with a few open-ended response options. The pre-training Preschool Generalist Music Survey (PGMS) contained open-ended options for checklist items that are not mutually exclusive such as school setting and teaching philosophy. This proved to be a valuable design for this sample as many teachers chose to input their own answers for setting and philosophy. Narrative options on the post-training
PGMS afforded teachers the opportunity to provide detailed feedback about the training content and design, the amount of time required to complete the study, and ways in which the training could be improved. The pre- and post-training surveys were administered through Qualtrics online survey service and are located in Appendices H and I, respectively.

Qualtrics was used for distribution of the surveys as well as for collection of the data. Data analysis was conducted using IBM SPSS Statistics, and in consultation with a statistical expert. Survey responses were analyzed using statistical methods appropriate for the scale of measurement represented by each question. Data representing a nominal scale of measurement are reported using frequencies and percentages. Responses representing opinions and levels of self-efficacy represent an ordinal scale of measurement, but were analyzed as interval data according to standard protocol for educational research (Gall, Gall, & Borg, 2010). Analysis of interval data was completed using measures of central tendency and dependent t tests. These data are reported using means, standard deviations, and t statistics.

There were also a few open-ended responses which were analyzed and coded, and the results are reported in this chapter. With the exception of participant e-mail addresses, which were needed in order to pair pre- and post-training responses, forced-response questions were not employed. For that reason, sample sizes varied among items. For questions where the entire sample (n = 26) did not offer an answer, the sample size for that particular item is provided.

Results are presented in this chapter and organized using six main headings. The first section, Participant Characteristics, contains a presentation of demographics, responses for the amount of time engaged in the training, and answers to selected items concerning training format. The next four main headings represent the research questions: Teacher Beliefs about Musical Development and Music Teaching, Musical Experiences, Self-Efficacy for Leading
Musical Activities, and Comparing Teacher Beliefs, Musical Experiences and Self-Efficacy. The sixth main section, Participant Feedback Regarding Training Effectiveness, contains additional data and open-ended replies concerning the training format, content, and design. Organization of data under each heading largely corresponds to the sequence in which the information was presented on the surveys. For purposes of discussion, there are a few instances when the order of presentation varies from that of the surveys. When that occurs, an explanation is provided. The chapter concludes with a summary.

**Participant Characteristics**

Before presenting information regarding the participants and sample size, it is important to recall several characteristics of this population and the particular training barriers they often encounter. Preschool teachers employed in child care centers or other independent settings often work long hours for low pay (de l’Etoile, 2001; Gharavi, 1993), and time and cost are major impediments to music education professional development (de l’Etoile, 2001; Gharavi, 1993; Nichols, 1993, Siebenaler, 2006). Kirsten (2006) and Nardo et al. (2006) conducted music education survey-research studies with early childhood teachers and encountered challenges in obtaining participants. It was these obstacles that the researcher sought to ameliorate so that teachers might engage in additional training programs. Ironically, these same factors seemed to hinder study participation.

Long (2005) found that recruitment efforts for quasi-experimental studies can be challenging when employees are asked to voluntarily participate with no concrete rewards, and the experience of this researcher corroborates that finding. Although offering this program free of charge eliminated financial concerns, another important consideration for participants may have been the opportunity cost related to time investment. While there was no fee for this training,
there was also no continuing credit offered. For teachers who desire or may be required to earn continuing education credits, the opportunity cost vis-à-vis time investment could provide a barrier to training participation. Teachers who have scheduling concerns may prefer to concentrate on professional development that leads to additional certification or that which satisfies job requirements.

Prior to conducting statistical tests, it was essential to ensure homogeneity of the sample. Responses were examined to make certain that participant characteristics were aligned with the strict sample criteria. As detailed in the methodology, participants were required to be preschool classroom teachers, not music specialists, employed in settings that operate independently of any PreK-12 school system. For the purposes of this study, preschool-aged children were defined according to the definition utilized by the National Association for the Education of Young Children: children from 3-5 years of age who have not yet entered kindergarten (Copple & Bredekamp, 2009). This narrow description of the participants was developed according to guidelines for purposeful sampling methods set forth by Gay et al. (2009).

Response counts recorded in Qualtrics survey software showed that 92 teachers completed the pre-training *Preschool Generalist Music Survey*. The researcher designed the survey so that those who indicated an affiliation with a PreK-12 institution would be discharged from the remainder of the study. There were 33 teachers who were prevented from completing the pre-survey for that reason, which resulted in a total of 59 completed pre-training surveys.

Due to a counterintuitive feature of the survey software, some of the dismissed teachers received the e-mail prompt that contained the training links and the password. Of those teachers, nine persisted and completed the training and post-survey. Although they had to be released
from the study because they did not conform to the sample characteristics, these teachers have been labeled as Subsample A for purposes of discussion.

Twenty-seven participants met the sample criteria and completed all three parts of the study. With the addition of the nine members of Subsample A, there were 36 people who took the training and completed the post-training PGMS. Subsample responses were not analyzed or included in the results because the members did not meet the sample criteria; however, due to their persistence in completing the second and third parts of the study even after being dismissed from the first survey, it is reasonable to assume that they would have finished the pre-training survey had they been allowed. Thus, the nine members of Subsample A were added to the 59 teachers who completed the pre-training survey in order to calculate the completion rate, which was 53%. This is 29% higher than the rate achieved by Long (2005) whose study also involved voluntary participation of employees in an online training program.

In addition to the protocols described, analysis of the raw data was used to determine if a music specialist or other person not identified by the sample criteria had taken part in the study. There was nothing to indicate that trained music educators or preschool generalists working in PreK-12 settings had participated. However, further examination of responses showed that one teacher reported working with infants and toddlers but had no teaching experience with preschoolers. In keeping with the sample criteria, that person was dismissed from the study, bringing the total number of those released to 10. Therefore, the statistical analysis was conducted using responses from the 26 teachers who conformed to the sample characteristics and who completed all three parts of the study.

As detailed in the methodology, issues related to sampling via the internet precluded an accurate description of this sample as a percentage of the population. For example, although
officers of NAEYC affiliates would not permit direct contact with their members, a few of them posted the recruitment notice on their chapter websites. Unfortunately, there is no way to track such an unrestricted distribution. While it is generally suggested that a minimum sample of 30 is optimal, Phillips (2008) stated that “smaller return rates are acceptable with caution” (p. 156). Gay et al. (2009) stated that smaller response rates can be accepted when the phenomena under investigation are prevalent within a homogenous sample. This was supported by Nardi (2006) who stated that researching something that occurs infrequently in a population would necessitate a larger sample than studying behavior or attitudes that are more likely to occur within a population.

This study meets requirements for sample homogeneity and prevalence of the construct within the population as recommended by Gay et al. (2009) and Nardi (2006). The narrowly defined sample characteristics and meticulous examination of the demographic data protected the integrity of the sample. The major phenomenon under investigation, a lack of preschool generalist training for leading musical activities, has been consistently reported in survey research studies conducted throughout the past 30 years (Daniels, 1992; Gawlick, 2002; Gharavi, 1993; McDonald, 1980; Nardo, et al., 2006; Tarnowski & Barrett, 1997). This study meets the standards set forth for sample homogeneity and prevalence of the construct; therefore, a sample size of less than 30 may be accepted (Gay et al., 2009; Nardi, 2006).

Participant Engagement with the Study Components

These data represent an analysis of selected responses from the last two sections of the post-training Preschool Generalist Music Survey (PGMS): “Your Experience with this Training Program” and “Your Feedback Regarding this Study.” This information is being presented prior to data relevant to the research questions in order to provide a context for the responses.
Knowing the amount of time teachers spent with the training modules will be helpful to data interpretation. Responses to the remaining items from those survey sections are presented later in this chapter under the heading *Participant Feedback Regarding Training Effectiveness*.

Teachers were asked to self-report the amount of time spent engaged in the training. The Likert-type scale choices were *none, less than half, half, more than half*, and *all*. The following reminder was offered: “It is fine if you did not watch all of the videos and remember that responses are confidential. An accurate answer will be helpful to the study” (Post-training *PGMS*, Appendix I). The entire sample (*n = 26*) indicated that they watched all of the first video, *Integrating Singing and Musical Development with 21st-Century Skills, Classroom Routines, and Use of Literature*.


A second item was used to determine if teachers viewed the modules multiple times. The first module was watched more than once by eight teachers, the second was viewed multiple times by four teachers, and the third by seven teachers. Total time spent engaged with the three training modules ranged from 45-180 minutes. When asked if the video clips addressed the teaching techniques listed on the surveys, 92% (24) answered affirmatively.
Teaching Context

Demographics for teaching context were obtained using information from the first part of the pre-training *PGMS* which contained questions related to the geographical and philosophical teaching contexts of the participants. Checklist items were employed along with open-ended options which allowed teachers to describe their teaching approach or philosophy in lieu of selecting one of the answers provided. Data from questions representing a nominal scale of measurement are presented as frequencies and percentages. Tables are used for presentation of the open-ended responses.

Participants (*n* = 26) represented each region of the United States as identified by the U.S. Census Bureau (2012). Refer to Table 2: *Teaching Location*, which shows the states in which the participants resided.

<table>
<thead>
<tr>
<th>State</th>
<th>U.S. Census Region</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>West</td>
<td>4</td>
</tr>
<tr>
<td>Indiana</td>
<td>Midwest</td>
<td>1</td>
</tr>
<tr>
<td>Florida</td>
<td>South</td>
<td>3</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Northeast</td>
<td>1</td>
</tr>
<tr>
<td>New York</td>
<td>Northeast</td>
<td>1</td>
</tr>
<tr>
<td>Ohio</td>
<td>Midwest</td>
<td>9</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Northeast</td>
<td>5</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Midwest</td>
<td>1</td>
</tr>
<tr>
<td>No Reply</td>
<td>Unknown</td>
<td>1</td>
</tr>
</tbody>
</table>

When further describing the location of their school, 27% (7) of the teachers reported teaching in an urban setting, 58% (15) suburban, and 15% (4) of the teachers answered rural.

Additional questions were used to investigate the educational setting where the teachers were employed. There were five choices, and the first indicated an affiliation with a PreK-12 public or private school system. In accordance with the criteria delineated for the sample, teachers
who chose that option were dismissed from the study. The remaining choices included: (1) a national chain of child care centers; (2) a government-based agency; (3) a religious organization, or (4) other, with an open-ended response option which allowed teachers to input a different description of their teaching context. Of the 26 participants, eight (31%) categorized their setting according to one of the given descriptors: Three teachers labeled their setting as being affiliated with a national chain of child care centers, and five teachers indicated that they taught preschool in a setting affiliated with a religious organization. The remaining 18 teachers (69%) selected other, and 17 of them entered their own description using the open-ended response option. These replies provide insight into the varying terminology used to describe early childhood educational settings.

Table 3 contains unique answers for educational setting.

Table 3
Educational Setting

<table>
<thead>
<tr>
<th>Open-Ended Responses for School Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliated with a Community College</td>
</tr>
<tr>
<td>Affiliated with a university</td>
</tr>
<tr>
<td>Co-op Preschool</td>
</tr>
<tr>
<td>Family Child Care</td>
</tr>
<tr>
<td>Licensed Family Home Daycare</td>
</tr>
<tr>
<td>Non-profit Organization</td>
</tr>
<tr>
<td>College Instructor-</td>
</tr>
<tr>
<td>Early Childhood Education</td>
</tr>
</tbody>
</table>

When asked to describe their teaching approach or philosophy, a majority of the teachers (89%) again selected the open-ended response option, eschewing the given choices of Reggio Emilia, Montessori, and Waldorf. However, two teachers did use the options provided: one
teacher selected Reggio Emilia and another chose Montessori. One teacher did not respond to the question. See Table 4 for unique open-ended responses to teaching philosophy or approach.

Table 4
Teaching Approach or Philosophy

<table>
<thead>
<tr>
<th>Open-Ended Responses to Teaching Approach or Philosophy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age-appropriate Curriculum</td>
</tr>
<tr>
<td>Bev Bos, Lisa Murphy [early childhood specialists]</td>
</tr>
<tr>
<td>Combination of various approaches</td>
</tr>
<tr>
<td>Co-op</td>
</tr>
<tr>
<td>Creative Curriculum</td>
</tr>
<tr>
<td>Curriculum-based</td>
</tr>
<tr>
<td>Developmental, play-oriented</td>
</tr>
<tr>
<td>Developmentally appropriate practices, learned through play for the whole child</td>
</tr>
<tr>
<td>Eclectic</td>
</tr>
<tr>
<td>Emergent Curriculum</td>
</tr>
<tr>
<td>Independent</td>
</tr>
<tr>
<td>Learning shapes, colors, letters, numbers, while integrating various skills</td>
</tr>
<tr>
<td>Piaget</td>
</tr>
<tr>
<td>Play and nature-based</td>
</tr>
<tr>
<td>Play-based</td>
</tr>
<tr>
<td>Play-based, mix of above [referring to survey options]</td>
</tr>
<tr>
<td>Play-based emergent curriculum</td>
</tr>
<tr>
<td>Teaching basic PreK skills as prescribed by the public school district</td>
</tr>
</tbody>
</table>

Teaching Experience

Educational background and years of teaching experience were investigated in the second section of the pre-training Preschool Generalist Music Survey. Response types included dichotomous items, checklists, Likert-type confidence scales, and Likert-type opinion scales. Participants were asked to indicate their total years of teaching experience as well as the number of years they had taught preschool children. Total years of teaching experience ranged from one to 38. Overall, this could be considered a highly-experienced sample. Table 5 shows the total years of teaching experience possessed by the participants.
Table 5
*Teaching Experience*

<table>
<thead>
<tr>
<th>Total Years of Experience</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>4</td>
</tr>
<tr>
<td>5-10</td>
<td>4</td>
</tr>
<tr>
<td>11-19</td>
<td>8</td>
</tr>
<tr>
<td>20-29</td>
<td>5</td>
</tr>
<tr>
<td>30 or more</td>
<td>5</td>
</tr>
</tbody>
</table>

In addition to total years of teaching, questions were included in order to record the number of years teachers had taught preschool students. As previously stated, preschool students were defined according to NAEYC guidelines as children from three to five years of age who have not yet entered kindergarten (Copple & Bredekamp, 2009). Recall that one potential participant was dismissed because teaching experience only included infants and toddlers. The teachers included in the sample (*n* = 26) indicated that they had taught preschool students. Twenty-two teachers had some teaching experience with three- and four-year-old students. Nineteen teachers had taught five-year-old children. Years of teaching at each age level varied from one to 30 or more.

**Education**

The pre-training *Preschool Generalist Music Survey* was also used to investigate the general education and music education backgrounds of the participants, experiences in other online courses, and format preferences for future training opportunities. A majority of teachers (77%) had taken some type of an online course prior to this study. As has been established, this was a highly-experienced sample with 69% of the teachers having taught for 11 years or more. Similarly, the sample also represents a high level of education, as 19% answered that they had earned a two-year
college degree, and 66% had earned a bachelor’s degree or higher. Yet it is curious that only 27% of the participants indicated that they had participated in a college or university-based music methods course. The contrast between earned degrees and participation in a music methods course is discussed in chapter five.

In addition to enrollment in a methods course, experience with four other music education training formats was examined. Participants were asked to select all the formats they had experienced. Less than one-half of the teachers had taken part in a workshop at a conference (42%) or at another location (35%). Two teachers had completed training for a commercial early childhood music program such as Kindermusik®, Musikgarten®, or Music Together®. Nearly half of the sample (46%) answered affirmatively when asked if they had attended a preschool music class with students and observed an experienced music teacher leading the class. One teacher chose the response option for “a type of training not listed.” Six teachers (23%) indicated that they had received no music education training from among the six choices.

Responses Related to Training Format

As revealed in the literature review, this population faces specific training barriers related to time and cost, and an online format shows promise for alleviating those obstacles. Therefore, opinions of respondents were sought regarding training format and time commitment required for participation in professional development opportunities, as well as their personal confidence level for participating in an online program. Information shown under this heading was gleaned from responses to the second section of the pre-training survey, “Your Training, Education, and Teaching Experience.” Consideration of these findings provides a context for the interpretation of the data and for development of future training opportunities and research studies. Additional information related to topics of format and time commitment was gathered through use of open-
ended response options on the post-training survey. Those findings are presented later in the chapter under the heading Participant Feedback Regarding Training Effectiveness.

Issues related to time commitment were investigated using a Likert-type opinion scale which allowed teachers to rate the importance of each item as not important, low, medium, high, or vital. Scheduling the training, or having the flexibility to accommodate personal and work commitments, was rated high or vital by a majority (85%) of the sample. Over one-half (62%) of the teachers felt that the amount of time required to complete the training was of high or vital importance. Cost considerations were also rated as high or vital (73%). Teacher comfort level for learning in front of peers was rated high or vital by less than one-half (35%) of the teachers.

A Likert-type scale was also used to examine participant self-efficacy for engaging in a training program which utilized an online format. Personal confidence levels could be rated as not confident, low, medium, high, and very high. Perhaps because 77% of the teachers had taken an online course prior to this one, the pre-training overall confidence level for participating in an online program was high ($M = 4.00; SD = .866$). Even so, the confidence level increased slightly after training to a mean of 4.24, and the standard deviation decreased to .779, which may point to the effectiveness of the training design.

Participants were asked to record their level of agreement or disagreement with the statement that an online training module can be an effective format for music education training. The five-item Likert scale ranged from strongly disagree (1) to strongly agree (5). Analysis of pre-training responses resulted in a mean of 3.65 and a standard deviation of .846 which indicated that opinions were neutral yet trending toward agreement. An analysis of answers on the post-training PGMS showed that the level of agreement increased to a mean of 4.27, and the standard deviation decreased to .778. Results of the dependent $t$ test showed that this increase of the mean
was significant, $t(25) = 3.07, \ p = .005$. After viewing the training modules, the sample agreed that the online format could be effective for music education professional development.

**Teacher Beliefs about Musical Development and Music Teaching**

Data presented under this heading represent an analysis of responses from the section “Your Opinions Concerning Early Childhood Music Education,” in the pre- and post-training surveys. Two multiple-part questions were used to seek opinions about musical development and the vocal characteristics needed to provide an accurate singing model for young children. Items were included in order to research beliefs related to cultural misconceptions about musical development and music teaching. Responses revealed pre- and post-training beliefs which were used to answer the first research question and part of the third question. Question #1: What beliefs do preschool generalists hold about musical development and teaching music to young children? Question #3: How will beliefs and self-efficacy for teaching music change after participation in online training?

Participants were asked to respond to four statements that represented beliefs about musical development such as inherited musical abilities, the importance of music education in early childhood, and the potential for musical growth throughout adulthood. A five-item Likert scale offered teachers the opportunity to express their level of agreement or disagreement. Options were *strongly disagree, disagree, no opinion, agree, and strongly agree*. Dependent $t$ tests were performed to compare pre- and post-training responses. Findings for the two statements about inherited musical abilities were statistically significant.

Pre- and post-training responses to the third statement showed that teachers agreed that musical abilities could continue to improve throughout adulthood. Pre- and post-training responses to the fourth statement showed that teachers had no opinion about whether or not
children lacking early childhood musical experiences would have lower levels of musical achievement at older ages. This item was designed to investigate opinions about early childhood as a critical period for musical development. The wording of the statement was edited as a result of feedback from the expert survey review, but further revision might yield different results.

Table 6 has been used to illustrate pre-and post-training findings for beliefs about musical development.

Table 6

Beliefs about Musical Development

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Pre-training M</th>
<th>Pre-training SD</th>
<th>Post-training M</th>
<th>Post-training SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musical abilities are inherited.</td>
<td>3.38</td>
<td>1.061</td>
<td>2.00</td>
<td>.849</td>
<td>5.871</td>
<td>25</td>
<td>.000*</td>
</tr>
<tr>
<td>All children are capable of musical achievement.</td>
<td>4.35</td>
<td>.846</td>
<td>4.77</td>
<td>.430</td>
<td>2.848</td>
<td>25</td>
<td>.009*</td>
</tr>
<tr>
<td>Musical abilities can continue to improve throughout adulthood.</td>
<td>4.35</td>
<td>.485</td>
<td>4.58</td>
<td>.504</td>
<td>2.004</td>
<td>25</td>
<td>.056</td>
</tr>
<tr>
<td>Children lacking early childhood musical experiences will have lower levels of musical achievement at older ages.</td>
<td>3.46</td>
<td>1.067</td>
<td>3.15</td>
<td>1.156</td>
<td>1.690</td>
<td>25</td>
<td>.103</td>
</tr>
</tbody>
</table>

*p < .05
Information acquired during the review of literature indicated that preschool classroom teachers often possess several misconceptions about the singing model they should present to children, which can result in low self-efficacy for leading singing activities. The surveys were constructed to investigate participant beliefs in this area. A five-item Likert scale offered teachers the opportunity to express their level of agreement with four statements about leading singing activities with preschool children.

Responses to the pre-training survey showed that teachers strongly disagreed with the statement that they should sing at the level of professional, which was defined as someone who is heard on the radio or in concert. The mean response to this item increased slightly after training, but the change was not significant. Pre-training data revealed that participants disagreed with the statement that teachers should sing with vibrato. After viewing the training modules, participants strongly disagreed with that statement, and this finding was significant.

Two additional statements were used to gather opinions about singing the correct pitches when leading songs and whether modeling enjoyment should be prioritized over singing the correct pitches. These statements were included based on a recommendation from an expert on the survey-review panel who has researched and published extensively in the area of preschool music teaching. The expert advised that these are challenging concepts for generalist teachers, and results of this study seem to corroborate that position. Pre- and post-training responses on a traditional Likert scale showed that teachers had no opinion on either matter. Table 7 illustrates the findings for teacher beliefs about leading singing activities.
Table 7
Beliefs about Leading Singing Activities

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Pre-training M</th>
<th>Pre-training SD</th>
<th>Post-training M</th>
<th>Post-training SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers who lead singing with preschoolers should sing at the level of a professional singer (someone who is heard on the radio or in concert).</td>
<td>1.38</td>
<td>.571</td>
<td>1.31</td>
<td>.471</td>
<td>1.443</td>
<td>25</td>
<td>.161</td>
</tr>
</tbody>
</table>

| When a teacher sings with the students, modeling the enjoyment of singing is more important than singing the correct pitches.                                                                                   | 2.96           | 1.428          | 3.58            | 1.206           | 1.710 | 25  | .100  |

| Teachers who lead singing with preschoolers should sing with vibrato (the "wavy" sound singers sometimes use on long notes).                                                                                  | 1.92           | 1.129          | 1.35            | .562            | 2.981 | 25  | .006* |

| It is important that preschool teachers sing the correct pitches while leading songs with children.                                                                                                | 3.46           | 1.555          | 3.38            | 1.299           | .189  | 25  | .852  |

*p < .05
Overall, answers to items describing musical development showed that teachers understand that musical abilities are not inherited, all children are capable of musical achievement, and musical abilities can continue to improve throughout adulthood. One major focus of the training was to refute the mistaken belief that musical abilities are inherited, which is prevalent in Western societies (Ebbeck et al., 2008), and the training was statistically significant in this area. However, teachers could neither agree nor disagree with the statement designed to investigate beliefs about early childhood as a critical period in musical development.

Concerning statements about leading singing activities with preschool students, there was a significant finding for singing without vibrato. Teachers also strongly disagreed that they needed to sing at the level of a professional, which was defined as someone heard on the radio or in concert. While the pre- to post-training change was not significant, results are encouraging because this is a commonly-held misconception of generalists which can prevent them from including singing activities in a curriculum (C. Richards, 1999; Siebenthaler, 2006). These results offer positive implications for the vocal development of preschool students, yet the fact that teachers could offer no opinion about the importance of singing the correct pitches is troubling. Such findings hold implications for early childhood music development, music education professional development, and developmentally appropriate practice.

**Musical Experiences**

Experiences regarding teacher preparation for leading musical activities were reported in the section for demographics. Other considerations such as personal musicianship and feedback from others regarding musical participation or performance have been found to affect self-efficacy for music teaching. Therefore, these characteristics were explored in the pre-training survey section, “Your Personal Musical Experiences.” This was done in order to provide
answers for the second research question, “What relationships exist between teacher beliefs, personal musical experiences, and self-efficacy for music teaching?”

The first two questions in this section were used to gather responses about former participation in musical activities and the instruments teachers performed on as members of those ensembles or activities. Answer options included 10 different musical activities or ensembles, and each received some responses. To view the specific activities, refer to the pre-training Preschool Generalist Music Survey in Appendix H. The majority of responses describing former musical participation are represented by five activities. The responses are presented in order, beginning with the activity that received the highest number of responses. The musical activity is followed by the sample size for the item and the percentage of teachers who indicated participation: (1) elementary school music class taught by a music specialist ($n = 26; 85\%$); (2) private lessons ($n = 26; 73\%$); (3) school choir ($n = 25; 68\%$); (4) musical activities at your place of worship ($n = 26; 54\%$), and (5) family music making ($n = 25; 40\%$).

The next item was designed so that teachers could indicate the instrument or voice part on which they had performed in each of the activities. Instruments studied privately included piano, guitar, banjo, flute, clarinet, violin, organ, voice, and the veena—a plucked stringed instrument popular in India. The piano received the majority of responses. Former band members included two flutists, a clarinetist, and an alto saxophone player. The participants who took private lessons on violin and veena indicated that they had orchestral experience.

Open-ended responses to musical activities conducted in a place of worship were varied and included choir, dance, drama, hand bells, soprano, and voice. One teacher listed “singing hymns during worship” as an activity. That reply contains implications for self-efficacy and will be discussed in the next chapter. Current participation in musical activities was also explored.
Responses showed that six respondents were involved in a musical activity outside of their teaching duties.

Hash (2010), C. Richards (1999), and Rideout (1992) found that negative feedback concerning musical abilities can affect self-efficacy for teaching; therefore, participant experiences were also explored in that regard. Descriptions of 10 different musical activities were offered on the pre-training survey (Appendix H). Teachers were asked to rate their overall experience in each of the activities in which they had participated. Likert-scale options were negative, not applicable, and positive. Responses showed that the majority of teachers had positive experiences in each activity in which they had participated. A total of only 10 negative responses were received over all categories, and those occurred in elementary music (2), private lessons (5), band (1), and choir (2).

In addition to offering their perception of the overall quality of their musical participation, respondents were asked to describe the type of teacher, parent, and peer feedback they received regarding their musical abilities. Answer options were negative, not applicable, and positive. As with responses to the overall experience in the activity, a majority of participants had received positive feedback from teachers regarding their musical abilities. Only five teachers reported having received negative feedback, and this was received from an elementary music teacher (2), a private lesson teacher (2), and a choir teacher (1).

Parental feedback regarding musical abilities was also overwhelmingly positive. Only two negative responses were received; one for musical abilities related to participation in the elementary school music class and one for participation in the school band. Feedback from peers regarding musical abilities was also very positive. In fact, responses show that no negative feedback was received from peers regarding musical abilities.
Another question was designed to investigate general feedback received by participants regarding their high school music programs: “Based on your personal perception, indicate the overall attitude of the following people toward the music department in the high school(s) you attended: non-music teachers, the school principal, parents or guardians, and students who were not enrolled in music classes” (Pre-training PGMS, Appendix H). A three-item Likert scale (negative, not applicable/don’t know, or positive) was offered. According to the perception of the respondents, attitudes of the four groups toward the music department were positive. Only three negative responses were received, and they were concerning the feedback from parents or guardians (1) and students not in music class (2).

**Self-Efficacy for Leading Musical Activities**

Sections of the pre- and post-training surveys were designed to investigate self-efficacy for leading musical activities in order to answer the second part of the final research question: How will beliefs and self-efficacy for teaching music change after participation in online training? There were five areas of inquiry in this section in which participants rated their level of confidence using a Likert-type scale. The measurement scale ranged from one, which represented not confident, to five which indicated very high confidence. As appropriate for an interval measurement scale, dependent t tests were performed in order to gain insight into teacher self-efficacy for leading musical activities.

Three of the five self-efficacy questions were used to explore confidence for leading specific musical activities: (1) singing and expressive use of the voice; (2) playing instruments, and (3) moving to music. Within each category, multiple statements represented activities aligned with the prekindergarten music education standards (MENC, 1994) and developmentally appropriate practice within preschool music education (Copple & Bredekamp, 2009). A fourth
question that was used to investigate self-efficacy contained several statements concerning teacher rationale for including musical activities in the curriculum. The fifth question gave participants the opportunity to rate their overall level of self-efficacy for leading activities in singing, instrument play, and movement.

The dependent $t$ test was used to compare pre- and post-training self-confidence for leading activities related to singing and vocal development, and data showed increased self-efficacy for all items. Non-significant increases in self-efficacy were found for (1) singing with children along with a recording, and (2) singing with children without the use of recordings. These results offer implications for teacher training. Recommendations are provided in the fifth chapter.

Statistically significant increases in self-efficacy were shown in responses to the four remaining items in this category. These findings are particularly encouraging because the activities are foundational to the vocal development of young children. Furthermore, these activities were prominent in the training modules, which may point to the effectiveness of the program design. Based on a suggestion received from one of the expert survey reviewers, an investigation of the ability to learn new songs was included in this category. Table 8 contains findings related to self-efficacy for leading singing and vocal play activities.
Table 8
Self-Efficacy for Leading Singing Activities

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Pre-training</th>
<th>Pre-training</th>
<th>Post-training</th>
<th>Post-training</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping students explore environmental sounds, Ex: animals, weather, car sounds</td>
<td>4.19</td>
<td>.801</td>
<td>4.46</td>
<td>.706</td>
<td>2.57</td>
<td>25</td>
<td>.016*</td>
</tr>
<tr>
<td>Leading conversational singing activities: Instead of using speaking voices, teacher sings a question and children sing back. Ex. Teacher sings, &quot;Children, what do you see?&quot; Children sing their answers.</td>
<td>3.88</td>
<td>1.033</td>
<td>4.23</td>
<td>.815</td>
<td>2.807</td>
<td>25</td>
<td>.010*</td>
</tr>
<tr>
<td>Helping students distinguish between whispering, speaking, shouting, and singing</td>
<td>4.31</td>
<td>.736</td>
<td>4.58</td>
<td>.578</td>
<td>2.573</td>
<td>25</td>
<td>.016*</td>
</tr>
<tr>
<td>Singing to the children using your voice only</td>
<td>3.85</td>
<td>1.047</td>
<td>4.19</td>
<td>.939</td>
<td>2.560</td>
<td>25</td>
<td>.017*</td>
</tr>
<tr>
<td>Singing with the children without the use of recordings</td>
<td>4.08</td>
<td>.891</td>
<td>4.23</td>
<td>.863</td>
<td>1.443</td>
<td>25</td>
<td>.161</td>
</tr>
<tr>
<td>Singing with the children along with a recording</td>
<td>4.15</td>
<td>.834</td>
<td>4.23</td>
<td>.765</td>
<td>.700</td>
<td>25</td>
<td>.490</td>
</tr>
<tr>
<td>Ability to learn new songs</td>
<td>3.92</td>
<td>.812</td>
<td>4.12</td>
<td>.833</td>
<td>2.00</td>
<td>24</td>
<td>.057</td>
</tr>
</tbody>
</table>

*p < .05
A review of individual responses revealed an interesting trend in the self-efficacy scores reported for these activities: (1) singing to the children using your voice only; (2) singing with the children without the use of recordings, and (3) singing with the children along with a recording. In the order presented, these items represent a decreasing level of vocal independence for the teacher as they progress from solo singing to group singing accompanied by a recording.

When considering one’s personal comfort level, it might be expected that self-efficacy would be lowest for the first item which requires the greatest vocal independence, and a pattern was seen in this area. Seven teachers indicated their lowest self-efficacy for solo singing (item #1) and their highest confidence for singing with the children along with a recording (item #3). However, four additional teachers reported their highest self-confidence for the second item—singing with the children without a recording. These findings have implications for professional development which will be discussed in the next chapter.

Pre- and post-training confidence levels for leading instrumental activities were also compared using dependent t tests. Increases for all five activities in this category were significantly higher post-treatment. Table 9 contains these data.
Table 9
Self-Efficacy for Leading Instrumental Activities

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Pre-training</th>
<th>Post-training</th>
<th>Post-training</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping children use everyday objects as instruments: pans, blocks, etc.</td>
<td>4.08</td>
<td>4.38</td>
<td>.752</td>
<td>3.333</td>
<td>25</td>
<td>.003*</td>
</tr>
<tr>
<td>Helping children play instruments to accompany their own singing as a group</td>
<td>3.77</td>
<td>4.31</td>
<td>.838</td>
<td>3.889</td>
<td>25</td>
<td>.001*</td>
</tr>
<tr>
<td>Helping children play instruments to accompany recorded music</td>
<td>3.69</td>
<td>4.31</td>
<td>.838</td>
<td>4.924</td>
<td>25</td>
<td>.000*</td>
</tr>
<tr>
<td>Helping children play instruments to accompany stories or poems</td>
<td>3.65</td>
<td>4.27</td>
<td>.874</td>
<td>4.500</td>
<td>25</td>
<td>.000*</td>
</tr>
<tr>
<td>Playing instruments along with the children</td>
<td>3.73</td>
<td>4.38</td>
<td>.804</td>
<td>3.049</td>
<td>25</td>
<td>.005*</td>
</tr>
</tbody>
</table>

*p < .05

Results of dependent t tests for leading movement activities revealed a significant increase in self-efficacy for helping students match their bodies to music, along with increased
levels of confidence for leading the other three activities in this category. Table 10 contains data related to self-efficacy for leading movement activities.

Table 10
*Self-Efficacy for Leading Movement Activities*

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Pre-training $M$</th>
<th>Pre-training $SD$</th>
<th>Post-training $M$</th>
<th>Post-training $SD$</th>
<th>$t$</th>
<th>$df$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modeling free movement to recorded music, Ex: swinging, marching, etc.</td>
<td>4.40</td>
<td>.707</td>
<td>4.32</td>
<td>.690</td>
<td>.700</td>
<td>24</td>
<td>.491</td>
</tr>
<tr>
<td>Encouraging students to match their bodies to the music, Ex: beat, speed, high/low sounds, and quiet/loud sounds</td>
<td>3.92</td>
<td>1.262</td>
<td>4.42</td>
<td>.703</td>
<td>2.308</td>
<td>25</td>
<td>.030*</td>
</tr>
<tr>
<td>Leading songs with movement, Ex: &quot;The Old Brass Wagon&quot; or &quot;Ring Around the Rosie.&quot;</td>
<td>4.24</td>
<td>.831</td>
<td>4.48</td>
<td>.770</td>
<td>2.009</td>
<td>24</td>
<td>.056</td>
</tr>
<tr>
<td>Guiding children in the use of their bodies to accompany stories or poems, Ex: using fists to pound on the floor when the word &quot;knocking&quot; appears in a story.</td>
<td>4.16</td>
<td>.850</td>
<td>4.40</td>
<td>.707</td>
<td>2.009</td>
<td>24</td>
<td>.056</td>
</tr>
</tbody>
</table>

* $p < .05$
Rationale for Using Music in the Classroom

The fourth item in the self-efficacy section contained activities that represented various reasons for including music in the curriculum. There were six activities listed for this question, and teachers rated their level of confidence for each item using a Likert-type scale (1 = *not confident*; 5 = *very high confidence*). Although this section was designed to investigate self-efficacy for leading the activities, answers also revealed beliefs about music education. Findings for self-efficacy are presented under this heading, and implications for music teaching philosophies appear in chapter five.

Post-treatment self-efficacy increased for all six items in this category, and results for four activities were significant. Previous studies have shown that activities related to the development of creativity and the teaching of musical concepts are lacking in the preschool curricula; therefore, the significant findings for those items are encouraging. Conversely, several researchers have found that teachers often employ musical activities as a means of classroom management, so the significant finding in that area might be surprising; however, those types of strategies were frequently modeled in the training program. This result may also point to the effectiveness of the training design. Table 11 illustrates findings related to teacher rationale for including musical activities in the preschool curriculum.
<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Pre-Training $M$</th>
<th>Pre-Training $SD$</th>
<th>Post-training $M$</th>
<th>Post-training $SD$</th>
<th>$t$</th>
<th>$df$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using musical activities for classroom management purposes, Ex: Singing a clean-up song or other transitions</td>
<td>4.27</td>
<td>.827</td>
<td>4.50</td>
<td>.648</td>
<td>2.739</td>
<td>25</td>
<td>.011*</td>
</tr>
<tr>
<td>Using musical activities to calm or energize the class</td>
<td>4.27</td>
<td>.827</td>
<td>4.42</td>
<td>.703</td>
<td>1.162</td>
<td>25</td>
<td>.256</td>
</tr>
<tr>
<td>Using musical activities to teach other subjects, Ex: Singing a song about the days of the week</td>
<td>4.35</td>
<td>.846</td>
<td>4.50</td>
<td>.648</td>
<td>1.280</td>
<td>25</td>
<td>.212</td>
</tr>
<tr>
<td>Using musical activities to facilitate the development of creativity, Ex: Children are encouraged to sing their own response to an open-ended question or share ideas for body movements to match the beat</td>
<td>3.92</td>
<td>1.129</td>
<td>4.19</td>
<td>.895</td>
<td>2.059</td>
<td>25</td>
<td>.050*</td>
</tr>
<tr>
<td>Teaching of musical concepts such as steady beat, high/low, and loud/quiet</td>
<td>3.65</td>
<td>1.355</td>
<td>4.35</td>
<td>.846</td>
<td>3.248</td>
<td>25</td>
<td>.003*</td>
</tr>
<tr>
<td>Identifying musical concepts for students without directly teaching the concept</td>
<td>3.35</td>
<td>1.441</td>
<td>4.12</td>
<td>1.033</td>
<td>2.936</td>
<td>25</td>
<td>.007*</td>
</tr>
</tbody>
</table>

*p < .05
Responses to the two remaining questions in this category showed an increase in reported self-efficacy, although the results were not significant. The pre-training mean confidence level for using music to calm the class was 4.27 with a standard deviation of .827. This shows that prior to training, teachers rated their confidence as high in this area, yet after training, levels increased slightly to a mean of 4.42 and a standard deviation of .703. Results for using music to teach other subjects followed a similar trajectory. Pre-training data showed that teachers had a high confidence level in this area ($M = 4.35, SD = .846$). Yet after engaging in the training modules, teachers were slightly more confident ($M = 4.50, SD = .648$).

The last question in the self-efficacy section was used to determine overall teacher confidence for leading singing, playing, and movement activities with preschool students. This item was placed in the final position of the section so that participants could first reflect on their self-efficacy for leading the specific activities within each category. Sample size for this question was $n = 23$. Post-training responses showed that a statistically significant increase in overall teacher confidence for leading musical activities was achieved ($t(22) = 3.10, p = .005$).

The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities. Results of dependent $t$ tests showed increased teacher self-efficacy for leading 21 of 22 musical activities. At an alpha level of .05, increases were statistically significant for 14 of those activities. In the singing category, self-confidence increased for leading all seven activities. Significant increases were recorded for four of the seven items. The increase in self-efficacy was also significant for all five of the instrument play activities. Confidence for leading movement activities increased for three of the four items and was significant for helping children match their bodies to recorded music.
Post-training gains in self-efficacy were also recorded for all six activities in the rationale section. The change was statistically significant for four of the six activities. After responding to questions about singing, instrument play, movement, and activities representing reasons for including music in the curriculum, participants rated their overall level of self-confidence for leading musical activities. Overall teacher self-efficacy increased significantly at \( p = .005 \). These results show that the training modules designed for this study were quite effective for increasing teacher confidence levels for leading musical activities which was the purpose of the study.

**Comparing Teacher Beliefs, Musical Experiences, and Self-Efficacy**

Data presented under the previous headings showed the effectiveness of this online training program for mediating misconceptions about musical development and music teaching and for increasing self-efficacy for leading musical activities. In order to answer the second research question, “What relationships exist between teacher beliefs, personal musical experiences, and self-efficacy for music teaching,” individual responses were analyzed in more detail. Pre-training responses were used in order to determine the state of affairs prior to treatment.

All possible combinations were not examined; rather, the focus was on factors that can affect self-efficacy as shown in previous studies. Patterns were examined for three sets of pre-training data and are presented in this order: (1) self-efficacy for leading singing activities compared with previous participation in musical activities and music education training received; (2) overall self-efficacy for leading singing, instrument play, and movement activities compared with choral participation, and (3) beliefs about inherited musical abilities compared with overall self-efficacy. Emergent trends between beliefs, experiences, and self-efficacy are presented in
narrative format and as descriptive statistics. Several patterns were revealed which carry implications for early childhood music education and teacher professional development.

Experiences, Training, and Self-Efficacy for Leading Singing Activities

In this study, musical experiences were researched in terms of participation and feedback. Earlier in the chapter it was reported that the feedback received by this sample was overwhelmingly positive. Thus, since negative feedback did not seem to have impacted the self-efficacy of these teachers, experiences are discussed in terms of prior participation in musical activities.

In the matter of previous musical experiences, singing is considered a foundational activity in music education and figures prominently in the prekindergarten music education standards and developmentally appropriate practice for preschool children; therefore, the first scores examined in more detail were those recorded for previous musical participation and self-efficacy for leading singing activities. This was done in order to investigate activities that may have been distinctive in their effect upon teacher self-efficacy, either because someone did or did not participate in them.

A pattern emerged as the individual scores for singing self-efficacy were analyzed. Six survey items represented various singing and vocal play activities. Teachers were asked to rate their self-efficacy for leading each activity using a five-item Likert scale which ranged from not confident to very high confidence. Table 12 contains the pre-training results for teachers with the highest confidence for leading these activities.
Taking into account ratings of high or very high (H/VH), 18 teachers, or almost 69% of the sample, were confident in their abilities to leading singing activities with their students.

Self-efficacy decreased rather sharply for the remaining eight members (31%) of the sample who expressed H/VH self-efficacy for leading 50% or fewer activities. Table 13 contains findings for teachers with the lowest levels of self-efficacy for leading singing activities.

Table 13
Low Self-Efficacy for Leading Singing Activities

<table>
<thead>
<tr>
<th>Number of Singing Activities Self-Rated at High or Very High Levels of Confidence</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/6</td>
<td>2</td>
</tr>
<tr>
<td>2/6</td>
<td>2</td>
</tr>
<tr>
<td>1/6</td>
<td>2</td>
</tr>
<tr>
<td>0/6\textsuperscript{a}</td>
<td>2</td>
</tr>
</tbody>
</table>

\textsuperscript{a}These two teachers were unable to describe their self-efficacy as high or very high for any activity and rated themselves as having only a medium level of confidence in each category.

An additional examination of pre-training responses from teachers with the highest and lowest levels of self-efficacy for leading singing activities was conducted in order to provide information for designers of future professional development programs. The first analysis (Table 12) revealed that 14 teachers rated themselves as having high or very high confidence for leading all six singing activities. Eight of those 12 participants rated their self-efficacy as very high—the
highest level on the five-item Likert scale. For purposes of discussion, this group was labeled as Highly Confident Singers (HCS). Conversely, the eight teachers who expressed high or very high self-efficacy for leading just three or fewer singing activities were labeled as Emergent Singers (ES).

Regarding previous musical experiences, all members of the sample \( n = 26 \) had participated in at least one of the 10 musical activities listed on the pre-training survey. Self-efficacy scores of the HCS and ES subsamples were compared to previous participation in the five activities that received the majority of responses from the entire sample: (1) elementary music class taught by a specialist; (2) private lessons; (3) school choir; (4) musical activities at your place of worship, and (5) family music making. When looking at the previous musical experiences reported by each group, the HCS had participated in more activities, with an average of 5.25 activities per person, while the teachers in the ES group participated in an average of 3.5 activities per person. The only activity with high representation in both groups was participation in an elementary school music class. Table 14 has been used to highlight the dramatic differences in participation responses for the remaining activities.

Table 14

<table>
<thead>
<tr>
<th>Previous Musical Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>HCS</td>
</tr>
<tr>
<td>ES</td>
</tr>
</tbody>
</table>

*Note: The sample size was \( n = 8 \) for the HCS and the ES.*

In summary, the HCS reported the highest levels of self-efficacy for leading singing activities and had participated in many musical activities. The ES reported the lowest levels of
self-efficacy and had participated in few activities other than the elementary school music class. These findings represent a pattern between previous musical experiences and teacher self-efficacy. Implications of these data also pertain to elementary general music instruction and for retention of the subject in the school curriculum, especially as it may be the first, last, or only musical training someone receives.

The educational backgrounds of the HCS and the ES were also reviewed in order to determine other factors which may have contributed to the disparity in their self-efficacy scores. In review, the entire sample possessed several years of teaching experience, and over three-quarters of the teachers had a two-year degree or higher. Unfortunately, less than one-third of the teachers had taken a music methods course at college or university, and less than one-half had participated in a music education workshop. Six teachers reported that they had received no music education training from the choices listed on the survey.

Findings for the HCS subsample \((n = 8)\) showed that members were highly experienced. Three teachers had taught for 7, 12, and 19 years, respectively, and the remaining five members had years of experience that ranged from 22 to 38 years. Responses for educational background showed that three members had earned a four-year college degree, two had received a two-year degree, and the remaining three members reported some college attendance.

Overall, members of the ES subsample \((n = 8)\) reported fewer years of teaching experience. Five members had taught for less than 10 years, and the remaining three teachers reported 14, 15, and 30 years of teaching experience, respectively. Regarding general education, seven of eight members (88%) of the ES possessed four-year college degrees, compared to only three members (38%) of the HCS subsample.
Concerning music education training, five different training formats were offered. Table 15 represents responses from members of the HCS and the ES.

Table 15  
Music Education Training by Subsample

<table>
<thead>
<tr>
<th>Subsample</th>
<th>Workshop at Conference</th>
<th>Workshop-Other</th>
<th>Training in Commercial Program (^a)</th>
<th>University Music Methods Course</th>
<th>Participation in a preschool music class with students while observing an experienced music teacher leading the activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCS ((n = 8))</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>ES ((n = 8))</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

\(^a\) such as Kindermusik®, Musikgarten®, or Music Together®

For the ES who reported the lowest levels of self-efficacy for leading singing activities, major contributing factors appear to be a lack of participation in musical activities and a deficiency in music education training. With the exception of the elementary school music class, members of this subsample had limited experiences in the 10 activities or ensembles listed on the pre-training PGMS. Even though 88% of the ES reported earning bachelor’s degrees, few had experienced a college or university-based music methods course, and participation in music education professional development opportunities was almost non-existent. When seeking to improve the self-efficacy of generalist teachers for leading musical activities, these findings offer implications for those responsible for pre-service music education courses, in-service professional development, and collaborative efforts between generalists and music specialists.

Choral Participation and Overall Self-Efficacy

Patterns between overall musical participation and singing self-efficacy were presented in the last section. Singing is foundational to musical development; therefore, participation and self-efficacy were analyzed from another perspective. Although all of the top five musical
activities could possibly involve singing, it was determined that isolating and comparing school choral participation and overall self-efficacy for leading musical activities might provide additional information concerning the impact of singing experiences, and indeed patterns were revealed.

Analysis of data received from the entire sample \( (n = 26) \) for choral participation and overall self-efficacy showed that there was a missing answer in each category from two different teachers. Due to the fact that responses could not be compared in both categories, their answers were not included in this analysis. Thus, the sample size for each question was \( n = 24 \).

Participants were asked to indicate the number of years they had participated in a school choir. A specific grade level was not indicated, so an affirmative response could indicate participation at any grade level.

Eight of the 24 teachers indicated that they had no school choral experience. Pre-training scores for overall self-efficacy were reported on a Likert scale that ranged from not confident (1) to very high confidence (5). Two of the eight teachers rated their overall self-efficacy as high, four reported a rating of medium, and two teachers offered a rating of low. None of the teachers rated themselves at the highest level (very high) or the lowest level (not confident).

Sixteen of the 24 teachers included in this analysis indicated that they had participated in a school choir from 1-12 years with the majority of responses (6) received for two years of participation. Fifteen teachers rated their pre-training overall self-efficacy as high or very high, and one teacher offered a rating of medium. A pattern is shown between school choral experience and self-efficacy. In general, teachers with previous choral experience had higher pre-training overall self-efficacy than teachers who had not participated in a choir. Teachers with at least one year of choral experience rated their pre-training overall self-efficacy for
leading singing, instrument play, and movement activities as *medium, high, or very high*. Conversely, none of the teachers who lacked choral experience rated their pre-training overall self-efficacy as *very high*, and two teachers reported a rating of *low*.

After the pattern between choral participation and overall self-efficacy was discovered in responses from the entire sample, pre-training scores reported by teachers in the HCS (high self-efficacy for singing) and ES (low self-efficacy for singing) subsamples were examined. By doing this, patterns between choral participation, self-efficacy for singing, and overall self-efficacy for leading musical activities could be analyzed. Concerning the HCS, one of the eight members did not provide an answer for choral participation, so the sample size for this comparison was $n = 7$. Of those seven teachers, 100% of them reported *high* or *very high* overall confidence for leading musical activities, and 100% of them had also participated in a school choir. In addition, recall that 100% of the HCS also reported *very high* confidence for leading all singing activities listed on the surveys.

An examination of data reported by the ES also revealed a missing response, resulting in a sample size of $n = 7$. Therefore, the sample sizes of the HCS and the ES used in the comparison of choral participation and overall self-efficacy were the same. Findings showed that only two of seven members of the ES subsample had sung in a choir. Regarding overall self-efficacy for leading musical activities, two teachers reported a *high* level of confidence, but it is interesting that one had choral experience and the other did not. None of the ES reported *very high* overall self-efficacy, and the majority response was *medium*. Likewise, recall that a majority of this subsample were not confident in leading singing activities as members reported *high* or *very high* self-efficacy for leading just 50% or fewer activities.
In this comparison of choral experience and overall self-efficacy, data gathered from the HCS and ES subsamples mirror that of the entire sample. Those with choral experience generally had higher overall self-efficacy, higher singing confidence, and an implied correlation is apparent. However, a review of findings illustrates the difficulty in determining the effect that one activity may have upon self-efficacy.

To this point in the chapter, it has been shown that members of the HCS subsample had participated in numerous musical activities, including 100% participation in a choir. Prior to treatment, they reported the highest level of self-efficacy for singing and one of the two highest ratings for overall self-efficacy. High self-efficacy could have resulted from choral participation, from their participation in many different activities, or from something else entirely.

In contrast, members of the ES subsample had little prior musical experience overall, and only two of seven teachers had sung in a choir. Before training, they reported low levels of self-efficacy for singing, and the majority response for overall self-efficacy was medium. Their low self-efficacy could be have been influenced by their overall lack of musical experiences and training, lack of choral participation, or other factors not included in this study. Consider also, that two teachers in this group reported high overall self-efficacy, yet only one of them had experience in a choir. The challenge in isolating the influence of one particular musical activity can be seen in these data. Further examination of responses from the entire sample supported this implication.

A review of individual responses received from the entire sample showed that two participants, who were not members of the HCS or ES subsamples, also reported having no experience in a school choir. These teachers rated their pre-training overall-self efficacy as medium and high, and both reported that their self-efficacy for leading singing activities was
Regarding overall musical participation, one teacher reported having participated in five different activities, with years of experience ranging from four years (worship activities) to 22 (family music making). Conversely, the second teacher reported participation in one activity—private organ lessons for six years.

Data gathered from the sample and subsamples, along with a detailed examination of individual responses, point to patterns between school choir participation, overall self-efficacy for leading musical activities, and singing self-efficacy. However, findings also show that it may be difficult isolate the effect of one particular activity. Implications and recommendations will be presented in the next chapter.

To summarize, singing is important for the development of musical skills, and research has shown that prior experiences affect generalist self-efficacy for leading musical activities. For these reasons, it was important to survey and compare the musical participation and self-efficacy of the participants. Analysis of singing self-efficacy revealed two distinct groups; the HCS who were the most confident in leading singing activities and the ES who were the least confident. To this point in the chapter, their pre-training data were compared in terms of general education and music education received, overall musical experiences, along with a focus on choral participation, overall self-efficacy for leading musical activities, and self-efficacy for leading singing activities in order to reveal distinctive factors. As an additional step, post-training ratings of overall self-efficacy for leading musical activities were compared for members of the HCS and ES subsamples in order to analyze the effectiveness of the training for these teachers.

It has been shown that overall self-efficacy of the entire sample increased at a statistically significant level after viewing the training modules. Further analysis revealed that seven of eight members of the HCS rated their overall self-efficacy as very confident on both surveys. As a
result of the high levels of self-efficacy reported on the pre-training PGMS, a possible ceiling effect was noted. The eighth member of the group self-reported a rating of *high* pre-treatment which increased to *very confident* post-treatment.

Members of the ES rated their pre-training levels of overall self-efficacy as *low* \((n = 2)\), *medium* \((n = 3)\), and *high* \((n = 2)\). After engaging in the training, seven of eight members of the ES subsample rated their overall self-efficacy as *medium* \((3)\) or *high* \((4)\). Regarding the two teachers with low pre-training ratings, one did not provide an answer on the post-training PGMS, and the other increased her rating to *medium*. No post-training ratings of *low* or *very high* were received from teachers in the ES subsample.

Thus far, this comparison of experiences and self-efficacy has revealed implied relationships between prior musical participation and music education training and self-efficacy for singing and overall self-efficacy for leading musical activities. Findings also suggested a possible connection between school choir experience and self-efficacy, yet a detailed review of individual responses showed that pinpointing the effect of one particular activity could be difficult and would require further study. However, it must also be noted that post-training data showed increased self-efficacy of teachers whether or not they had prior musical experience. The training was also effective for increasing the self-efficacy of those who reported each level of confidence, from *low* to *high* on the pre-training survey.

**Beliefs about Inherited Musical Abilities and Overall Self-Efficacy**

The misconception of inherited musical talent is prevalent in Western cultures (Ebbeck et al., 2008), but has been refuted by the research findings of Gordon (2007). A misguided belief in inherited musical talent could result in teachers offering different opportunities to students based on knowledge of the musical abilities of the parents. Consider a
teacher whose own parents were not considered musical—the false notion of inherited musical talent could affect their self-efficacy for including musical activities in the curriculum and might also deter them from engaging in professional development opportunities. For these reasons, data were analyzed in order to discover patterns that might be revealed in responses for inherited musical talent and self-efficacy. Due to the fact that other pairs of responses were analyzed using the Highly Confident Singers (HCS) and the Emerging Singers (ES), the same groups were retained for this analysis.

A pattern was revealed in the responses given by the HCS and the ES for prior musical participation and the inheritance question. Recall that teachers in the HCS group had much more prior musical experience than those in the ES subsample. Pertinent to the inheritance question might be that the HCS had much more experience in activities where they could observe family members engaging in musical activities: family music making and musical activities in a place of worship.

Pre- and post-training responses to the statement, “Musical abilities are inherited,” were quite varied for the HCS. Although results of dependent t tests showed that the post-training change was statistically significant for the entire sample, an analysis of the pre-training responses of the HCS and the ES is revealing in terms of musical participation. Before engaging in the training, five of the eight HCS agreed or strongly agreed that musical abilities were inherited. The pre-training mean response of the HCS was 3.88 for the inheritance question which is neutral, yet trending toward agreement. This may be because of their high level of participation in family music making activities where they had a chance to participate with their parents, and through that observation developed a false belief that musical abilities are inherited. The success of the training is shown in the significance of the findings for the entire sample, but also in that
four of the five HCS who agreed with the inheritance statement prior to training expressed a
level of disagreement after engaging in the program.

Analysis of the ES scores lends additional support to the supposition that a belief in
musical inheritance may be affected by participation in family music-making activities. The
teachers in the ES group had very little experience in activities where they could observe their
parents: family music making activities and those conducted in a place of worship. Their pre-
training mean for the inheritance question was 3.00 which indicated no opinion.

What is encouraging, however, is that the post-training means for both groups indicated
disagreement with the inheritance question. The mean post-training score for the HCS was 2.00,
and the mean for the ES was 1.88. These scores mirror the significant result obtained for this
question from the entire sample and point to the effectiveness of the online training program for
mediating false beliefs about musical development.

Participant Feedback Regarding Training Effectiveness

The last two sections of the post-training survey contained items which gave participants
the opportunity to rate their experience with the training program and offer additional feedback
via open-ended responses. Results presented here corroborate findings for increased self-
efficacy that were obtained for other items using dependent t tests. Recall that some data
concerning training effectiveness was previously presented under the chapter sub-heading,

*Responses Related to Training Format.* Results showed that pre-treatment confidence levels for
participation in any type of online training were high, yet increased post-treatment. Prior to
viewing the training modules, teacher responses were neutral concerning the appropriateness of
an online format for music education training, but post-training responses showed a significant
increase ($p = .005$) in the level of agreement that the format was effective for such a purpose.
Data presented under this heading will be used along with responses to other items in order to answer the third research question, “How will beliefs and self-efficacy change after training?”

The first set of questions concerning the effectiveness of the program covered general training topics. Answer options on the five-item Likert scale ranged from strongly disagree to strongly agree. A majority of participants (92%) agreed or strongly agreed that the videos addressed the teaching techniques listed on the surveys. Data showed that 92% of the teachers agreed or strongly agreed that the program helped them understand the role they could play in promoting the musical development of preschool students. When asked if they would incorporate more musical activities into the curriculum as a result of their study participation, 89% answered that they would. In response to a question about the effectiveness of the format, 89% also agreed or strongly agreed that an online training module could increase classroom teacher understanding of early childhood music education.

Five questions were used to explore opinions about the usefulness of the information contained in each training module. Percentages represent teacher responses recorded as agree or strongly agree: (1) 89% responded that the information about early childhood musical development was helpful; (2) 92% felt that the information about the desirable singing characteristics of a preschool teacher would help them integrate singing activities into their curriculum; (3) answers showed that 92% believed that the information about integrating singing development and use of literature would help them integrate singing activities into their curricula; (4) 88% thought they would integrate use of instruments as a result of watching the corresponding module, and (5) 85% answered that the information about creative movement would help them use music and movement activities with their students.
In addition to collecting quantitative data regarding study participation, open-ended response options were included in order to study beliefs about the effectiveness of the format in more detail. The researcher felt it was very important for teachers to be able to represent their opinions and ideas in their own words. Three open-ended options were created in order to obtain comments regarding time commitment, content, and ideas for improving the program. In general, comments received on the three topics were overwhelmingly positive. Participant #1 addressed time commitment, format, and overall quality of the program:

Although the first video was almost an hour, it was very informative and kept my attention. Generally, I do not like webinar type trainings but I think this was high quality and engaging. Since I took some notes I did rewind a couple of times to catch a few words that I missed. I found myself not wanting to miss any of it.

Participant #2 supported the effectiveness of the design and the asynchronous format:

I thought the way the sessions were broken up were helpful. You offered an opportunity to take a break during the viewing of the first video. It was also explained well and made clear if we needed to walk away at any time how to reenter the session where we left off. I was able to start the session on day one and complete the last two sessions and this post survey today.

As with any educational endeavor, opinions will vary based on the previous experiences of the students, their individual learning styles, and other factors. Comments from Participant #3 contrasted with those above: “The first module felt a little long. I appreciated the opportunity for a break in the middle. The rest of the training and surveys felt like fine lengths.” Participant #4 offered, “Completing the surveys was quick and easy. Watching the videos and the explanations was time consuming and at times I felt redundant.”

The second open-ended option in this section afforded teachers the opportunity to comment about the content of the training. Overall, teachers commented on the effectiveness of the program. Responses also revealed issues related to teacher self-efficacy which have
implications for professional development. It may be telling that in each of these responses, teachers included some comment about the singing model being presented to the children.

In previous sections, it was reported that some teachers had the highest self-efficacy for singing with a recording, while others reported their highest confidence for singing without a recording. Participant #5 provided some insight into self-efficacy for singing with a recording:

> Being someone that does not have rhythm or cannot hold a steady beat by myself, I feel as though the concepts and training were great but would be hard to achieve for a teacher like me. My fear becomes if the teacher cannot hold, let's say a steady beat, and then introduces these musical concepts into the classroom will that somehow interfere with the children's musical learning ability (or throw them off when trying to hold a steady beat because the wrong beat was introduced/learned). Because of this within the classroom, I am more confident in using recordings instead of just using my voice to integrate music into the class. But overall, I am encouraged to integrate and try out what I learned into my classroom. Thanks!

An analysis of comments from Participant #6 shows that teachers may need additional instruction regarding the difference between innate and inherited musical talent, as well as the importance of singing the correct pitches. Professional development would help in all of those areas in addition to helping teachers develop listening, singing, and analytical skills, as she suggests:

> I could see early childhood educators learning a lot from the training. I agreed with most of the content but still believe that some children are born with a stronger disposition toward musical ability. Since some early childhood educators have not had opportunities to develop their own voice, I think saying that they need to sing the correct pitch can make some feel that they should not be singing with children if they are not singing with pitch. Maybe add something about how to sing in pitch or how to know if one is singing in pitch.

Participant #7 seemed to reinforce a theme shown in the comments of the previous two teachers—that they are unsure if they are correctly modeling musical concepts. Professional development would be helpful in this situation:
I really enjoyed the training and found the information truly beneficial. I always enjoy working singing into my curriculum at various times throughout my day. I am not sure that I always sing on key - but try to carry a tune to the best of my ability.

The third open-ended option was created so that participants could offer their ideas for improvement of the training and surveys. Most teachers reflected on the beneficial nature of the experience and indicated that explanations were clear. The majority opinion was represented by Participant #8 who stated, “I cannot think of a way to improve the training. The directions were very clear and concise. The information in the sessions was presented very well. I truly enjoyed the experience.”

Similar to responses for items that addressed time commitment and format, differences in learning styles were also revealed in suggestions given for improvement of the program. This participant seemed interested in more in-depth study of the PowerPoint material:

Participant #9: Have the ability to play them [the training videos] one after another and also print out the slides if needed. I was trying to take notes and it would have been better to have the option to print them out.

In contrast, a different teacher requested more videos but felt that the PowerPoint material was somewhat repetitious:

Participant #10: I would enjoy more training videos. This is a great way to learn more and improve my program. The explanations of each section repeated some of the same lines, I presume for clarity.

Consideration of learning styles is important to the design of any educational program, and responses to open-ended items in the post-survey show that this is also true for courses presented online.

Self-efficacy for teaching musical concepts and using musical activities to facilitate development of creativity increased significantly after training. These findings are particularly meaningful, as previous studies have shown that these activities are rarely included in the
practice of preschool generalists. In each of the three modules, creativity was equated with improvisation and the 21st-century skill of critical thinking. Participant #11 supported the fact that the training helped her with teaching musical concepts, and she also recognized the focus on critical-thinking skills: “It was clear and helpful. I feel like all of my musical concepts were reinforced and a new buzz word can be added ‘mapping.’ Also that this is 21st Century critical brain thinking of early childhood students.”

Findings presented under this heading offer additional confirmation of the validity of the study and suggest promise for use of the format with this population. There are many implications for future training designers. Responses to the open-ended questions show that continued recognition of learning styles and attention to training length are vital. Three teachers took time to comment specifically on the singing model teachers present to young children, and some offered suggestions for future professional development in that area. These responses corroborated data gathered from Likert-scale items concerning accurate pitch modeling and show that singing development deserves more attention in educational opportunities presented to this population.

Perhaps most importantly, narrative responses showed that teachers were interested in improving their singing abilities and were seeking feedback about their personal musical skills. Professional development programs would be helpful for developing new skills and for reinforcing the effectiveness of current practices, both of which would serve to increase self-efficacy for leading musical activities. Suggestions for future training programs will be provided in the next chapter.
Summary

The sample consisted of 26 preschool classroom teachers from each region of the United States who were employed in a setting other than one associated with a traditional PreK-12 school system. Participants represented a wide variety of teaching settings and curricular approaches. Overall, the participants were highly experienced teachers, with the majority having taught 11 years or more. More than three-quarters of the teachers possess a two-year college degree or higher, yet a majority of them lacked experience in a music methods course. Six teachers reported that they had received no music education training from among the several choices offered.

Opinions and self-efficacy regarding training design, content, and format were investigated as part of the study purpose. Pre-training self-efficacy was high for participating in an online course in general, although teachers were not as confident that the format could be effectively used for music education professional development. Teacher confidence in the effectiveness of an online music education training program improved at a statistically significant level after training ($p = .005$).

Beliefs about musical development and the characteristics of an effective adult singing model were investigated as part of each research question. Two significant findings were found in post-training responses to statements concerning musical development. Teachers agreed that musical abilities are not inherited ($p = .000$), and that all children are capable of musical development ($p = .009$). Responses to items about leading singing activities with young children showed a significant increase in the belief that they did not need to sing with vibrato ($p = .006$). Participants were unsure about the importance of modeling the correct pitches when leading singing activities with their students.
Self-efficacy for leading musical activities was investigated as part of the second and third research questions. Post-training teacher self-efficacy increased in 21 of 22 categories. At an alpha level of .05, increases were statistically significant in 14 of those categories. Overall self-efficacy for leading singing, instrument play, and movement activities also increased significantly ($p = .005$). Descriptive statistics showed that teachers felt the program helped them understand how they could facilitate the musical development of their students. Post-treatment responses showed that teachers expressed belief in the effectiveness of the online format for increasing classroom teacher understanding of music education, and answered that they would integrate more musical activities into their curricula as a result of their participation in this training. Open-ended responses received from participants about the effectiveness of the program were overwhelmingly positive. Teachers indicated that the training was well-organized and that their participation would be beneficial to their practice.

As part of the second research question, musical experiences were investigated in terms of participation and feedback. A major implication of reported musical participation was the importance of the elementary school music class. There were 10 musical activities or ensembles listed on the survey, and responses show that each teacher had experience in at least one of them. Participation in an elementary music class led by a specialist received the highest number of responses from the entire sample. For teachers with the highest levels of self-efficacy (HCS subsample, $n = 8$), this activity was tied for first place along with private lessons and participation in a school choir. Perhaps more importantly, participation in the elementary school music class was the primary or sole musical activity experienced by the majority of teachers in the ES subsample ($n = 8$).
In terms of overall quality of their musical experiences and feedback received during participation, nearly 100% of the teachers rated their overall experience in each activity as positive and also reported having received positive feedback regarding their musical abilities from teachers, parents, and peers. In terms of their high school experiences, participants felt that non-music teachers, principals, parents, and students not enrolled in music classes held a positive view of the music department. In contrast to results obtained by other researchers, negative feedback or experiences were not a consideration in the development of the musical self-efficacy of this sample.

A comparison of answers for items related to beliefs, experiences, and self-efficacy was conducted in order to answer the second research question, and the following groupings were analyzed: (1) overall musical participation, education and training, and self-efficacy for leading singing activities; (2) school choir participation and overall self-efficacy for leading musical activities, and (3) musical participation, beliefs about inherited musical abilities, and overall self-efficacy. Results showed that beliefs, experiences, and self-efficacy are interrelated. The primary factors which this study sought to remediate—beliefs and self-efficacy—were impacted both positively and negatively by the type and quantity of musical activities in which teachers had engaged. Education and training received as pre-service and in-service teachers also appeared to affect the development of these constructs.

Social-learning theory (Bandura, 1977, 1986) was cited as part of the rationale for the design of this music education program. Pre-treatment data showed that observation and mastery experiences gained during participation in musical activities had an impact on the formation of teacher beliefs and self-efficacy. Post-treatment results showed that an online training program
based on social-learning theory is effective for increasing the self-efficacy of preschool generalists for leading musical activities, which was the purpose of the study.

In this chapter, findings were organized under headings that represented the areas of investigation: participant characteristics, teacher beliefs, musical experiences, and self-efficacy for leading musical activities. Chapter five is similarly organized. After a discussion of demographics, answers to the three research questions are presented. Thereafter, a detailed examination of data for each question includes implications for future practice and initiatives. An additional section contains discussion of results concerning the training format and content, including direct feedback from participants. Finally, challenges and opportunities, recommendations, and concluding remarks are offered from my perspective as a researcher, teacher-educator, and early childhood music specialist.
CHAPTER FIVE
DISCUSSION

Introduction

One of the first formal needs-assessment studies concerning the music teaching practices of preschool classroom teachers was conducted by members of the MENC Early Childhood Special Research Interest Group (SRIG) in 1980 (McDonald, 1980). Since that time, the majority of studies have been in the genre of descriptive research, and numerous authors have recommended the development of training programs for this population. Warnings about obstacles such as time investment, cost, and the impact of negative mental pre-sets developed during previous musical experiences have also been persistent during the intervening years.

Many researchers have recognized the urgency of creating effective and accessible training opportunities for early childhood generalists as they share responsibility with parents for educating students during a critical period in their musical development. While studies involving the implementation of training programs for preschool generalists are rare, de l’Etoile (2001) and Nichols (1993) attempted to alleviate obstacles related to time and cost by conducting on-site workshops. Nevertheless, allocating time for training was still a deterrent. In consideration of such persistent barriers, it seemed likely that an online program might ease access to professional development opportunities.

Indeed, it was my interview of an early childhood center administrator and her subsequent recommendation of the format that encouraged me to pursue this training design. The online delivery of an educational program based on social-learning theory (Bandura, 1977, 1986) appeared to offer great potential for this population and subsequently for the musical instruction of young children. Given the need for professional development and the
opportunities presented by the online format for meeting that need, the purpose of this
dissertation was to investigate the effectiveness of an online training program for increasing
preschool generalist self-efficacy for leading musical activities.

After a review of the literature, no comparable studies were revealed in which the
investigator sought to determine the effectiveness of an online program for the music education
of in-service preschool teachers. Another distinguishing feature of the training materials is that
the content was specifically designed to increase the self-efficacy of in-service preschool
generalists working in child care and independent settings. Consequently, this study appears to
contribute to the research literature regarding: (1) the population served by the training—in-
service early childhood generalists working in institutions not associated with a traditional PreK-
12 school; (2) the study purpose—increasing self-efficacy of in-service early childhood
generalists for leading music activities; (3) use of the format within the music education
community—online delivery with asynchronous access, and (4) the training content—which was
designed in an effort to increase self-efficacy.

Due to these distinctive features and the significant findings which were revealed, this
work offers a valuable contribution to the fields of music education and early childhood
education. As this study represents new areas of inquiry, researcher-designed questionnaires and
training materials were employed. Validity and reliability were determined through expert
review of the surveys and implementation of a pilot-study. Calculation of Cronbach’s Alpha was
used to ensure reliability of the self-efficacy scales.

Using purposeful sampling methods, affiliates of the National Association for the
Education of Young Children were contacted in an effort to receive feedback from teachers in a
variety of geographical contexts. Snowball sampling was conducted through direct contact with
teachers and other experts in the field of early childhood education and was facilitated by internet conventions such as social media, e-mail newsletters, and website postings. Thirty-six teachers completed the training and post-training survey. Usable data was obtained from 26 teachers representing each region of the United States and a variety of teaching contexts and curricular approaches.

In this chapter, data are used to directly answer the research questions in order, under the appropriate headings: (1) What beliefs do preschool generalists hold about teaching music to young children? (2) What relationships exist between teacher beliefs, personal musical experiences, and self-efficacy for music teaching? (3) How will beliefs and self-efficacy for teaching music change after participation in online training?

The chapter begins with a presentation of answers to the research questions and related implications, followed by additional considerations based on participants’ opinions about training format and design. A discussion of the challenges related to this investigation precedes recommendations for future researchers, training designers, and members of the early childhood and music education communities. The conclusion is offered from my perspective as a music educator, early childhood music specialist, teacher educator, and researcher.

**Participant Characteristics**

Previous research shows that preschool generalists are responsible for developing music curricula and leading musical activities with their students even though they often have not received music education training. This situation is complicated by the unique training barriers faced by teachers working in child care or independent settings. For those reasons, I designed and implemented an online training program to meet the specific needs of teachers working in settings not associated with a traditional school system. An analysis of the demographic data
revealed several intriguing implications for the future professional development of generalist preschool teachers as well as for other teacher populations.

The website for the National Association for the Education of Young Children describes the many different settings that exist in the profession (NAEYC, 2012b). That diversity is represented in the wide variety of responses received to survey items regarding teaching context and philosophy. Five choices were offered for school setting, yet the majority of teachers utilized the open-ended response option. Settings ranged from those affiliated with a community college or university to those located in private homes. Of the 13 unique descriptions, the word private appeared in six of them. Most participants also chose the open-ended response option for teaching approach or philosophy. There were 18 unique responses, and two major categories emerged: play-based curriculum and eclectic curriculum. These findings support the diverse nature of the early childhood community as described by NAEYC and offer challenges to course developers and training providers.

Much previous research has shown that preschool generalists lack music education training, but data about general education preparation is not as prolific. One major goal of the training modules was to refute cultural misconceptions about musical development and teaching; yet the members of this sample have provided evidence to refute what may be two commonly-held beliefs about the educational preparation of classroom teachers. During the course of this study, I had several informal conversations about the topic, and people often expressed the opinion that teachers working in child care or independent settings lack post-secondary degrees and teaching experience. However, 85% of the sample possesses a two-year degree or higher and are also highly experienced as 69% of the teachers had taught for 11 years or more. Another commonly-held belief may be that teachers with post-secondary degrees have taken a music
methods course, yet that was not the case for the majority of this sample, as only 27% of the teachers indicated that they had received such training. This percentage represents slightly less than one-third of participants who indicated that they had earned an associate’s, bachelor’s, or graduate degree.

Although preschool generalists working in independent settings were the focus of this study, 33 teachers affiliated with a traditional PreK-12 school system showed interest in the training and consented to study participation, but they were prevented from completing the pre-survey because they did not conform to the sample criteria. However, due to an issue with the e-mail prompt, they still received the links to the training videos, and nine of them accessed the modules and completed the training. Their responses were not included in the analysis as they did not conform to the sample criteria; yet, the fact that they persisted and completed the program implies that teachers working in PreK-12 school systems also have an interest in music education training. Perhaps those nine teachers lacked experience in a music methods course, or as shown in the literature review, the course content may not have addressed practical skills that generalists could apply in their classrooms.

Additional survey items were used to investigate music education training other than what may have been received as part of a degree program. Six teachers indicated that they had no music education training of any type, and less than half of the sample had taken a music workshop at a conference or elsewhere. Survey responses showed that preschool generalists are lacking in music education training, which corroborates results of previous studies. However, it is encouraging that almost one-half (46%) of the sample indicated that they had observed a music specialist teaching children. This finding offers possibilities for the music education training of this population, classroom teachers of children in grades K-12, and music specialists.
According to the social-learning theory of Bandura (1977, 1986), observation of a model can increase teacher self-efficacy, particularly when the practical value of the information is conveyed to the observers. Those principles are supported by the study results. If generalists and specialists had the opportunity to observe each other, it would be a valuable form of professional development for both populations and could alleviate some barriers of time and cost. Studies show that generalists favor integration of musical elements with other curricular goals. Numerous research findings also show that prolonged musical participation can assist with student achievement in non-musical subject areas, along with development of characteristics such as attention and motivation. For these reasons, collaboration of music specialists and classroom teachers for the goal of curricular integration would serve as a means of professional development in both communities and could lead to increased student achievement in music education and other academic areas.

Several major findings and implications were revealed in the analysis of the demographic data: (1) There is great diversity in preschool settings and teaching approaches; (2) Cultural misconceptions about the educational preparation and teaching experience of preschool teachers working in independent settings are inconsistent with these results; (3) For the generalist teacher, attainment of a post-secondary degree does not guarantee preparation in music education methods; (4) Preschool generalists working in child care and traditional PreK-12 settings are seeking training in music education, and this includes experienced teachers with bachelor’s and graduate degrees, and (5) Reciprocal observations between generalists and music specialists offer promise for the professional development of both communities, leading to increased learning opportunities for children.
Research Questions and Major Findings

The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities. Three research questions were employed: (1) What beliefs do preschool generalists hold about teaching music to young children? (2) What relationships exist between teacher beliefs, personal musical experiences, and self-efficacy for music teaching? (3) How will beliefs and self-efficacy for teaching music change after participation in online training? Answers to the questions and presentation of major findings are briefly offered under this heading, and a detailed discussion appears in the sections that follow.

The first question was designed to determine the pre-training beliefs held by preschool generalists concerning musical development and music teaching. The first part of the third question pertains to post-training. In answer to these questions, pre- and post-training responses are presented in the following paragraphs. Pre-training answers to musical development items showed that teachers had no opinion about inherited musical abilities or about the designation of early childhood as a critical period for musical development. Teachers agreed that all children are capable of musical achievement and that musical abilities could continue to improve throughout adulthood.

After engaging in the training, responses showed that teachers disagreed with the notion of inherited musical talent at a statistically significant level. Their level of agreement that all children are capable of musical achievement also increased significantly. There was a slight but non-significant increase in the belief that abilities could improve through adulthood. Teachers remained neutral in their opinions about early childhood being a critical period for musical development, but that may have been due to the wording of the survey item.
Concerning pre-training beliefs about music teaching and specifically the adult singing model that should be presented to students, teachers understood that they need not sing like a professional, which was defined as someone heard on the radio or in concert. They also understood that they should not use vibrato. These are positive results, but beliefs about accurate pitch modeling are a concern. In response to the item designed to investigate opinions about singing the correct pitches when leading songs, teachers could offer no opinion. For the item used to research beliefs about prioritizing enjoyment over accurate pitch modeling, teachers also remained neutral. After engaging in the training, teachers maintained the belief that they need not sing like a professional, while the belief that they should not use vibrato increased significantly. Unfortunately, incorrect beliefs about the importance of pitch accuracy remained unchanged post-treatment.

In answer to the *second question*, responses showed that type and quantity of participation in musical experiences were connected to beliefs and self-efficacy. Examination of responses for singing self-efficacy revealed two distinct subsamples. Teachers who reported the highest levels of confidence were identified as Highly Confident Singers (HCS), and teachers who reported the lowest self-efficacy scores were termed Emergent Singers (ES). Detailed analyses of subsample data revealed implied correlations between type and number of personal musical experiences, self-efficacy for leading activities, and beliefs about musical inheritance and use of correct pitches. The interconnectedness of beliefs, experiences, and self-efficacy is highlighted later in the chapter.

The first part of the *third question* pertained to post-treatment beliefs and has been answered. The second part of the third research question dealt with post-training self-efficacy. The training was highly effective for increasing teacher self-efficacy for leading musical
activities. Post-treatment data represented increased levels of confidence for 21 of 22 activities, and 14 findings were statistically significant.

Data analysis provided answers to the three research questions and revealed several key findings relative to the music education preparation of preschool generalists. First, demographic data illustrated the great diversity that exists in early childhood practice in terms of educational settings and teaching philosophies or approaches. Additionally, cultural misconceptions about teacher preparation and years of experience in the field were not supported by this sample. This is just one set of findings that demonstrates the importance of gathering information about participants and their school settings prior to the design of instruction.

Along with confirming the effectiveness of the online format, a major finding of this study is that beliefs about musical development and music teaching, personal musical experiences, and self-efficacy for leading musical activities are interrelated. In order to answer the second research question, individual responses for previous musical participation were examined in detail and compared with data concerning beliefs and self-efficacy for the purpose of highlighting distinctive patterns. Especially noteworthy are the apparent correlations between: (1) previous musical experiences and self-efficacy; (2) previous musical experiences and beliefs about musical inheritance, and (3) previous musical experiences and beliefs about the importance of pitch accuracy when leading songs with students. While these relationships are implied by the results, determining the precise impact of one particular activity will require further study. Nevertheless, sample responses, especially from teachers with the lowest levels of self-efficacy, offer strong support for the vital nature of the elementary school music class and for retention of such instruction in the school curriculum.
The related nature of beliefs, experiences, and self-efficacy, which were revealed in answer to the second research question, leads to a discussion about social-learning theory. Interestingly, tenets of the theory, which provided part of the philosophical foundation for the training, were also evident in the results. As outlined in the methodology, the training program was based on two major principles of social-learning theory: (1) Learning can occur through observation of symbolic models, and (2) Self-efficacy is increased when the practical nature of the information is conveyed to the observers.

The influence of these principles, along with mastery experiences gained through previous participation in musical activities, was evident in data that showed the interconnectedness of beliefs, experiences, and self-efficacy. Connections between participation in musical activities, self-efficacy, and the formation of teacher beliefs about musical development and music teaching were revealed during data analysis. Teachers with the lowest pre-treatment self-efficacy were uniquely affected. Responses showed that they had little previous experience in musical activities and consequently few opportunities to observe music making or to develop their personal musicianship. While their levels of confidence increased as a result of the training which made use of symbolic modeling, mastery experiences in teaching will be needed to further increase self-efficacy for leading musical activities. Results also suggest that mastery experiences gained through personal music making would be helpful.

This online music education program has been shown to increase the self-efficacy of generalists working in child care and independent contexts, yet implications exist for use of a similar program with other generalist populations and with music specialists. Collaborative efforts between music educators and classroom teachers are also recommended, and results point to a possible starting point. Survey responses showed that almost 50% of the entire sample had
participated in a music class with children, which allowed them to observe the teaching of a music specialist. Given the effectiveness of vicarious learning shown in this study, reciprocal observations between in-service generalists and specialists are strongly recommended. When facilitated by school administrators, such initiatives could also help eliminate identified training barriers for this population. Future studies are also recommended in order to determine whether pre-service music teachers are receiving adequate training for early childhood teaching.

Having briefly answered the research questions, an in-depth examination of findings and their implications is provided in the following sections. Four main chapter headings are used to represent the research questions and study purpose: (1) *Teacher Beliefs about Musical Development and Music Teaching*; (2) *Comparing Teacher Beliefs, Musical Experiences, and Self-Efficacy*, along with sub-headings used to organize information according to patterns discovered among those factors, and (3) *Effectiveness of an Online Music Education Training Program*. Additional data concerning training format and content is also presented under the corresponding heading. A discussion of the challenges and related opportunities encountered during the implementation of the study precedes recommendations for future research and training initiatives.

**Teacher Beliefs about Musical Development and Music Teaching**

This section focuses on answers to the first research question and the first part of the third research question. The first question was: What beliefs do preschool generalists hold about teaching music to young children? The third question was: How will beliefs and self-efficacy for teaching music change after participation in online training? Pre- and post-training beliefs are discussed under this heading, and self-efficacy will be addressed later in the chapter.
Researching beliefs about musical development is important to ensure that all children receive musical experiences and that teachers can envision their own musical potential. Refuting the inheritance factor, promoting the importance of early childhood music education, and showing that all children are capable of musical achievement can indicate to teachers that musical opportunities should be offered to everyone. These same factors, combined with a belief that musical abilities can continue to improve throughout adulthood, may contribute to teacher pursuit of professional development. For these reasons, teacher beliefs about musical development and the characteristics of an effective adult singing model were investigated.

In the matter of musical development, changes from pre- to post-treatment were statistically significant for the inheritance question and for the statement that all children are capable of musical achievement. After viewing the training modules, teachers felt that musical abilities were not inherited and that all children were capable of musical achievement. These responses suggest that teachers would offer musical opportunities to all children, rather than restricting them to those who showed early potential for the subject, or to students whose parents were known to be musical. Teachers also believed that their own musical abilities could continue to improve throughout adulthood which could contribute to their self-efficacy for participating in future music education courses. This is encouraging when considering professional development opportunities for this population.

Misconceptions about the adult singing model presented to young children were also addressed. Previous studies have shown that incorrect beliefs in this area can reduce teacher self-efficacy and limit the type and quality of instruction received by children. After training, teachers indicated that they need not sing at the level of a professional, defined as someone heard
on the radio or in concert. This is a promising implication for development of teacher self-efficacy and may indicate that teachers are singing with their students.

Singing with a clear tone is important for the musical development of young students as vibrato is a variation of pitch, and it is during early childhood that students are just learning to listen and match pitch. Responses were very encouraging in this area. Before viewing the training modules, teachers did not believe that they should use vibrato when singing with their students. This belief increased at a statistically significant level, post-treatment.

Although participants understood that they do not need to sing at the level of a professional, nor use vibrato, more education and training is needed to show the importance of presenting an accurate singing model. Statements were designed to investigate opinions about singing the correct pitches and whether or not modeling enjoyment is more important than modeling accurate pitches. Pre- and post-training responses revealed that teachers had no opinion regarding these two items. This is a concern, because early childhood is a critical period for musical development and learning to listen and match pitch are fundamental skills. Data showed that the prior musical experiences of the participants likely impacted the development of these beliefs. This phenomenon is explored in the discussion of the second research question.

Overall, responses showed that the training was effective for instructing teachers about musical development and music teaching as post-treatment beliefs were aligned with expectations for best practice. However, there was one important exception. Even though participants watched videos in which a teacher presented an accurate vocal model accompanied by strategies for helping students sing on pitch, participants could offer no opinion about the importance of modeling the correct pitches for their students. It is a concern that students may
be engaged in singing, perhaps solely for purposes of enjoyment, without regard for musical accuracy.

Prior research confirms that positive experiences and positive teacher affect are vital for development of musical skills and self-efficacy in early childhood; yet, there must be a balance between enjoyment and skill development in early childhood music instruction. Musical development will suffer if enjoyment takes precedence over development of accurate skills. When describing developmentally appropriate music practices for preschool children, Copple and Bredekamp (2009) provide an excellent guideline for teachers: “In ways that don’t interrupt enjoyment, teachers highlight elements such as pitch, duration, tempo, and volume, and they engage children in varying and exploring these elements” (p. 177).

Research findings and professional policies such as this make it clear that enjoyment and instruction should be balanced; yet data obtained from this sample indicates that preschool generalists do not understand the importance of accurate pitch modeling. Conversely, music specialists, especially those who have not received training in early childhood methods, may focus on producing a musical product at the expense of enjoyment. All stakeholders who work with young children or their teachers—parents, school administrators, training designers, and music specialists should be knowledgeable about musical development and early childhood music education practices in order to offer the best opportunities for children.

**Comparing Teacher Beliefs, Musical Experiences, and Self-Efficacy**

The second research question was: What relationships exist between teacher beliefs, personal musical experiences, and self-efficacy for music teaching? Answers were briefly outlined earlier in the chapter. The purpose of this section is to explore patterns discovered among the three elements and to discuss their implications. Subheadings represent connections
revealed during analysis of sample data and examination of individual responses. A review of findings for this question will provide a framework for the discussion.

As previously noted, false beliefs held by some teachers about musical development and music teaching were changed by the training. After treatment, cultural misconceptions regarding the talent notion were refuted. Teachers believed that all children could achieve in music and that musical abilities were not inherited. These attitudinal changes were significant. Concerning the singing model that should be presented to students, teachers understood that they need not sing at the level of professional, nor should they use vibrato. The finding for vibrato was statistically significant. Despite these encouraging results, teacher misconceptions about the importance of singing the correct notes remained unchanged.

Previous participation in musical activities and feedback received while engaged in those activities were the two categories of experiences investigated. Prior studies have shown that negative feedback can affect self-efficacy. That was not a factor for this sample, as nearly 100% of the teachers reported receiving positive feedback from parents, peers, and teachers in regard to their musical abilities. Participants also felt that the music department in the high school they attended was viewed positively by non-music teachers, principals, parents, and students not enrolled in music classes.

In terms of musical participation, 10 activities or ensembles were listed on the pre-training survey, and the majority of replies were represented by five activities. They are listed in order from highest to lowest numbers of responses: (1) elementary music class taught by a music specialist; (2) private lessons; (3) school choir; (4) musical activities at a place of worship, and (5) family music making. It must be noted that the top three categories are within the realm of formal music education, and although more research would be needed, responses show that
teachers from across the country had access to these programs. Findings also point to the ubiquitous nature of musical activity within our culture, even though additional types of participation could be studied beyond those which were determined vital to this investigation.

Regarding the musical development of young children, it is encouraging that family music making was one of the top five responses. This may indicate that participants received the type of musical enculturation in early childhood that Gordon (2007) has found vital to preparing children for more formal training upon entering kindergarten. However, specific details concerning the nature of the family music experiences were not surveyed. Due to the critical importance of musical experiences in early childhood, this merits further investigation.

Answers from two specific participants represent important principles regarding teacher training. One teacher listed congregational singing as a participatory activity which indicates that they considered themselves to be a singer even though they were not the professional worship leader or music pastor. Previous studies have shown that generalists often falsely believe that they are not singers unless they can perform at the level of a professional. That certainly does not appear to be the belief held by this participant, and the response implies some level of confidence for singing. A pre-course survey might reveal other community singing experiences that could be used to increase teacher self-efficacy for leading musical activities.

Another participant indicated that she played the veena, a stringed instrument popular in India. This teacher could be encouraged to introduce the instrument to her students. As recognized by previous researchers, self-efficacy might be promoted if she started with something familiar. Multicultural study is included in developmentally appropriate practice and the prekindergarten music education standards and offers numerous integrative learning opportunities. Responses from these two teachers illustrate the importance of conducting a
survey prior to designing course curricula. A survey could also be used to inform school
administrators about the type of professional development that would be most beneficial to their
faculty.

The final element represented by the second research question was self-efficacy for
leading musical activities. The training was extremely effective for increasing self-efficacy of
teachers in the areas of singing, playing instruments, and movement activities. Post-training
scores increased in 21 of 22 categories, and 14 of those increases were statistically significant.
The only activity for which self-efficacy did not increase was modeling free movement to
recorded music, but it should be noted that due to circumstances related to the demonstration
class, that activity was not included in the training videos.

Further comparison of data found for beliefs, experiences, and self-efficacy will provide
greater insight into the issues affecting classroom teacher self-efficacy for leading musical
activities. In the next section, the discussion has been organized according to patterns revealed
during data analysis. Results show the interrelatedness of beliefs, experiences, and self-efficacy.

Comparing Patterns between Previous Musical Experiences and Self-Efficacy

Singing is foundational to musical development and an important part of early childhood
music education, yet findings from this study and others have shown that generalists often lack
confidence for singing. Results of prior research have also shown that previous musical
experiences affect self-efficacy. For these reasons, responses for previous musical participation
and self-efficacy for leading activities were compared in three combinations: (1) overall musical
participation and self-efficacy for leading singing activities; (2) participation in a school choir
and overall self-efficacy for leading musical activities, and (3) previous musical experiences,
beliefs about inherited musical abilities, and overall self-efficacy. Analysis of answers to the
first response pair—overall participation and singing self-efficacy—revealed two distinct groups of participants: (1) eight teachers with the highest level of self-efficacy (*very high*) for leading 100% of the singing activities listed on the survey who were labeled as Highly Confident Singers (HCS), and (2) eight teachers who reported *high* or *very high* self-efficacy for leading just 50% or fewer of the activities who were labeled Emergent Singers (ES). The difference between the groups in terms of musical participation was striking. The HCS had participated in numerous musical activities, but the ES had not. The pattern observed is that teachers who had previously engaged in the most musical activities had the highest levels of self-efficacy for leading singing with their students.

To examine the effect of singing experience upon self-efficacy in more detail, answers to the second response pair of school choir participation and overall self-efficacy for leading musical activities were compared. Data showed that teachers with one or more years of choral experience rated their overall self-efficacy as *medium*, *high*, or *very high*. However, none of the eight teachers lacking choral experience could rate their overall self-efficacy as *very high*, and two of them rated their overall self-efficacy as *low*. These findings suggest that the school choir participation may have contributed to higher self-efficacy for leading musical activities, yet a review of individual scores revealed conflicting data. Correlational studies should be conducted in order to investigate relationships between musical experiences and self-efficacy.

Given that results of the first two comparisons indicated a connection between experiences and increased self-efficacy, responses of the HCS and ES subsamples, teachers with the highest and lowest levels of self-efficacy for singing, were analyzed in more detail. Sample sizes for this question were $n = 7$ for both subsamples. All members of the HCS subsample had participated in a choir, and the entire subsample described themselves as confident leaders of
musical activities. Conversely, only two members of the ES subsample had school choir experience, and a majority of these teachers reported a medium level of overall self-efficacy. For the ES, it seems that lack of experience in a school choir may have contributed to their low self-efficacy for leading singing activities. However, these teachers were also lacking in overall musical experiences; therefore, it may be challenging to pinpoint the effect that one musical activity can have upon self-efficacy. Further examination of responses confirms this assertion.

Further analysis of data from the entire sample \( (n = 26) \) showed that two additional teachers lacked school choral experience, yet they were not members of the ES subsample. Both teachers rated their pre-training overall-self efficacy as \textit{medium or high}, and their mean self-efficacy scores for leading singing activities was \textit{high}. These ratings are similar to members of the ES in that neither of these teachers rated their overall self-efficacy or their self-efficacy for leading singing activities as \textit{very high}, so it might be tempting to attribute that to a lack of choral experiences. However, an examination of their previous musical participation offers insight into the difficulty of isolating the effect of one particular activity.

Although both teachers had high self-efficacy for leading singing activities, they had not sung in a school choir, and the remainder of their musical experiences was quite different. One teacher had participated in many activities for several years while the other had only taken private organ lessons. These findings point to a need for further research concerning connections between musical experiences and self-efficacy for music teaching. Consideration of the type and number of previous experiences along with years of participation is suggested.

Connections between musical participation and self-efficacy were analyzed by examining several different response pairs from the entire sample, the two subsamples, and individual teachers. Analysis revealed apparent relationships between the number and type of musical
experiences reported by participants and their self-efficacy for leading musical activities. In general, teachers with numerous musical experiences had high self-efficacy, while teachers with few experiences reported low self-efficacy for leading musical activities. However, a detailed examination of individual responses also showed that pinpointing the effect of a particular activity may be more difficult. Many factors are involved beyond the type of activity and number of years of participation.

One concern revealed by prior researchers is that self-efficacy can be affected by negative feedback received regarding musical abilities. While that was not an issue for this sample, numerous other elements concerning the specific experience in each musical activity could be investigated. This might include items directly related to participation in the activity such as the teaching approach of the instructor or individual student factors of motivation and attention.

A very positive finding of this study is that online training can increase the self-efficacy of teachers whose backgrounds include deficiencies in musical participation as was the case for the Emergent Singers (ES). However, for teachers with the lowest levels of musical confidence, mastery experiences in teaching and personal music making will likely be needed in combination with training to increase self-efficacy to the highest levels. Future correlational and experimental studies are recommended in order to examine patterns between previous musical experiences and self-efficacy for leading musical activities.

Teacher experiences were also examined in terms of post-secondary study, music education training, and years of teaching experience. Analysis of the music education preparation of the entire sample ($n = 26$) showed that a majority of teachers with two-year degrees or higher had not taken a music methods course. Also, less than one-half of the
participants had been enrolled in a music workshop. This lack of preparation corroborates findings of previous researchers, and the probable effect upon self-efficacy should be noted.

The apparent correlations between self-efficacy and more informal types of music preparation, such as participation in family music making and other community-based activities, have been discussed. Generally, as seen in data for HCS and ES subsamples, teachers with high levels of self-efficacy had participated in several musical activities, while teachers with low self-efficacy were lacking those types of experiences. Participation in an elementary music class received the highest number of responses from the entire sample. For the ES subsample, which had the lowest levels of reported self-efficacy, participation in an elementary school music class had been their primary musical experience, and for some of them it was their *only* reported musical activity.

A comparison of subsample responses received for teaching experience, prior participation in musical activities, post-secondary study, and music education training showed that members of the ES had higher response counts to only two items; attainment of a four-year college degree and by a slight margin, participation in a music education methods course. Members of the HCS subsample had more experience in all of the other areas: years of teaching experience, prior participation in musical activities or ensembles, and attendance at music education workshops.

Given these findings, and the corresponding disparity of self-efficacy scores reported by the subsamples, the high pre-training self-efficacy of the HCS seems to have been affected by mastery experiences related to personal music making and mastery experiences in teaching young children. While the ES had more experience in formal types of training via post-secondary study and music methods courses, the informal experiences gained from musical
participation and music workshops reported by the HCS seems to have had a greater influence on
their self-efficacy. Clearly, case studies are needed in order to gain information about the
content of workshops and music methods courses and the exact nature of mastery experiences
gained through musical participation or teaching.

The overall lack of preparation in music education training shown by this sample
confirms prior research findings, but results of this study carry additional implications
concerning the importance of musical experiences. The unique influence of the elementary
school music class was seen in the sample data and the individual responses of the ES
subsample. Regarding the entire sample \( n = 26 \), the low percentage of responses to
participation in a music methods course points to a need to investigate post-secondary training.

This study has shown that online training can increase the self-efficacy of teachers
lacking in music education preparation and previous participation in musical activities. Analysis
of data gathered from the HCS and ES subsamples showed major differences in those two areas.
According to these findings, future researchers should investigate correlations between previous
musical experiences and self-efficacy for music teaching. Also, I will emphasize that training
designers, instructors, and school administrators should research the musical and educational
backgrounds of teachers prior to implementing programs. For teachers with the lowest levels of
self-efficacy, post-training follow-up may be needed to affirm and guide practice of new skills.
This would help them develop mastery experiences in teaching that can increase self-efficacy.

Comparing Patterns between Beliefs and Self-Efficacy

Discussion in the previous section was focused on connections between musical
experiences and self-efficacy. Patterns revealed in responses for beliefs and self-efficacy are
presented in this section. Post-training responses related to teacher rationale for including
musical activities in the curriculum were compared to beliefs about musical development. These data offer insight into teacher philosophies about music curricula and will be helpful to school administrators, training designers, and course instructors.

There were six activities designed to simultaneously investigate self-efficacy and rationale for including music in the curriculum. After engaging in the training, self-efficacy increased for all six activities, and results were significant for four activities: (1) teaching musical concepts; (2) identifying musical terms without directly teaching the concept; (3) using musical activities to facilitate the development of creativity, and (4) using music for classroom management purposes. The findings for teaching of musical concepts and developing creativity are especially noteworthy, as these activities have been found lacking in previous descriptive studies.

Post-training beliefs about musical development corresponded with findings of increased self-efficacy for these activities. Teachers agreed that musical abilities are not inherited and that all children are capable of musical achievement; therefore, it follows that they would offer instruction in musical concepts and the development of creativity. Consider the implications of the opposite results. If teachers believe in inherited musical abilities, they could be inclined to limit their own potential and that of their students. Teachers might not pursue music education training if their own parents were considered un-musical. In their classrooms, teachers might restrict instruction to children who were arbitrarily labeled as talented based on misconceptions about the abilities of the parents. In both cases, children would be denied opportunities to discover their musical potential, either directly or indirectly, based on an incorrect assumption about inheritance.
Comparing Patterns between Beliefs, Experiences, and Self-Efficacy

In the previous sections, patterns were examined for two response pairs: musical experiences and self-efficacy; beliefs and self-efficacy. Connections between all three areas are presented under this heading. A major finding of this study is the interrelatedness of beliefs, experiences, and self-efficacy.

Past participation in musical activities or ensembles was surveyed along with music education training, and the greatest difference between the subsamples was revealed in responses for participation. Analysis revealed that the HCS had numerous previous experiences in several activities for a number of years, while the ES had few experiences beyond the elementary music class. Although the type and quantity of musical experience reported by these teachers was quite dissimilar, a high percentage of members in both subsamples reported participation in an elementary school music class taught by a specialist. That activity also received the most responses from the entire sample \((n = 26)\).

Additional analyses revealed the interconnectedness of beliefs about musical development and music teaching, previous musical experiences, and self-efficacy for leading musical activities. Teacher beliefs and self-efficacy were impacted both positively and negatively by previous musical experiences. Lack of music education training was also a contributing factor. These findings represent principles of social-learning theory including learning through observation and increased self-efficacy as a result of mastery experiences (Bandura, 1977, 1986).

Teachers with the highest levels of self-efficacy for leading musical activities, the HCS subsample, reported previous participation in numerous musical activities or ensembles. According to social-learning theory, it is distinctly possible that their pre-training confidence
resulted from observation and mastery experiences related to personal musicianship. Prior to treatment, a large majority of the HCS reported taking part in family music making activities which likely contributed to the false belief that musical abilities are the product of heredity.

Opinions about the importance of singing the correct pitches also appeared connected to participation. Pre-training response means of both subsamples indicated that teachers were neutral about the importance of singing the correct pitches, but the mean of the HCS was closer to a level of agreement than that of the ES. While singing or playing instruments with others, the HCS had opportunities to observe and experience the importance of pitch accuracy. Conversely, members of the ES subsample did not have such opportunities due to their lack of musical experience. This comparison of data confirms the interconnectedness of beliefs, experiences, and self-efficacy and illustrates the impact of musical participation.

While participation in musical activities helps to develop knowledge, skills, and self-efficacy, there was one positive aspect to the lack of experience of the ES. Pre-training responses showed that they disagreed with the notion of inherited musical talent. In this case, their lack of experience, perhaps particularly in activities where they could have observed family members, may have helped prevent them from developing a false belief in inherited musical abilities. However, it is distinctly possible that deficiencies in participation and music education training also contributed to their belief that modeling enjoyment is more important than singing the correct pitches, as they had not experienced the consequences of singing the wrong pitches or the joys of singing the correct pitches. As with the HCS, principles of social-learning theory are represented in the pre-training responses from members of the ES subsample.

Findings presented in this section have shown the interrelated nature of beliefs, experiences, and self-efficacy, and important implications can be seen: (1) Family music making
can contribute to the development of musical self-efficacy through mastery experiences, but may also contribute to a false belief in inherited musical talent; (2) Teachers with little overall musical participation may need experiences to help them learn the consequences—both positive and negative—of singing the correct pitches, and (3) The elementary music class may be the only formal music education experience received during a critical period for musical development, and it should be retained in the school curriculum.

Post-treatment results showed that the training was effective for increasing the self-efficacy of the teachers for leading 21 of 22 activities, and for changing false beliefs about inherited musical talent. However, even after engaging in the training program, teachers were still unable to agree that singing the correct pitches was important. The online format holds promise for future training in this area, and recommendations are provided later in the chapter.

**Effectiveness of an Online Music Education Training Program**

The main purpose of the study was to determine if the online format would be effective for increasing preschool teacher self-efficacy for leading musical activities which is represented by the second part of the final research question, “How will beliefs and self-efficacy change after training?” The first part of the question pertains to teacher beliefs and was answered under the previous heading *Teacher Beliefs about Musical Development and Music Teaching*; therefore, this section will focus on data related to self-efficacy.

Three concurrent analyses were used to triangulate findings for self-efficacy. First, answers to open-ended items on the post-training *PGMS* showed that teachers had gained knowledge and confidence as a result of their engagement with the training. A detailed analysis and discussion of selected responses was presented in the previous chapter under the heading *Participant Feedback Regarding Training Effectiveness*. Second, the post-training *PGMS*
contained direct questions regarding intent to integrate singing, instrument play, and movement into the curriculum. Responses showed that a large majority of teachers planned to integrate activities into their curricula as a result of their study participation. Additional details and discussion are contained in the next section under the subheading *Participant Feedback Regarding Training Format and Content.*

Third, the two surveys contained matching items which were used to research teacher confidence in the specific areas of singing, instrument play, and movement, and an additional item was included for overall self-efficacy. Results of dependent *t* tests also showed that the training modules were highly effective for increasing self-efficacy. There were 22 total activities which represented singing, instrument play, movement, and reasons for including music in the curriculum. Post-training responses showed increased self-efficacy for leading 95% (21) of the activities. Significant increases were found for 64% (14) of the activities. Overall self-efficacy for leading singing, instrument play, and movement activities also increased at a significant level (*p* = .005).

Given a sample size of *n* = 26, it is important to consider the meaningfulness of any statistically significant findings. Statistical tests for effect size could not be calculated because the parameters were unknown. However, it is much more likely to achieve significant results with a larger sample, simply because more people are involved. Thus, the meaningfulness of these results is shown in the numerous significant findings found within a small sample. In answer to the third research question, it is clear that the unique online music education training program designed for this study increased the self-efficacy of preschool generalists for leading musical activities with their students.
Training Content and Format

The purpose of this program was to increase self-efficacy for leading musical activities; therefore, decisions about the content and the format were made in order to accomplish that goal. Generalists have indicated a preference for integrating musical concepts within the curriculum. Bandura (1977, 1986) stated that self-efficacy can increase through observation of a model, particularly if participants perceive the practical value of the information. Thus, the lesson plans and training modules were designed in consideration of these factors. Given the numerous significant findings and narrative responses of participants, it appears that the training design served to convey the practical nature of the content which contributed to the success of the study. It is particularly encouraging that self-efficacy for teaching musical concepts and promoting development of creativity increased significantly because previous studies have found those activities lacking in the preschool curriculum. In designing the training content, several other specific elements were considered and included.

Previous researchers have suggested that providing definitions for terms such as creativity and improvisation might be helpful. For that reason the terms were defined and often paired with critical-thinking, which is currently being described as a 21st-century learning skill. Musical concepts and creative opportunities were integrated with other curricular activities in each of the three training modules. The students and I used our singing and speaking voices to read and interact with literature and engage in story-telling. Students were offered numerous opportunities to improvise or create their own sung responses, environmental sounds, and movements. To integrate creativity, vocal development, and singing assessment with the classroom ritual of taking attendance, I sang open-ended questions and encouraged children to respond with their singing voices.
Creativity, critical-thinking, or improvisation was also integrated with activities for the development and assessment of steady beat. Students were encouraged to create their own fine- and gross-motor movements using their bodies or the instruments provided. Children’s movement ideas were used to accompany group singing and were integrated with use of literature. We engaged in storytelling and chose instruments to represent story elements. The fact that findings were significant in areas previously found to be deficient—teaching musical concepts and development of creativity—points to the success of the training format and design.

While singing is foundational to musical development, it is important to note that the teaching of musical concepts and the development of creativity can be accomplished in other ways, as seen in the previous examples. This may be especially important to communicate to generalists who are often uncertain singers. For these reasons, teaching of musical concepts and offering of creative opportunities were both modeled in the modes of singing, playing instruments, and movement. Additionally, a speech-to-song approach was used to scaffold singing efficacy. This step was important for the teachers-in-training as well as for the children in the demonstration classes.

Modeling the use of chant, environmental sounds, and other types of vocal play provided teaching strategies for participants, but these activities also offered appropriate starting places for the children in the demonstration classes. Barring any physical challenges, everyone can use a speaking voice or make environmental sounds, and those activities are included in the prekindergarten music education standards. In addition, a speech-to-song approach can be a comfortable starting point to help avoid the fight-or-flight response for uncertain singers. In each training module, musical concepts were integrated with other curricular activities and with classroom management techniques using rhythmic speech and while making animal, weather, or
other environmental sounds. After that type of vocal exploration, singing activities were introduced.

Development of creativity was promoted through both sung and spoken responses, environmental sounds, body movements, and use of instruments. In each lesson, students in the demonstration classes were given many opportunities to experiment in those areas. This integration of critical-thinking activities with classroom management techniques, storytelling, and the use of literature provided a model for teaching strategies that participants could use with their own students. Once again, conveying the practical nature of the training through use of musical integration likely contributed to the significant findings for self-efficacy, teaching musical concepts, and facilitating development of creativity.

Participant Feedback Regarding Training Format and Content

Results of dependent t tests showed the effectiveness of the training for increasing the self-efficacy of teachers. Other items were used to directly investigate opinions about the training format, design, and content. These data demonstrate that an online training program designed according to social learning theory was successful for increasing self-efficacy and intent for including musical activities in the preschool curriculum. A high percentage of the sample agreed that they would integrate more singing (92%), instrument play (88%), and movement (85%) activities into their curricula as a result of their training participation. These are very positive findings, yet the slight decline in percentages is noted and may be due to several factors.

An examination of data regarding participation interaction with the training material was inconclusive in determining a reason for the differences. Therefore, two general considerations are offered. First, although teachers felt more self-efficacious according to t-test results, there
could be numerous other reasons why a small percentage did not indicate intent to integrate certain musical activities into their curricula. Second, open-ended responses showed that teachers are seeking support and feedback concerning their musical abilities. Without that support they may be reluctant to attempt new teaching strategies. While these factors should be considered, the potential impact of various design elements will be explored in order to provide information for future course designers, teacher trainers, and school administrators.

The focus of the first module was singing. The second dealt with instrument play, and the third illustrated movement activities. In considering why singing had the highest response and movement had the least, there are four strong possibilities. First, the decreasing percentages correspond to the presentation order of the modules and may have simply been a factor of participant attention. Second, in order to integrate instrumental activities, teachers need access to appropriate instruments, so the slightly lower percentage may be due to the fact that some schools do not own instruments. Third, during informal conversations with teachers, I discovered that some generalists feel uncomfortable leading musical activities, particularly those involving movement, because of concerns about classroom management issues.

Regarding student safety and attention, a pilot-study participant stated: “Overall the training was very good. I myself would like to do more instruction in music but am concerned about the children becoming too wound up. As a teacher I would have liked to have seen more tips about keeping the class creative but not totally off track.” This might be one reason why the lowest percentage of teachers indicated that they would integrate movement activities into their curricula, as it is the most active of the three activities.

Fourth, the highest percentage of teachers indicated that they would integrate more singing activities into their curriculum. Singing is fundamental to musical development, and the
literature review revealed that generalists often possess incorrect beliefs about the adult singing model that should be presented to young children. Thus, the content of the first module was focused on vocal development and singing, but these activities were also present throughout the program. In the instrument play and movement modules, I sang transitions and encouraged various vocal responses from the children.

This review of the training design suggests that the highest response for integration of singing may have been because those activities were present in some form throughout all three modules. Although the differences among responses for singing, instrumental, and movement activities were slight, this discussion highlights elements that should be considered by other course providers. Nevertheless, it is highly encouraging that in addition to the significant findings for self-efficacy, 85% to 92% of teachers indicated that they would integrate more singing, instrument play, and movement activities into their curricula.

Responses to other direct questions about the training content also show the effectiveness of the program. A majority of teachers indicated that the training program helped them understand how they could facilitate musical development. After learning about the vocal characteristics required to effectively model for young children, teachers also felt that they would integrate more singing activities into their curricula. In terms of the format, there was a significant result for the belief that an online module could be effective for music education professional development.

This discussion of specific design elements offers direction to future training developers, but participant opinions may offer the most valuable contribution. Data obtained from open-ended response questions revealed dichotomous comments that were reflective of learning style, such as one request for the capability to print the PowerPoint slides and a separate suggestion
that less information be included on the slides. Participants offered positive comments about the length of the three training videos which were 53 minutes with a break mid-way, 11, and 8 minutes respectively. Perhaps the most important finding revealed in the open-ended responses was that several teachers were seeking feedback or confirmation regarding their musical skills. Teachers expressed a desire for additional professional development, and the online format offers possibilities. Suggestions appear under the heading for recommendations.

**Challenges and Opportunities**

States from each region of the United States were represented by the teachers in this sample; yet recruitment efforts proved challenging. As I sought to increase the sample size, I discovered that other researchers had experienced the same difficulty when seeking to research phenomena present in this population (Kirsten, 2006; Nardo et al., 2006) or when studying employee training programs offering no extrinsic rewards (Long, 2005). However, as shown in the demographics, it is encouraging that members of the sample varied in their geographical locations, teaching contexts, and curricular approaches. This diversity offers meaningfulness to the results and points to the necessity of conducting a survey prior to the design of training.

Consideration of the school-year calendar is important when offering professional development opportunities to teachers. The initial launch date was set for late January of 2013 after teachers and students had settled in from their holiday vacation, but additional time was needed to ensure the clarity of the training content and design. Therefore, the first launch occurred in late April, near the end of the school year, which is a busy time for teachers. There were 13 teachers in the sample at the end of the first launch.

In order to increase the sample size, I re-launched the study in late September 2013, near the beginning of the school year, which can be a period of adjustment for students and teachers.
Nevertheless, the sample size was doubled \((n = 26)\), and eight different states were represented. If possible, I suggest that future studies involving preschool teachers take place in mid-October, ending prior to Thanksgiving, or in February, ending in early March prior to spring break. Researchers working in the spring semester should take care to avoid the *Week of the Young Child*, a NAEYC-sponsored event which is a busy time for many preschool teachers. However, the best option might be to develop a relationship with the targeted population by speaking with school officials and arranging to survey the teachers and administrators about training goals and scheduling preferences.

Developing a relationship with potential participants would be helpful in other ways. I believe that my sampling efforts were hindered due to the lack of a personal relationship with the teachers. Although I included a brief biography in the recruitment script, potential participants from outside my immediate geographical area had no knowledge of the quality of my work. This supposition was affirmed when two presidents of NAEYC affiliates asked to review the program prior to offering it to their membership, and a third affiliate discussed my proposal at a formal board meeting before agreeing to share the study link. While data from this study confirms the effectiveness of online music education training for preschool generalists, recruitment challenges must be addressed by developers of future studies and programs.

Having been shown to be effective for the purpose, an online program with unlimited access and asynchronous participation offers great promise for training teachers and reducing concerns related to geographical location, travel costs, or extended time away from work and family. However, persons will be reluctant to enroll if they are uncertain about the quality of the experience. To alleviate this concern and assist in recruitment of participants, I suggest that researchers working within a limited geographical area make personal contact with
administrators and teachers. When this is not possible, future designers of distance-learning programs should prepare a short video clip to be distributed along with other recruitment materials or conduct a meeting via web-based communication. Using those or similar strategies, researchers could introduce themselves and provide details about the program. These recruitment challenges present opportunities for additional dialogue between researchers, teachers, administrators, and trainers, which would strengthen the training program.

Another challenge inherent in survey research is that data are self-reported by the participants and may not accurately represent the true state of affairs. However, this phenomenon was considered in the design of the surveys, and triangulation confirmed findings of increased self-efficacy for leading musical activities: (1) Responses to direct questions regarding training effectiveness and intent to integrate were analyzed using percentages; (2) A set of Likert-type items were used to determine pre- and post-training levels of overall confidence for leading musical activities along with self-efficacy ratings in the individual categories of singing, instrument play, and movement. Dependent t tests were used to analyze these responses, and finally; (3) Answers to open-ended items regarding opinions about the program were analyzed, coded, and reported in the narrative. The multiple analyses of the different types of data corroborated findings for increased self-efficacy and confirmed the effectiveness of the online format for that purpose.

As an additional step, a follow-up study would be an excellent way to determine the accuracy of participant responses. This challenge represents an opportunity for continuing professional development. With the online format having been shown as effective for this purpose, the same technology could be employed for the follow-up study. Teachers could record
their teaching and post the video on an online sharing platform for evaluation and feedback by a music education expert.

Recommendations

Recommendations have been considered and developed based on implications of data pertaining to demographics; training format, design, and content; and the topics represented by the research questions: (1) beliefs about music development and music teaching; (2) a comparison of beliefs, experiences, and self-efficacy, and (3) effectiveness of the program for increasing teacher self-efficacy for leading musical activities. Suggestions are offered to stakeholders in the early childhood and music education communities.

Before providing the recommendations, a discussion about generalizability is appropriate. This was a quasi-experimental study in which purposeful and snowball sampling methods were employed, and the designation of specific and narrow criteria provided for homogeneity of the sample. First, preschool was defined as children ages three to five years of age who have not yet entered kindergarten. This definition is utilized by the National Association for the Education of Young Children (Copple & Bredekamp, 2009). Second, participants were preschool generalist teachers working in child care or other independent settings not affiliated with traditional PreK-12 school systems. Third, study materials and protocol were designed to ensure sample homogeneity.

According to Nardi (2006) and Gay et al. (2009), nonprobability sampling methods are often considered limiting to generalizability; however, results may be generalizable if the condition under study has been present within a homogenous population for a number of years. In this investigation, the sample criteria and study protocol protected homogeneity, and 30 years of previous research has shown that conditions related to the music education preparation and
practice of preschool generalists have remained virtually unchanged. Therefore, although this study employed nonprobability sampling methods, the enduring prevalence of the teacher characteristics under investigation and the homogeneity of the sample support generalizability. In addition to application of findings to teachers who share the sample characteristics, data suggest the generalizability of results to early childhood educators working in PreK-12 institutions. Implications also exist for the preparation and teaching practice of early childhood music educators.

The first set of recommendations are provided for school administrators and training providers based upon the variety of responses received for educational background, previous musical experience, teaching setting, and curricular approach. Data showed that within the narrow description of a preschool generalist working in an independent setting, there is great diversity in preparation and practice. Therefore, I agree with previous researchers who have recommended a needs-assessment study prior to the design and implementation of music education professional development programs. Teachers, school administrators, and trainers must work together so that the educational program can be designed to meet the needs of the specific children involved.

Based on the categorical patterns that emerged from this nationwide sample, I suggest that future research be conducted with what appears to be a popular subsample: Teachers working in private settings using play-based or eclectic teaching approaches. Considering the general nature of that terminology, a valuable contribution of future studies would be the development of operational definitions for the terms private, play-based, and eclectic. To accomplish this, studies might be designed so that teachers have opportunities to describe their teaching settings and curricular approaches in greater detail. This could include use of more
extensive open-ended response options in quantitative studies or implementation of qualitative research methods. Research of this type would inform school administrators, training designers, and teacher educators.

It is interesting that the relationship between course instructors and teachers-in-training is analogous to the teacher-child relationship described in the principles of developmentally appropriate practice. In keeping with DAP, early childhood teachers must understand overall child development and must also be knowledgeable about the individual children in their classes. Teacher educators must apply these same strategies when designing courses and workshops. They should be well-informed about the general nature of early childhood teaching and should investigate the needs of the specific teachers for whom the training is being developed. Results of this study highlighted the vital importance of surveying teachers about their prior musical experiences.

Use of a questionnaire as a tool to inform course design could also help eliminate potential bias. Unfortunately, misconceptions or stereotypes about various populations exist in our culture, and the educational environment is not exempt. Two prevalent anecdotal assumptions about participant demographics were refuted in this study: (1) Generalist preschool teachers working in child care or independent settings likely do not possess post-secondary degrees, and (2) Classroom teachers with post-secondary degrees have often taken a music methods course. Results of this study contrasted with both suppositions. Over three-quarters of the participants had earned a post-secondary degree, but just less than one-third of them had taken a music methods course.

In addition to preschool teachers who represented diverse independent school settings, teachers working in PreK-12 school systems were also interested in music education training as
shown by the number of those who consented to participation, and the members of Subsample A who completed the program even after having been dismissed from the survey. Although these teachers were not included in the study sample, the fact that interest was shown warrants further investigation. While it is believed that a bachelor’s degree is required in order to obtain PreK-12 teaching certification, demographics showed that attainment of a degree does not guarantee that training was received in music education. Furthermore, prior researchers have found that even when music education methods are included in a post-secondary course of study, instruction in skills most applicable to classroom teaching may not have been part of the curriculum.

Given the success of this program for the music education training of preschool teachers working in independent settings along with evidence that teachers employed in PreK-12 schools are seeking similar opportunities, I recommend the future implementation of training programs for both populations. The proposal of a universal preschool system in this country points to a need for the music education training of preschool generalists working in all types of school settings. For the same reason, music educators should also receive training in the specific methods and strategies required for early childhood teaching. Research is lacking in this area.

Results indicated that almost one-half of the sample had participated in a preschool music class along with students while an experienced music teacher led the activities. This finding offers implications for collaborative activities between generalists and specialists working with students at all age levels and in various settings. First, for the teacher population under study who faces training barriers related to time and cost, observing a specialist while participating in a music class with their own students could be particularly valuable and convenient. Second, for the school administrator seeking to provide music education opportunities for students and training for teachers, hiring a music specialist would benefit children and teachers. Ideally, the
specialist would be employed long-term as a full-time employee in order to provide consistent instruction and training to students and teachers, but short-term experiences would also be helpful. Third, music educators could benefit from observing early childhood generalists. Unfortunately, methods courses for music educators can be focused on knowledge and skills required for teaching students in grades K-12. Without proper education and training, specialists might offer instruction that is not appropriate for young children.

Collaborative and reciprocal activities between early childhood generalists and music specialists would be helpful for the instruction of students and the professional development of teachers. However, informal research gathered during my work on this project suggests that there are barriers and stereotypes to overcome. Music educators need to be knowledgeable about the prekindergarten standards and recognize that generalists may already possess many of the skills needed to facilitate standards-based musical development in early childhood because of their previous musical experiences. For example, the prekindergarten standards include the types of vocal exploration that were included in this training program such as distinguishing between whispering, speaking, shouting, and singing voices, and making environmental sounds. These activities can be effectively led by non-specialist teachers, and in fact are already commonplace in the early childhood curriculum. Generalists may simply be lacking the awareness that these types of activities can be used to facilitate vocal and musical development.

Thus far, I have provided recommendations for researchers, music education training designers and providers, classroom teachers, music educators, and school administrators concerning the music education professional development of preschool generalists. Suggestions were offered based on data gathered from this sample of preschool teachers working in independent settings. However, results also suggest possibilities for training of preschool
generalists working in traditional PreK-12 settings, classroom teachers of older children, and music specialists. Therefore, additional suggestions were offered for these populations.

To inform future research and the development of training programs, studies should be conducted to determine the availability and content of university-based music education courses for classroom teachers. Prior research has indicated that the content of such courses is often focused on knowledge and skills most applicable to music specialists, such as theory or instrumental performance, rather than practical skills that classroom teachers could use for the direct instruction of students. Perhaps this state of affairs was the reason why so many experienced teachers with post-secondary degrees participated in this study.

In addition to studying curricula used in methods courses, I suggest that future researchers examine the music education workshop participation of in-service teachers. This recommendation is offered based upon the differences in self-efficacy scores reported by members of the HCS and ES subsamples and the corresponding disparity in responses for workshop participation. Descriptive studies which make use of open-ended items or qualitative research methods could be employed. Investigating the availability and content of music methods courses and workshops for classroom teachers working with children at all age levels—PreK-12—would be beneficial for the design of professional development opportunities and for the implementation of collaborative activities between specialists and generalists. The content of methods courses for music majors should also be investigated in order to determine the extent of their preparation for teaching children in early childhood. The implementation of a needs-assessment study is recommended for these purposes.

Along with consideration of content, results offer strong implications for the design of music education courses and workshops. Data clearly showed that there was a connection
between previous musical participation and development of beliefs and self-efficacy associated with music education. For that reason, I stated that teachers need mastery experiences related to personal musicianship as well as mastery experiences in leading musical activities with young children. An educational model that involves an instructor leading the class in typical early childhood music activities would provide both types of mastery experiences. During participation in sample class activities, pre-service teachers would be simultaneously developing musical content knowledge, pedagogical strategies, and personal musicianship through observation of a live model. Through use of peer-teaching sessions, or work with children, teachers could also gain mastery experiences in teaching. Further discussion about the related nature of beliefs, musical experiences, and self-efficacy is offered in the next section.

Investigating Interrelationships among Beliefs, Experience, and Self-Efficacy

The purpose of this study was to determine if music education professional development delivered online could increase preschool generalist self-efficacy for leading musical activities. Data show that the program was highly effective for that purpose. In order to answer the second research question and to inform training designers, providers, and others, responses for self-efficacy, beliefs, and experiences were analyzed in greater detail. Singing is one of the most common activities in preschool curricula, and vocal development is vital to overall musical achievement; therefore, responses for singing self-efficacy were studied and compared to beliefs and experiences. Analysis revealed three distinct subsamples: (1) eight teachers who reported very high self-efficacy for leading all of the singing activities; (2) eight teachers who reported high or very high self-efficacy for leading 50% or fewer of the activities, and (3) the remaining 10 members of the sample who represented the middle set of scores. I determined that a comparison of responses from teachers with the highest and lowest self-efficacy would be
revealing and labeled the subsamples as Highly Confident Singers (HCS) and Emergent Singers (ES), respectively.

A major finding of that analysis was that beliefs, experiences, and self-efficacy are interrelated in the manner represented in social-learning theory. Responses showed that previous musical experiences contributed to beliefs about musical development, music teaching, and self-efficacy. Before viewing the training modules, the HCS reported high levels of musical participation, felt that musical talent is inherited, and believed that they should sing the correct pitches when modeling for their students. Pre-training responses of the ES, those with low self-efficacy, were exactly opposite of the HCS in each area. They had participated in very few musical activities and did not believe in inherited musical talent or the importance of singing the correct pitches. These data suggest that mastery experiences in personal musicianship affected the beliefs and practices of members of both subsamples.

Connections between previous musical experiences and reported self-efficacy were evident. According to social-learning theory, self-efficacy can increase through observation of a model and subsequent practice of the skill which is known as mastery experience. Data gathered from the HCS and ES support these principles, and show that two types of mastery experiences are needed—those related to development of personal musicianship and mastery experiences in teaching.

Early childhood music instruction contains a variety of activities including singing, playing, and moving, so it follows that the HCS subsample had the highest levels of overall self-efficacy because they had the most musical experience overall, and those experiences were representative of a number of activities. Through their participation, the HCS had numerous opportunities to observe more accomplished musicians and to develop their own musical skills,
which contributed to their high self-efficacy. Conversely, the ES reported participation in few activities, so they lacked the benefit of observation and did not have a chance to develop their personal musicianship. Results show that two tenets of social-learning theory inherent in musical participation—observation and mastery experience—affect the self-efficacy of teachers in both subsamples. An implied correlation between self-efficacy and number and type of previous musical experiences is evident.

Prior participation in musical activities also appears to have affected the development of beliefs about inherited musical abilities and the importance of providing an accurate pitch model. Members of the HCS subsample had much musical experience which afforded them numerous opportunities to observe others, develop their own listening and singing skills, and learn about the importance of accurate singing. However, observations made during family music making activities may have contributed to their mistaken belief in inherited musical talent. In contrast, the beliefs of teachers in the ES subsample were opposed to those of the HCS, which was likely the result of a deficiency in musical participation.

Members of the ES could not support the importance of accurate pitch modeling because they did not have a chance to observe or experience the implications of singing correct or incorrect notes. In the same manner, they lacked experience in family music making and other community-based musical activities which likely prevented them from developing a mistaken belief about musical inheritance. As with findings for past experiences and self-efficacy, an implied correlation exists between previous musical participation and beliefs about musical development and music teaching.

To illustrate the importance of presenting an accurate vocal model, teacher educators should implement group-singing activities, with and without use of recordings, which would give
teachers the opportunity to experience the effect of singing correct or incorrect pitches. Use of a recording as a means of support is often recommended for teachers who lack singing confidence. The recording is not meant to replace the teacher but is to be used as an accurate pitch model to accompany the singing of students together with their teacher. It seems that would be an effective strategy for increasing singing self-efficacy, but analysis of responses from the entire sample \((n = 26)\) revealed two contrasting opinions. Some teachers reported the highest self-efficacy for singing with children along with recordings while others had the highest self-efficacy for singing with children without the use of recordings.

Consider the consequences for singing the correct pitches. When singing with children without a recording, the children will match the teacher. The teacher does not have to worry about matching pitch to an outside source, although there could be great variation of pitch. When teacher and children are singing with a recording, the recording provides the aural model, which can help both teachers and students match pitch. However, low self-efficacy ratings for singing with a recording along with data obtained from open-ended responses indicate that use of a recording could be intimidating. This might be because the teacher would have to match pitch to a fixed source.

Course instructors should be aware that use of recordings can help provide rationale and training for singing the correct pitches, but teachers with low self-efficacy for singing might be reluctant to engage that activity. Success can be achieved through cultivation of an emotionally safe classroom environment and careful sequencing of activities. A speech-to-song approach is suggested.

Findings show that teachers are seeking training and feedback regarding their musical abilities. An online training module could be useful for both purposes. The course instructor
could assign a song to be learned and post a singing model online. Students would listen to the example and practice with it. When ready, they could record themselves, compare their singing with the model, make necessary adjustments, and repeat the process as many times as desired. Once satisfied with the finished product, the student could upload their video to an online platform so the instructor could evaluate the assignment and offer feedback.

Results of dependent t tests conducted with responses from the entire sample showed that after engaging in the training teachers felt more confident about their abilities to lead numerous musical activities, and their knowledge about musical development and music teaching also increased. Several findings were significant. Concerning the subsamples, pre-training responses showed that the ES were in need of training to increase self-efficacy and to emphasize the importance of singing the correct pitches. Post-treatment data showed increased self-efficacy for the ES but no change in their neutrality about singing the correct pitches. Prior to training, the HCS believed in the notion of inherited musical talent, but after taking the training they showed an understanding that musical ability is not inherited.

While these are positive results, the concern remains that many teachers could not agree about the importance of singing the correct pitches when leading songs with their students. Training programs should be designed to inform teachers that early childhood music education involves balancing enjoyment with developmentally-appropriate standards-based instruction, and this includes accurate pitch modeling. Mastery experiences gained through personal participation in musical activities are also recommended.

Data also revealed connections between the previous musical participation of teachers and their development of musical knowledge and self-efficacy. In addition to past participation in musical ensembles or activities, formal training received through courses or workshops was
surveyed. Data showed that the entire sample was lacking in this type of training, while results for previous participation were quite varied. A detailed examination of the HCS and ES subsample responses support implied correlations between type, quantity, and length of previous musical involvement, beliefs, and self-efficacy. Suggestions for future research include formal correlational studies to determine a statistical relationship between those factors. Additional investigations should be conducted to determine the content of university methods courses for generalists and specialists. In consideration of data reported by the HCS and the ES subsamples, comparing self-efficacy of teachers who received formal preparation via courses and workshops to those who received informal training through participation in musical ensembles or activities is also recommended.

These results also show that instructors and curriculum designers for pre-service and in-service generalists should be aware of the impact of previous musical participation and formal training. Numerous researchers have recommended administration of a pre-training survey prior to the design of instruction, and these data affirm the importance of that protocol. Based on the apparent connection between beliefs, experiences, and self-efficacy revealed in this study, I offer a strong recommendation that training providers survey each particular teacher population prior to designing programs in order to provide the most effective instruction.

During an examination of responses for musical participation, I searched for a possible connection between school choir membership and self-efficacy for leading singing activities. While there is preliminary evidence to support that relationship, it became clear that determining the influence of a one particular activity would necessitate further in-depth research. A correlational study should be conducted with preschool generalists in order to investigate the relationship between self-efficacy and choir participation or other isolated musical experiences.
Although results of that comparison were inconclusive, the impact of one particular activity upon self-efficacy was supported by the data. Results showed that participation in an elementary general music class received the highest number of responses for previous musical experiences. For many teachers, including those with the lowest levels of self-efficacy, this had been their primary means of musical experience and training. For some teachers, it had been their only response to the musical experience item, although 10 choices were offered.

Participation in an elementary general music class offers consequences for musical development based on the importance of early childhood music education as shown and discussed throughout this document. By definition, early childhood extends from infancy through age eight, and Gordon (2007) has shown that musical aptitude stabilizes by age nine. Therefore, the critical period for music education extends through fourth grade. During this time, students develop knowledge, skills, and experiences that form the foundation for their beliefs about music education and the development of self-efficacy. Based on results from this study, maintaining the general music class as part of the elementary school curriculum is vital for the development of personal musicianship and advocacy for the subject.

Effectiveness of the Training

The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities. Triangulation of results showed that the program was highly effective for the purpose. Additional findings showed that the training was successful for correcting false beliefs about music development and music teaching.

Particularly encouraging were the significant increases in self-efficacy for teaching musical concepts, facilitating development of creativity, and refuting the false belief of inherited
musical talent. Throughout this chapter, online music education training has been recommended for preschool generalists and other teacher populations. Following an initial training event, additional instruction is suggested so that knowledge, skill, and self-efficacy for leading activities with students can be nurtured through feedback, evaluation, and mastery experiences in teaching. Continuing professional development would be especially helpful for teachers with the lowest self-efficacy and those lacking previous musical experiences or music education training. Based on the results of this study, use of web-based technologies should be investigated for initial training events and follow-up programs.

Future Considerations Regarding Training Format, Design, and Content

Given the effectiveness of the format, development of additional online programs has been suggested for various generalist populations and for music specialists. A discussion of the research-based design and philosophy has been provided, along with direct feedback from participants regarding content and other design elements. This was done in order to inform developers of future educational initiatives. Implications of statistical findings and direct responses from the teachers regarding format, design, and content have led to several specific recommendations. While each recommendation could be implemented on-site or through use of web-based video-sharing platforms, the online format is suggested for teachers who face constraints related to time or cost and in situations when an instructor is not available to present in person. A bulleted-list is used in order to avoid a misinterpretation of priority:

- A comparison of self-efficacy scores and responses for intent to integrate showed that future researchers of teacher confidence should plan a follow-up study to investigate whether or not increased levels of self-efficacy will result in changes to instructional practices.

- Findings of dependent t tests along with narrative replies showed that teachers are seeking direct feedback about their musical skills—particularly regarding their singing abilities. In future experimental studies, researchers could observe the
teaching of control-group participants and provide guidance in order to investigate the effect of feedback upon self-efficacy.

- Responses for intent to integrate instrument play suggested that future trainers should model use of commercially-available and homemade instruments. Construction of the instruments could be included as part of the training, and two objectives would be accomplished: all participants would have access to instruments, and integration of other subject matter would be facilitated. When possible, availability of instruments should be investigated prior to designing the training.

- Pilot-study results revealed concerns about including musical activities in the curriculum due to classroom management issues. The same concern was suggested by the percentage of teachers who indicated intent to integrate movement activities. Future researchers should offer strategies for keeping students safe and on task during musical activities. It would also be helpful to investigate the previous movement experiences of the participants.

Finally, results suggest that the music integration techniques modeled in this course contributed to the numerous significant findings for increased self-efficacy. Curricular integration should be explored as a starting point for collaborative and reciprocal partnerships between generalists and specialists at all grade levels. This would facilitate the professional development of teachers in both communities and lead to richer learning experiences for their students.

**Collaborative Practice**

Recommendations for researchers, training designers and providers, school administrators, and teachers have been provided throughout this chapter. Just as beliefs, experiences, and self-efficacy are interconnected, so too are the roles of these stakeholders. In review, I will summarize ways in which persons in these communities can work together to achieve a common objective—a developmentally appropriate standards-based music education for young children. There is an urgent need for such collaboration due to the probable implementation of universal preschool in this country. Additional teachers will need to be trained to educate young children—musically and otherwise—and reciprocal and collaborative
professional development activities would offer one means of achieving that goal. Based on the success of this study, use of a web-based format is a promising option.

The purpose of this study was to determine if an online format would be effective for the music education training of preschool teachers working in independent settings. The format was chosen in an attempt to alleviate barriers of time and cost which are especially problematic within this population. However, time issues can be a concern for each community mentioned in this study. Based on the success of this training program, all persons interested in collaborative music education initiatives should consider using internet-based technologies in order to ease concerns related to time commitment, scheduling, or cost.

Partnerships between in-service generalists and specialists have been recommended, yet school administrators must be willing to allocate time within the school day for reciprocal observations and projects whether they take place on-site or via the worldwide web. Data showed that almost one-half of the participants had observed a music specialist teaching a preschool class. Collaboration of staff members working at the same institution can give teachers greater insight into the students they serve while also promoting collegiality. Administrators can take steps to arrange the school schedule and assign staff duties so that these types of activities can take place.

For the school or child care center that employs a music specialist, professional development opportunities offered on-site during work hours are another option for removing time commitment as a barrier to training. However, previous researchers have found that music specialists are rarely employed in child care or other independent preschool settings. In this case, online training offers a viable option. Yet again, to avoid identified training barriers, it is
important that administrators allow time for professional development during the regular school day.

Partnerships between early childhood teachers and instructors of methods courses are also recommended. Pre-service educators would gain valuable information through observation of in-service teachers engaged with students, and time constraints faced by the instructor or professor would be eased. It is a challenge to prepare teachers for working with students from early childhood through the 12\textsuperscript{th} grade in just 15 weeks or less. The online format has been put forth as a means of reaching in-service preschool teachers who may not have time to travel to off-site workshops, and it could also be useful for the instruction of pre-service generalists and specialists in higher-education settings.

For the methods course instructor who lacks class time, a web-based model could be employed. As an out-of-class assignment, students would watch videos of an early childhood specialist instructing preschool children. A guided observation form would direct their attention to important elements. Discussion and instruction during the methods class would follow.

As I gathered information for the literature review, considered implications of the data, and recalled informal research from my own experiences as a music education student and professional educator, I was reminded that music specialists often possess some of the same misconceptions about musical development and early childhood music teaching that has been shown in research regarding generalists; therefore some of the training recommendations offered for this study population will also be helpful to designers of methods courses for music education majors.

I will begin the comparison with a discussion about the cultural misconception of inherited musical talent. As members of our society, music educators can develop a
misunderstanding in this area, just as was shown in the sample data. This phenomenon has been recognized by Gordon (2007). Instructors of courses for specialists and generalists should emphasize the difference between an innate predisposition for musical achievement and the false perception of inherited musical talent. A misunderstanding of heredity can be detrimental to the education of children and may prevent teachers from seeking music education professional development.

Results of this study, and others, have shown that generalists are often unaware of the characteristics of an effective early childhood music teacher, especially in regard to the quality of the adult vocal model. Generalists have difficulty defining themselves as singers if they have not received formal training, and may falsely believe that they need to sing at the level of a professional. I have often heard these same beliefs expressed by music educators who are primarily instrumental teachers. Because they were not choral majors during their undergraduate studies or did not receive formal vocal instruction, they may not consider themselves to be singers.

Generalists and specialists need the knowledge that singing on pitch with no vibrato is required for effective vocal modeling in early childhood teaching. In fact, for the trained vocal music educator, singing without vibrato may be a challenge, yet a clear tone must be produced in order to facilitate pitch-matching for young children. Training providers should understand that generalists and specialists will need information about the vocal characteristics required for early childhood teaching. Teacher trainers should also realize that generalists may misunderstand the importance of accurate pitch modeling—a belief that was likely formed based on previous musical experiences, or the lack thereof.
Along with the survey item about singing correct pitches, a similar question was used to investigate opinions about prioritizing enjoyment over singing the correct pitches. The sample mean for that item showed that teachers could not offer an opinion, and additional training was recommended. While research has shown that positive teacher feedback and affect are two very important factors in early childhood music instruction, accurate information, aural or otherwise, must be presented to students. Conversely, the music educator untrained in specific early childhood teaching techniques or unaware of the prekindergarten music education standards may incorrectly emphasize musical performance over enjoyment. Members of both communities need to understand that a balance is required, and all early childhood teachers should be aware of developmentally appropriate practice and the prekindergarten music education standards.

In summation, early childhood generalists and specialists should receive training in general education and music education. One of the first to recognize this need was 19th-century classroom educator and administrator, Julia Crane whose personal background and professional achievements are germane to this discussion. As outlined in the literature review, she participated in numerous musical activities from childhood through adulthood and later sought professional development in the music convention system. Through her work at the Potsdam Normal School and Musical Institute, Crane provided opportunities for generalists to be trained in musical integration, while music teachers were trained in educational methods. Results of this study support use of similar strategies.

Another specific implication for music education course content is implied by the study results. In keeping with social-learning theory, and in accordance with previous research findings, this training program was designed to convey the practical nature of incorporating musical activities into the preschool curriculum by integrating musical instruction with other
academic objectives. It is highly plausible that this design element contributed to significant findings for self-efficacy. Instructors of child development courses for music majors can implement the same strategy by facilitating transfer of course information to music education practice. Using the Piagetian stage of concrete operations as an example, I will illustrate how music educators can benefit from understanding the musical application of conservation, seriation, and reversal.

Until children can conserve, or understand that one characteristic remains the same even if another changes, octave displacement is confusing; therefore, male teachers working in early childhood should sing in falsetto. Understanding of seriation allows students to perform notes or rhythmic syllables in succession. Understanding of reversal is needed to perform ascending and descending scale patterns. Until students are approximately seven-to-eleven years old, they will have difficulty with the processes of concrete operations and the related musical applications. It is also important to note that children progress through these stages at individual rates, and age ranges are approximate. In respect to these examples, teachers must continually observe and assess their students in order to provide developmentally appropriate instruction.

Next, I will introduce an early childhood colleague who offers an excellent example of collaborative practice. Mrs. Walter (a pseudonym) is the owner and administrator of an independent chain of child care centers in the Midwest. We became acquainted when she and her son participated in an early childhood music class I taught. Later, she asked me to teach classes at her location, and I rented space from her as an independent contractor. In addition to sponsoring the music program I offered, which was open to the entire community, she also employed a music specialist who taught the children enrolled at her school.
During my last semester of doctoral coursework, I decided to conduct survey research about the music education backgrounds of preschool teachers, and she allowed me to recruit teachers whom she employed. Based on the results of that study, I chose in-service music education training of preschool generalists for my dissertation topic and met with Mrs. Walter in order to obtain her feedback. During that meeting she shared the challenges faced by this population when attempting to find time for professional development activities and suggested the online format. She also gave me permission to conduct demonstration classes at her school for the purposes of this research. As a mother, teacher, and school administrator, Mrs. Walter supports and promotes early childhood music education and research and offers a model for others.

Throughout this chapter, recommendations have been provided for educational programs and courses involving various stakeholders in early childhood education, based upon the unique findings of this investigation. Continued study of early childhood music education practice is imperative given recent research findings that correlate prolonged musical participation with achievement in other subject areas, and the fact that the establishment of a universal preschool system is pending. Studies should be aimed at providing solutions for administrators and workshop providers so that practical in-service programs can be implemented within the time constraints inherent in child care and independent preschool settings.

Recommendations were also provided for the instruction of pre-service generalists and music specialists. Pre-service classroom teachers need instruction in the practical applications of music education methods, and pre-service music teachers need to understand the practical applications of child development theories and other early childhood teaching strategies. Action research partnerships which involve generalists, music specialists, administrators, workshop
providers, and university instructors are encouraged. Use of an online training format offers possibilities for the implementation of each recommendation.

To this point, recommendations have been based on findings of this investigation that primarily corroborated or extended the work of previous researchers. Results also revealed possibilities for extensions of the present study. Clearly, there is much important work that remains unfinished; however, results also showed the need for initiating new lines of investigation.

I will discuss four areas of research that could provide the greatest overall benefit for early childhood students and teachers: (1) use of the recently revised national prekindergarten music education standards (SEADAE, 2014); (2) investigation of the use of developmentally appropriate music practice (Copple & Bredekamp, 2009); (3) a cooperative effort by NAEYC and NAfME to create developmentally appropriate music education guidelines for children younger than age three, and (4) the design of a bioecological theory of music education based on the model put forth by Bronfenbrenner (2005). The fourth recommendation is offered based on data which showed several apparent correlations among responses for beliefs, experiences, and self-efficacy.

New Directions

The first new direction concerns implementation of the recently revised national music education standards (SEADAE, 2014). The 1994 standards contained explicit, practical activities for young students, such as those included on the lesson plans used in this study (Appendix K). The current standards are very broad and do not offer that type of guidance, although the possible future addition of specific activities has been mentioned. Until that time, generalists and music specialists untrained in early childhood music education may find it
difficult to use the 2014 standards as a model for curriculum development. This poses a challenge to teachers but offers an opportunity for cooperative efforts. With such broad standards in place, it is imperative that early childhood music experts develop programs for generalists and music educators who lack early childhood training.

Discussion about the prekindergarten music education standards leads to my second suggestion for a new research line, which is the investigation of the use of developmentally appropriate music practice for preschool students. To affirm once again, research into the music education practices of early childhood generalists has been ongoing for over 30 years, and many projects have included questions about the use of the music education standards. However, when conducting this literature review, no studies were found regarding the implementation of developmentally appropriate music practice as described by Copple and Bredekamp (2009) for NAEYC.

Speaking first to early childhood generalists and training providers, research into the implementation of guidelines offered by Copple and Bredekamp (2009) is recommended. Their outline of developmentally appropriate preschool music practice contains specific activities and directions to teachers that are in agreement with the 1994 and the 2014 prekindergarten music standards. Teachers can use these guidelines, along with those provided by music education experts, to facilitate the musical development of young children. In terms of teacher training, the importance of conveying the practical nature of information was shown in the results of this study. Teachers may view guidelines developed by their own professional organization as being most practical, so emphasizing use of the musical activities suggested by Copple and Bredekamp (2009) might be beneficial. As an initial step, descriptive research studies are recommended in order to investigate implementation of these activities by preschool generalists. When teachers
gain confidence, additional activities or extensions developed by music specialists could be introduced.

Concerning music specialists, implementation of the new prekindergarten standards could prove challenging for those who have not been prepared for early childhood teaching. Particular concerns have been offered in previous sections of this document. Recommendations are the same as those provided for generalists; music educators should refer to developmentally appropriate preschool music practice, the 2014 prekindergarten music education standards, and guidelines provided by early childhood music experts. It would also be appropriate for specialists and generalists to consult the 1994 music education standards in order to discover specific activities that can be employed within the greater scope of the 2014 standards. Early childhood music education experts should initiate efforts with other music teachers and with generalists in order to assist them in providing appropriate instruction for young children.

As an introduction to the third new direction for research, recall the findings for musical participation where the importance of the elementary general music class was revealed. Retention of this course within the school curriculum is vital to students as the critical period for musical development extends through age nine or approximately fourth grade. In regard to teachers, data suggested implied correlations between previous musical participation and self-efficacy for leading musical activities. Survey responses showed that participation in the elementary general music class was the primary and often sole musical experience for the majority of teachers with low self-efficacy—members of the ES subsample. Had they not participated in such a class, these teachers would have had no participatory musical experience from among the 10 items surveyed.
The importance of music instruction through the early grades has been shown, and certainly more support could be offered. Elementary general music classes are often provided to students from approximately ages five to nine, and standards currently exist for music instruction during these years. Developmentally appropriate music practice is described through the primary years, and national music education standards extend through high school. It has also been explained that there is agreement among developmentally appropriate practice for preschool students (Copple & Bredekamp, 2009) and the prekindergarten music education standards (MENC, 1994; SEADAE, 2014).

It is troubling, though, that neither NAEYC nor NAfME offer detailed music education guidelines or standards for students younger than age three. If a child is not exposed to a variety of musical sounds and activities from birth, a vital period has been ignored. For that reason, the third new direction for research involves the cooperation of NAEYC and NAfME in the establishment of developmentally appropriate music practice and national music education standards for students from birth through age three.

A position statement regarding early childhood education can be accessed on the NAfME website, but the specific needs of infants and toddlers are not addressed. Even so, a proclamation such as this does not convey the same level of importance as a music education standard. As cited earlier, NAEYC (2009a) has also published position statements that include music learning as part of developmentally appropriate practice in early childhood. Copple and Bredekamp (2009), writing for NAEYC, described developmentally appropriate music practice for the preschool years through the primary grades, but detailed guidelines are not provided for teachers of infants and toddlers.
Given the importance of early childhood education, NAEYC and NAfME should work cooperatively to fill this void. As an initial step, it is recommended that NAfME employ the terminology and definition provided by NAEYC to describe children in the years just prior to entering kindergarten. NAEYC uses the term *preschoolers* rather than prekindergarteners and defines these students as: “children ages three to five or those who have not yet entered kindergarten” (Copple and Bredekamp, 2009, p. 111). Using commonly defined age groups as a starting point, NAEYC and NAfME could work together to define developmentally appropriate, standards-based music education practices for children younger than age 3. This would be a most valuable contribution to early childhood education. In addition, a joint initiative of these professional groups would serve to bring generalists and specialists together as an example of cooperative practice that could extend to individual teachers and administrators.

The fourth new direction for music education research is based on results that suggested correlations among beliefs, experience, and self-efficacy. Remember that the Highly Confident Singers (HCS) had numerous previous musical experiences that occurred in a variety of environments, including family- or community-based activities. They reported high levels of self-efficacy prior to training, and the mean subsample response to the inheritance question was close to a level of agreement. In contrast, the Emergent Singers (ES) had little previous musical experience, and only one teacher indicated participation in family- or community-based settings. Pre-training responses revealed low levels of confidence for leading musical activities, and teachers were neutral in their opinions about the inheritance question. The ES had few mastery experiences in personal musicianship which likely contributed to low self-efficacy; yet the lack of family-music making opportunities may have prevented them from developing a false belief about inherited musical talent.
There was also an apparent connection between beliefs about singing the correct pitches and mastery experiences in personal musicianship. Although the pre-treatment means of both subsamples showed neutrality about the importance of singing the correct pitches, the mean of the HCS was closer to a level of agreement than that of the ES. As stated earlier, the mastery experiences of the HCS gave them opportunities to experience the benefits of singing accurate pitches and the consequences of singing incorrect pitches. Conversely, due to their lack of musical participation, the ES did not have opportunities to develop mastery experiences in personal musicianship, which likely affected their beliefs about singing.

The divergent responses of the two subsamples showed the overall influence of prior musical participation and the particular influence of the family- and community-music environments upon beliefs and self-efficacy. Interaction of the participants with their musical environments seems comparable to that described by Bronfenbrenner (2005) in his bioecological model of human development. Ecology is defined as “a branch of science concerned with the interrelationship of organisms and their environments” (Merriam-Webster, 2004).

Bronfenbrenner (1979) developed an ecological theory in which he explained how multiple environments can directly or indirectly affect the development of individuals. A few years later, he expanded it to four components: (1) the process, or relationship of person and context; (2) the biological, psychological, and behavioral characteristics of an individual; (3) contexts or environments, and (4) the element of time (Bronfenbrenner, 2005). The revised theory was renamed as a bioecological theory of human development.

Several findings of the present study appear aligned with this theoretical model. Particularly salient are the interrelationships between mastery experiences in family- or community-music environments, beliefs about musical development and music teaching, and
self-efficacy for leading musical activities. Therefore, I recommend further examination of these factors according to the model put forth by Bronfenbrenner (2005). This could lead to the establishment of a bioecological theory of music education which would provide benefits to children, parents, and teachers.

**Bringing it all Together**

During each phase of this project I was reminded of my experiences as a music education student, band director, early childhood music teacher, and university instructor of specialists and generalists. Before discussing implications for generalists, I would like to address the music education community. One experience reminds me of the need to educate music specialists about the importance of early childhood music education. While employed as a full-time early childhood music educator, I enrolled in a professional development course, and at one point the trainer commented that it would be very helpful if children entered kindergarten with the ability to match pitch.

What I said then, and repeat here, is that with proper experiences and developmentally appropriate instruction in early childhood aligned with the prekindergarten music education standards, this is certainly possible. Music educators, classroom teachers, and parents need to be informed about early childhood musical development in order to make this happen. Recommendations have been offered for instructors of music specialists and classroom teachers. For parents of young children, there are several commercial early childhood music programs that involve parents and children together in music making activities, and these offer great educational opportunities for parents to continue the learning at home outside of the actual class time.
I was also reminded of comments from some of the pre-service classroom teachers in the music methods courses I have taught. I am learning from them. In one particular class, we were analyzing literature for the purpose of integrating musical concepts with learning objectives in other academic areas such as math, language arts, science, and social studies. A student asked a question about a page in her book, which she had accurately analyzed as representing integration of musical beat, counting, and telling time. As we examined the illustrations further, I led her to discover additional ways of integrating musical concepts with other classroom subjects. She looked at me with a pleased, yet surprised expression and said, “Wow, you could just keep going with this!”

The implication for teacher trainers and music educators seeking to collaborate with generalists is similar. It is exciting for teachers in both communities to discover the deeper understanding that can be gained by integrating musical concepts with other academic objectives. Integration offers a starting point for collaborative activities between music educators and classroom teachers and is beneficial to students in their development of knowledge and skills in music and other subjects. The larger concept may be that the generalist and the specialist both recognize and value collaboration and musical integration for the purpose of furthering student achievement.

A final thought is based on a comment from another pre-service generalist. At the end of the semester I received a note which concluded with, “Who knew I was so musically talented?” In addition to the formal purpose statement, a major objective of the training was to help classroom teachers learn how musical development could be integrated into commonly used preschool activities. I hope others will find the training materials and study results helpful in their work with classroom teachers.
Conclusion

The purpose of the study was accomplished. The online format and unique training design were used to significantly increase preschool generalist self-efficacy for leading musical activities. The program was also successfully used to change teacher misconceptions about musical development and music teaching, and these results were significant for a majority of items. Given the need for the music education professional development of preschool generalists along with the success of this study, I strongly urge others to develop and implement training programs for this population. I have also suggested reciprocal observations and professional development programs involving generalists and music specialists, which could take place on site or through use of online video-sharing platforms. Additional efforts should be directed at investigating the type of early childhood training that is available to pre-service music educators.

Based on the need for training, recommendations have been provided for the design of various initiatives. Results showed the importance of using a pre-course survey to inform instruction, particularly in regard to discovering mastery experiences related to personal musicianship. For participants in this study, those types of experiences seemed to have greatly influenced their pre-training beliefs and self-efficacy. Data revealed the particular importance of experiences gained in three distinct musical environments: (1) the elementary school general music class; (2) contexts involving family music making, and (3) musical activities in a place of worship. Along with mastery experiences related to participation, mastery experiences in teaching were also recommended.

Study results led to four additional suggestions which represent new or emerging lines of research in music education. These recommendations concern generalist and specialist practice in early childhood music education. Researchers should conduct descriptive studies in order to
investigate use of developmentally appropriate preschool music practice and implementation of
the 2014 national music education standards. NAEYC and NAfME should work together to
create developmentally appropriate music education guidelines and standards for children from
birth to age three. A major finding was that interrelationships existed between experiences,
beliefs, and self-efficacy. For that reason, I suggest that future researchers begin work on the
design of a bioecological theory of music education according to the model of human
development provided by Bronfenbrenner (2005).

Once again, I emphasize the need for additional research and training programs that
would help children receive a developmentally appropriate music education during the critical
period of early childhood. This is a crucial recommendation, given the probable implementation
of a universal preschool system in the United States. Near the beginning of this dissertation I
offered a quote from music educator Zoltan Kodály who asked that teachers offer only the best to
children. Working together as teachers, whether generalists or specialists, and in concert with
other stakeholders in early childhood education, we can accomplish this goal.
APPENDICES
## APPENDIX A: References for Training Content, Design, and Format

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Findings</th>
<th>Implementation in this Training Program</th>
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<tbody>
<tr>
<td><strong>Training Content</strong></td>
<td></td>
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<tr>
<td>Copple &amp; Bredekamp (2009): NAEYC Developmentally Appropriate Practice for Preschool Music Activities</td>
<td>• Refer to the Demonstration Class Lesson Plan in Appendix K.</td>
<td>• Refer to the Demonstration Class Lesson Plan in Appendix K.</td>
</tr>
<tr>
<td>NAEYC: Developmentally Appropriate Practice (Copple &amp; Bredekamp, 2009) NAFME: Music Education Standards: (MENC, 1994)</td>
<td>• Teachers favor integration of music with other subject areas • Curricular integration is recommended by the primary professional organizations for early childhood generalists (NAEYC) and music educators (NAFME).</td>
<td>• In the training videos, the researcher modeled integration of musical concepts with use of literature, storytelling, classroom routines, classroom management techniques and critical-thinking, creativity, or improvisational skills.</td>
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<tr>
<td>Researcher</td>
<td>Findings</td>
<td>Implementation in this Training Program</td>
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<tr>
<td>Kelly (1998), Kirsten (2006), Nardo et al. (2006), Tarnowski &amp; Barrett (1997)</td>
<td>•Teaching of musical concepts is lacking in the practice of preschool generalists.</td>
<td>•Musical concepts and vocal development were integrated with use of literature, storytelling, classroom routines, and classroom management techniques.</td>
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<tr>
<td>Feierabend (2000), Green (1990), C. Richards (1999), Siebenalner (2006), Tatem (1992), Yarborough, et al. (1992)</td>
<td>•These authors described the characteristics of an effective adult vocal model for the purposes of early childhood teaching.</td>
<td>•The singing model in the videos was representative of the recommended characteristics: Use of a female voice singing songs of a limited range on pitch but without vibrato. Supporting information was also contained on the PowerPoint slides.</td>
</tr>
<tr>
<td>Upitis (1990)</td>
<td>•Singing is important but musical achievement can be developed using other activities.</td>
<td>•Modules for singing, playing instruments, and movement were included in the training. Teaching techniques were modeled in the videos, and additional information and research findings were included on the accompanying PowerPoint slides.</td>
</tr>
<tr>
<td>Gordon (2007)</td>
<td>•Musical achievement can continue through adulthood.</td>
<td>•This information was included in the PowerPoint presentation.</td>
</tr>
<tr>
<td>C. Richards (1999), Siebenalner (2006)</td>
<td>•Teachers harbor false beliefs about the singing model that should be presented to students.</td>
<td>•Characteristics of an effective adult vocal model were outlined in the PowerPoint slides and modeled throughout the three training videos.</td>
</tr>
<tr>
<td>Darling-Hammond &amp; Bransford (2005)</td>
<td>•Teachers in training need to be taught how to notice specific elements during observations.</td>
<td>•PowerPoint slides preceding each video segment contained Notice Statements which were designed to focus attention on specific elements in the video. Those statements were paired with a related question, and the answer was provided on the slide following the video clip.</td>
</tr>
<tr>
<td>Lehman, et al. (2007)</td>
<td>•Early childhood teachers should represent positive affect and offer much verbal reinforcement to students.</td>
<td>•The researcher modeled these qualities in the training videos.</td>
</tr>
<tr>
<td>Researcher(s)</td>
<td>Findings</td>
<td>Implementation in this Training Program</td>
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<tr>
<td>De l’Etoile (2001) Gharavi (1993)</td>
<td>• Teachers working in child care and other independent settings often face training barriers related to time commitment and finances.</td>
<td>• An asynchronous online format was employed. Participants had unlimited, 24-hour access for at least a two-week period.</td>
</tr>
<tr>
<td>Tarnowski &amp; Barrett (1997)</td>
<td>• Professional development opportunities should be created that address the obstacles of time and cost.</td>
<td>• The online asynchronous format eliminates the need for travel and extended time away from work and personal commitments.</td>
</tr>
<tr>
<td>Seddon &amp; Biasutti (2008)</td>
<td>• Findings showed the success of an asynchronous e-learning environment.</td>
<td>• An online format was employed, and asynchronous access was permitted.</td>
</tr>
<tr>
<td>Keast (2004) Nichols (1993)</td>
<td>• Brief workshops were recommended.</td>
<td>• The total length of the training was less than 90 minutes. Three separate videos were used to divide the program into manageable segments: Module #1-53 minutes with a break half-way; Module #2-11 minutes, and Module #3-8 minutes. Participants were allowed to stop and resume as needed.</td>
</tr>
<tr>
<td>Barrett &amp; Rasmussen (1996) Burton (2002) Holz (1996)</td>
<td>• Viewing of video-taped observations was a successful tool.</td>
<td>• Video-taped demonstration classes were posted online for viewing by participants.</td>
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APPENDIX B: IRB Approval

From: Laurie Kiehl, Research Compliance Assistant
To: Terri Brown Lenzo
Cc: Craig Resta

RE: IRB #12-394 - entitled “Online Professional Development in Child Care Settings: Music Education Training for Preschool Classroom Teachers”

I am pleased to inform you that the Kent State University Institutional Review Board reviewed and approved your Application for Approval to Use Human Research Participants as a Level II/Expedited, category 6 project. Approval is effective for a twelve-month period:

September 12, 2012 through September 11, 2013

[Subsequently renewed through September 11, 2014]

*A copy of the IRB approved consent form is attached to this email. The online consent does not need a date stamp. This “stamped” copy is the consent form that you must use for your research participants. It is important for you to also keep an unstamped text copy (i.e., Microsoft Word version) of your consent form for subsequent submissions.

Federal regulations and Kent State University IRB policy require that research be reviewed at intervals appropriate to the degree of risk, but not less than once per year. The IRB has determined that this protocol requires an annual review and progress report. The IRB tries to send you annual review reminder notice to by email as a courtesy. However, please note that it is the responsibility of the principal investigator to be aware of the study expiration date and submit the required materials. Please submit review materials (annual review form and copy of current consent form) one month prior to the expiration date.

HHS regulations and Kent State University Institutional Review Board guidelines require that any changes in research methodology, protocol design, or principal investigator have the prior approval of the IRB before implementation and continuation of the protocol. The IRB must also be informed of any adverse events associated with the study. The IRB further requests a final report at the conclusion of the study.

Kent State University has a Federal Wide Assurance on file with the Office for Human Research Protections (OHRP); FWA Number 00001853. If you have any questions or concerns, please contact me at 330-672-2704 or pwashko@kent.edu.

Respectfully,

Kent State University Office of Research Compliance
330.672.2658
APPENDIX C: Consent Form

Informed Consent to Participate in a Research Study

**Study Title**: Online Professional Development in Preschool Settings: Music Education Training for Early Childhood Generalists

**Researcher**: Terri Brown Lenzo, Ph.D. Candidate, Kent State University

**Introduction**

You are being invited to participate in a research study concerning the effectiveness of online music education training for preschool classroom teachers. You will take a pre-training survey, watch videos of a teacher engaging four-year-olds in musical activities, and answer questions on a post-training survey. All responses are confidential. The goal is to determine the effectiveness of an online format for educating teachers about musical development and techniques for integrating musical activities in the curriculum.

This study has been designed for classroom teachers (not music specialists) of preschool children who are employed in schools or centers operating independently of a PreK-12 school system. Preschool will be defined by the NAEYC definition: children ages three to five or those who have not yet entered kindergarten (Copple and Bredekamp, 2009). If that description applies to you, this consent form will provide you with information on the research project, what you will need to do, and the associated risks and benefits of the research. Your participation is voluntary, confidential, and free of charge.

*If the description in the paragraph above does not apply to you, please exit the consent form.*

The study procedures have been designed in accordance with requirements dictated by the Institutional Review Board (IRB) at Kent State University. The board reviews research proposals to be certain that participants are protected. This study has been approved by the IRB of Kent State University: #12-394. Please read this section carefully. It is important that you ask questions and fully understand the research in order to make an informed decision. If you have any questions about your rights as a research participant or complaints about the research, you may call the IRB at 330.672.2704.

**Purpose of the Study**

The study is being conducted in order to answer two major questions: (1) What beliefs do preschool classroom teachers (generalists) hold about teaching music to young children? (2) Will teacher confidence levels for teaching music increase after participation in online training?
Potential Benefits of Participating in this Study

1. Teachers who participate in this study and training may receive additional strategies for integrating music within the curriculum and may increase their confidence level for leading musical activities.

2. Responses to the pre- and post-training surveys will be compared. By studying the effectiveness of this online training module, it may be possible to develop additional resources or training programs that would be effective, easily accessible, and cost effective for the in-service training of preschool teachers.

Privacy and Confidentiality

All information will be kept confidential within the limits of the law. Any identifying information will be kept in a secure location and only the researcher will have access to the data. Your e-mail address is confidential and will be used for the purpose of this study only, which includes sending you a link to the classroom video training, and comparing your answers on the pre- and post-training surveys.

Your research information may, in certain circumstances be disclosed to the Institutional Review Board (IRB), which oversees research at Kent State University or to certain federal agencies. Confidentiality may not be maintained if you indicate that you may do harm to yourself or others.

Compensation, Risks, or Discomforts

The training is offered free of charge. No compensation will be provided. There are no anticipated risks beyond those encountered in everyday life.

Voluntary Participation

Due to federal laws governing protection of human research subjects, you cannot be required to take part in this study; rather, you are being given the opportunity to participate voluntarily. Taking part in this research study is entirely up to you. You may choose not to participate or you may discontinue your participation at any time without penalty or loss of benefits to which you are otherwise entitled.

You will be informed of any new, relevant information that may affect your health, welfare, or willingness to continue your study participation.

Procedures: What you are being asked to do:

1. Participation is confidential, voluntary, and free of charge. You will not be asked to provide your name or the name of the center or school where you are employed. Should someone inquire about the participation of particular teachers, I am required by law to protect your confidentiality.
2. Your total time commitment will be approximately 90 minutes. You will be asked to complete a short pre-training survey, watch video clips of a teacher guiding musical experiences with preschoolers (the training), and complete a short post-training survey. You may choose to answer some or all of the survey questions. Your survey answers are confidential. I will determine the effectiveness of the training program by comparing answers on the pre- and post-surveys.

3. At the end of this study description you will be given a chance to agree to participate. If you click the "I Agree" button, the pre-training survey will appear automatically. In the survey you will be asked for your e-mail address. It will be used to send you the links and password to the video training, hosted on a secure KSUTube site sponsored by Kent State University, and to match your pre-and post-training surveys. Using those links and password, you will be able to access the classroom videos at your leisure, as many times as desired, within the training period, today through __________ at 11 PM.

4. If you wish to receive a copy of the study results, I will provide them to you upon completion of the study; which will be some time during the fall of 2013.

Consent Statement

If you are 18 years of age or older, understand the statements above, and freely consent to participate in the study, click on the “I Agree” button to receive access to the classroom music education video training program.

After selecting "I Agree" the pre-training survey will appear automatically. After completing the survey, you'll receive an e-mail containing the links to the classroom videos and the post-training survey.

○ I consent to participation
○ I do not consent to participation
APPENDIX D: Expert Review Request

Dear _______________

Each letter began with a greeting relative to my relationship with the recipient.

I am writing my dissertation proposal under the direction of my adviser, Dr. Craig Resta. The working title is: *Online Professional Development in Preschool Settings: Music Education Training for Early Childhood Generalists.*

The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities. In order to determine content validity, I am seeking expert review of the pre- and post-training surveys. I estimate the review would take approximately 30-45 minutes. Would you be available to provide a review of the surveys?

Thank you for your consideration,

Terri Brown Lenzo  
Ph.D. Candidate, Kent State University
APPENDIX E: Pre-Training PGMS Submitted For Expert Validation

Online Pre-Training Preschool Generalist Music Survey (to be administered via Qualtrics survey service)

Study Title: Online Professional Development in Preschool Settings: Music Education Training for Early Childhood Generalists

Researcher: Terri Brown Lenzo

Pre-Training Survey Directions

1. As indicated on the consent form, this study is designed for preschool classroom teachers (not music specialist teachers) employed in settings that operate independently of any PreK-12 school system. NAEYC defines preschoolers as those children ages three to five who have not yet entered kindergarten (Copple & Bredekamp, 2009). If that description does not apply to you, you may exit the survey. Questions: tlenzo1@kent.edu

2. The purpose of this survey is to gain information about the attitudes and opinions early childhood educators hold about music education and about including musical activities in their classroom.

3. As stated in the consent letter, your responses are confidential.

4. After the effectiveness of this training is determined, it may be possible to develop resources or training programs that would satisfy those needs.

Your E-mail Address: __________________________________________

As detailed in the consent form, your e-mail address is kept confidential and will be used only for the purposes of this study: (1) to e-mail you a link and password to the music video at the completion of this survey, and (2) to compare your responses on the pre- and post-training surveys in order to accomplish the purpose of the study.

Part I: Your School or Center

Please Describe Your School or Center: Select all that apply:

1. For profit
2. Non-profit
3. Affiliated with a traditional PreK-12 school system
4. Affiliated with a particular approach, Ex: Montessori, Reggio-Emilia, Waldorf, or other
5. Affiliated with a government-based agency
6. Affiliated with a religious organization
7. Other

Select the state in which your school or center is located: _____

Describe the location of your school or center:

1. Urban
2. Suburban
3. Rural
Part II: Your Experiences

Training and Education:

1. Please indicate the total number of years you have been teaching:_______

2. Please indicate the number of years you have been teaching preschoolers (Children ages 3, 4, or 5 who have not yet entered kindergarten) _______

3. Select the diploma or degree received:
   ___ High School Diploma or GED
   ___ Associate’s Degree
   ___ Bachelor’s Degree
   ___ Master’s Degree
   ___ Doctoral Degree

4. Do you possess a current teaching license or certification? Yes or No

5. Have you participated in other online courses? Yes or No.

6. Have you received early childhood music training? Select Yes or No for each option.
   a) Conference workshop
   b) Other workshop
   c) Training completed for commercial music program such as Kindermusik®, Music Together®, or Musikgarten®
   d) College or University-based music methods course
   e) None
   f) Other

7. When considering participation in additional training opportunities, how important are the following factors? Rate the importance of each factor.
   a) Fitting the training into my work and personal schedule:
      Not Important      Low      Medium      High      Vital
   b) The amount of time required to complete the training:
      Not Important      Low      Medium      High      Vital
   c) The cost of the training:
      Not Important      Low      Medium      High      Vital
   d) Comfort level for learning in front of peers:
      Not Important      Low      Medium      High      Vital

8. Please rate your current confidence level for participating in an online training program:
   Not Confident      Low      Medium      High      Very High

9. An online training module can be an effective format for music education training:
   SD=Strongly Disagree   D=Disagree   N=Neutral   A=Agree   SA=Strongly Agree
   SD  D  N  A  SD
Your Personal Musical Experiences

1. Select the number of years in which you participated in the following activities. Choose all that apply: (Drop-down menu, 0-30)

(Note: While you may not remember your preschool experiences, they are included because you may have heard about them from your parents or others)

   a) Preschool Group Music Classes, Ex: Dalcroze, Kindermusik®, Music Together®, Musikgarten® or other
   b) Private Lessons
   c) School band(s)
   d) School choir(s)
   e) School orchestra(s)
   f) Musical activities at your place of worship
   g) Student-led musical groups with no adult supervision
   h) I have not participated in any of these activities: If you selected this option, you may skip to Question #7

2. Select the instrument(s) or voice part on which you performed in the following. Choose all that apply: (Drop-down menu for instruments)

   a) Private Lessons
   b) School band(s)
   c) School choir(s)
   d) School orchestra(s)
   e) Musical activities at your place of worship
   f) Student-led musical groups with no adult supervision

3. Select the option that best describes your overall experience in each activity in which you participated. Select Positive (P), Negative (N), or Not Applicable (NA) (Drop-down menu will be used)

   a) Preschool Group Music Classes, Ex: Dalcroze, Kindermusik®, Music Together®, Musikgarten®, or other
   b) Private Lessons
   c) School band(s)
   d) School choir(s)
   e) School orchestra(s)
   f) Musical activities at your place of worship
   g) Student-led musical groups with no adult supervision

4. For each activity, please describe the overall quality of the teacher feedback you received regarding your musical abilities: Select Positive (P), Negative (N), or Not Applicable (NA) (Drop-down menu will be used)

   a) Preschool Group Music Classes, Ex: Dalcroze, Kindermusik®, Music Together®, Musikgarten®, or other
   b) Private Lessons
   c) School band(s).
   d) School choir(s).
   e) School orchestra(s)
   f) Musical activities at your place of worship
   g) Student-led musical groups with no adult supervision
5. For each activity, please describe the overall quality of the *parent feedback* you received regarding your musical abilities: Select Positive (P) or Negative (N) or (NA) (Drop-down menu will be used)
   
   a) Preschool Group Music Classes, Ex: Dalcroze, Kindermusik®, Music Together®, Musikgarten®, or other:
   
   b) Private Lessons:
   
   c) School band (s):
   
   d) School choir(s):
   
   e) School orchestra (s):
   
   f) Musical activities at your place of worship:
   
   g) Student-led musical groups with no adult supervision:

6. For each activity, please describe the overall quality of the *peer feedback* you received regarding your musical abilities: Select Positive (P) or Negative (N) or (NA) (Drop-down menu will be used)

   a) Preschool Group Music Classes, Ex: Dalcroze, Kindermusik®, Music Together®, Musikgarten®, or other:
   
   b) Private Lessons:
   
   c) School band (s):
   
   d) School choir(s):
   
   e) School orchestra (s):
   
   f) Musical activities at your place of worship:
   
   g) Student-led musical groups with no adult supervision:

7. Based on your personal perception, indicate the attitude of the following people toward the music department in the high school(s) you attended.

   For the following questions, please select Positive (P) or Negative (N) or (NA).

   a) In your opinion, what was the overall attitude of the non-music teaching faculty toward the music program?
      P   N   NA

   b) In your opinion, what was the attitude of the administration toward the music program?
      P   N   NA

   c) In your opinion, what was the attitude of your parents or guardians toward the music program?
      P   N   NA

   d) In your opinion, what was the attitude of the general student population (those not enrolled in music classes) toward the music program?
      P   N   NA

8. Are you currently participating in a musical activity outside of your teaching duties? Yes or No

9. If you answered Yes above, please select all activities in which you are currently participating:

   a) I attend a Preschool Group Music Class as an adult participant with a child
   
   b) Private lessons
   
   c) Concert Band
   
   d) Choir
   
   e) Orchestra
   
   f) Other
Part III: Confidence for Leading Musical Activities
A drop-down scale selection will be employed in this section: Not Confident  Low  Medium  High  Very High

**A: Singing and Expressive Use of the Voice:** Please rate the level of confidence you feel for the following musical activities:

1. Helping students vocalize environmental sounds, ex: animals, weather, car sounds
2. Leading Conversational Singing activities:
   Instead of using speaking voices, teacher *sings* a question and children sing back.
   Ex: Teacher sings: “What color is your shirt?” Students answer by singing the color.
3. Helping students distinguish between whispering, speaking, shouting, and singing
4. Singing *to* the children using your voice only:
5. Singing *with* the children *without* the using of recordings:
6. Singing *with* the children *along with* a recording

**B: Playing Instruments:** Please rate the level of confidence you feel for the following musical activities:

1. Helping children use everyday objects as instruments: pans, blocks, etc.:
2. Helping children play instruments to accompany their own singing as a group:
3. Helping children play instruments to accompany recorded music:
4. Helping children play instruments to accompany stories or poems:
5. Playing instruments along with the children:

**C: Moving to Music:** Please rate the level of confidence you feel for the following musical activities:

1. Modeling free movement to recorded music, Ex: Swinging, marching, etc.
2. Encouraging children to match their bodies to the music,
   Ex: beat, speed, short/long sounds, quiet/loud sounds:
3. Leading songs with movement, ex: “Ring around the Rosie.”
4. Guiding children in the use of their bodies to accompany stories or poems.
   Ex: Using fists to pound on the floor when the word “knocking” appears in a story
**D: Reasons for Using Music in the Classroom:** Please rate the level of confidence you feel for the following musical activities:

1. Using musical activities for classroom management purposes, One Ex. Singing a cleanup song or other transitions:
2. Using musical activities to calm or energize the class:
3. Using musical activities to teach other subjects:
4. Using musical activities to facilitate the development of creativity:
5. Direct teaching of musical concepts (forte, allegro, jazz, etc.):
6. Labeling musical elements for students (forte, allegro, jazz, etc.) without directly teaching the concept

**Part IV: Your Opinions Concerning Early Childhood Music Education:** Please indicate your level of agreement with the following statements:

A drop-down scale selection will be employed in this section:
SD=Strongly Disagree D=Disagree N=Neutral A=Agree SA=Strongly Agree

1. Musical abilities are inherited:
2. Children who don’t receive musical experiences in early childhood will have lower levels of musical achievement at older age.
3. All children are capable of musical achievement:
4. Musical abilities can continue to improve throughout adulthood:
5. Teachers who lead singing with preschoolers should sing at the level of a professional singer (someone who is heard on the radio or in concert):
6. Teachers who lead singing with preschoolers should sing with vibrato (the “wavy” sound singers sometimes use on long notes):
7. Preschool music teachers should sing pleasantly and in tune:

*Thank you for completing the pre-survey. The link and password to the classroom videos will be automatically e-mailed to you at the address you provided above.*
APPENDIX F: Post-Training PGMS Submitted For Expert Validation

Online Post-Training Preschool Generalist Music Survey (to be administered via Qualtrics survey service)

Study Title: Online Professional Development in Preschool Settings: Music Education Training for Early Childhood Generalists

Researcher: Terri Brown Lenzo

Post-Training Survey Directions

1. Thank you for completing the pre-survey and video training! I hope participation in this study has been a positive experience for you.

2. I will compare answers on this post-training survey with answers on the pre-training survey in order to determine the effectiveness of an online training program in increasing the self-efficacy and ability of preschool teachers to implement musical activities in their classrooms.

3. As stated in the consent letter, your responses are confidential.

4. Using the results of this study, it may be possible to develop resources or training programs that would be helpful to preschool classroom teachers.

Your E-mail Address: __________________________________________

As detailed in the consent form, your e-mail address is kept confidential and will be used only for the purposes of this study. It is important that you provide your e-mail on this survey so that I can compare your answers to those given on the pre-training survey. That comparison will be analyzed in order to determine the effectiveness of the study.

Part I: Additional Training

1. While you were involved in this training, did you participate in any additional musical training or receive assistance from someone regarding musical or non-musical issues? (Responses are confidential, and an accurate response will be helpful to the study) Y or N

2. If you answered YES above, please answer question #3. If you answered NO, please proceed to question #4.

3. Please select the type of training in which you participated during your work in this program: Select Yes or No for each option.
   a) Assistance from a music specialist regarding musical content
   b) Assistance from someone regarding computer or internet usage, or other non-musical issues
   c) Conference workshop in music education
   d) Other workshop in music education
   e) Training completed for commercial music program such as Kindermusik ®, Music Together ®, Musikgarten ®, or other
   f) College or University-based music methods course
   g) Other
Part II: Confidence for Leading Musical Activities

A: Singing and Expressive Use of the Voice: Please rate the level of confidence you feel for the following musical activities:

A drop-down scale selection will be employed in this section: Very High   High   Medium   Low   Not Confident

1. Helping students vocalize environmental sounds, ex: animals, weather, car sounds
2. Leading Conversational Singing activities: Instead of using speaking voices, teacher sings a question and children sing back. Ex: Teacher sings: “What color is your shirt?” Students answer by singing the color.
3. Helping students distinguish between whispering, speaking, shouting, and singing:
4. Singing to the children using your voice only:
5. Singing with the children without the using of recordings:
6. Singing with the children along with a recording

B: Playing Instruments: Please rate the level of confidence you feel for the following musical activities:

1. Helping children use everyday objects as instruments: pans, blocks, etc.:
2. Helping children play instruments to accompany their own singing as a group:
3. Helping children play instruments to accompany recorded music:
4. Helping children play instruments to accompany stories or poems:
5. Playing instruments along with the children:

C: Moving to Music: Please rate the level of confidence you feel for the following musical activities:

1. Modeling free movement to recorded music, Ex: Swinging, marching, etc.
2. Encouraging children to match their bodies to the music, Ex: beat, speed, short/long sounds, quiet/loud sounds:
3. Leading songs with movement, ex: “Ring Around the Rosie.”
4. Guiding children in the use of their bodies to accompany stories or poems, ex: Using fists to pound on the floor when the word “knocking” appears in a story:
D: Reasons for Using Music in the Classroom: Please rate the level of confidence you feel for the following musical activities:

1. Using musical activities for classroom management purposes, One Ex. Singing a cleanup song or other transitions:
2. Using musical activities to calm or energize the class:
3. Using musical activities to teach other subjects:
4. Using musical activities to facilitate the development of creativity:
5. Direct teaching of musical concepts (forte, allegro, jazz, etc.):
6. Labeling musical elements for students (forte, allegro, jazz, etc.) without directly teaching the concept

Part III: Your Experience with this Training Program

1. Please rate your current confidence level for participating in an online training program:
   Very High   High   Medium   Low   Not Confident

2. Please evaluate the following statements using this scale:
   SD=Strongly Disagree  D=Disagree  N=Neutral  A=Agree  SA=Strongly Agree

   a) My overall comfort level for leading musical activities increased:

   SD  D   N   A   SA

   b) This program helped me understand the role I could play in promoting the musical development of preschoolers:

   SD  D   N   A   SA

   c) An online training module can increase classroom teacher understanding of early childhood music education:

   SD  D   N   A   SA

   d) An online training module can be an effective format for music education training:

   SD  D   N   A   SA

   e) I will incorporate more musical activities into the curriculum as a result of my participation in this training:

   SD  D   N   A   SA

3. Please indicate the amount of the video training that you completed.
   It is fine if you did not watch the entire video and remember, responses are confidential! An accurate answer will be helpful to the study.

   All   More than Half   Half   Less than Half   None

4. Were there segments of the video training that you viewed more than one time? Yes or No
**Part IV: Your Opinions Concerning Early Childhood Music Education:** Please indicate your level of agreement with the following statements.

For each item in this section the following drop-down scale will be employed:

SD=Strongly Disagree  D=Disagree  N=Neutral  A=Agree  SA=Strongly Agree

1. Musical abilities are inherited:

2. Children who don’t receive musical experiences in early childhood will have lower levels of musical achievement at older ages:

3. All children are capable of musical achievement:

4. Musical abilities can continue to improve throughout adulthood:

5. Preschool music teachers should sing at the level of a professional singer (someone who is heard on the radio or in concert):

6. Preschool music teachers should sing with vibrato (the “wavy” sound singers sometimes use on long notes):

7. Preschool music teachers should sing pleasantly and in tune:

*Thank you for completing this survey!*
APPENDIX G: Survey Validation Form for Expert Panel

This form was sent to the expert panel. Their review was used to help ensure content validity.

**Study Title:** Online Professional Development in Preschool Settings: Music Education Training For Early Childhood Generalists

**Researcher:** Terri Brown Lenzo

I am seeking your assistance in the evaluation of the *Preschool Generalist Music Survey* (*PGMS*), a researcher-designed instrument which will be used to collect information from preschool classroom teachers working in child care centers.

**Study Purpose**

The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities.

The study has three parts: (1) Teachers will complete the pre-training *PGMS*; (2) Training component: Teachers will watch videos of the researcher teaching preschool music classes, and (3) Teachers will complete the post-training *PGMS*. Answers from the two surveys will be statistically compared in order to determine the effectiveness of the training program. It may be possible to develop additional online music education professional development opportunities for preschool classroom teachers using the results from this study.

**Evaluation of Surveys**

1. Please read the Survey Validation Form which follows.
2. Read the Pre-training *PGMS* and evaluate it according to the criteria on the validation form.
3. When finished with the Pre-training survey, please read and evaluate the Post-training *PGMS* using the second evaluation form. The second survey is shorter, and some of the questions are duplicates of those on the first survey—this allows for a statistical comparison.

Your input will be used to ensure usage of the proper questions and to evaluate the clarity of the questions. I will use your responses to revise the surveys in order to receive the most accurate data from the study participants. Thank you!
The purpose of this dissertation was to investigate the effectiveness of an online training program for increasing preschool generalist self-efficacy for leading musical activities.

Keeping the purpose of the study in mind, please answer the following questions using this scale: SD=Strongly Disagree  D=Disagree  N=Neutral  A=Agree  SA=Strongly Agree

Please indicate your response in bold.

1. Overall, the survey questions relate to the purpose of the study: SD  D  N  A  SA
   a. If there are questions which you feel do not relate to the purpose of the study, please list those question numbers here:  
      **Question # & Page #**

2. Overall, the questions are clear and easy to understand. SD  D  N  A  SA
   a. If there are questions that are unclear please list those question/page numbers here:
      **Question # & Page #**

3. Overall, the answer choices are clear and easy to understand. SD  D  N  A  SA
   b. If there are answer choices that are unclear please list those question/page numbers here:
      **Question # & Page #**

4. The questions are presented in a logical order: SD  D  N  A  SA
   Comments:

5. Have I omitted any questions that you feel should be asked? Please write them here:

Would you suggest additional revisions? Please write them here.
APPENDIX H: Final Version of the Pre-Training PGMS

This survey was administered to participants in the formal study via Qualtrics Survey Service. It reflects changes made as a result of feedback from the expert review panel and the pilot-study respondents. The earlier version of the survey appears in Appendix E.

Pre-training Preschool Generalist Music Survey
Study Title: Online Professional Development in Preschool Settings: Music Education Training for Early Childhood Generalists
Researcher: Terri Brown Lenzo, Ph.D. Candidate, Kent State University
Questions: tlenzo1@kent.edu

Pre-training Survey Directions:

1. As indicated on the consent form, this study is designed for preschool classroom teachers (not music specialist teachers) employed in settings that operate independently of any PreK-12 school system. The National Association for the Education of Young Children (NAEYC) defines preschoolers as those children ages three to five who have not yet entered kindergarten (Copple & Bredekamp, 2009). If that description does not apply to you, you may exit the survey.

2. The goal of this study is to determine the effectiveness of an online training program in educating teachers about musical development and techniques for integrating musical activities in the curriculum. I hope the instructional techniques that are modeled in the videos and the teacher reflections, "how-to" tips, and lesson extensions in the narrated PowerPoint presentations are helpful to you.

3. After taking this survey, you'll be e-mailed the links and a password to the classroom teaching videos. A short post-training survey will follow the videos. Please answer the survey questions based on your knowledge and opinions before and after watching the videos and do not be concerned with providing answers that you think we may like to receive.

4. Your survey answers will help determine the effectiveness of this training. It may then be possible to develop resources or professional development programs that would satisfy teacher needs as expressed on the pre- and post-training surveys.

5. As stated in the consent letter, your responses are confidential and remain known only to the researcher.

Q1. Your E-mail Address: As detailed in the consent form, your e-mail address is kept confidential and will be used only for the purposes of this study, including: (1) to e-mail you the links and password to the classroom music videos at the completion of this survey, and (2) to compare your responses on the pre- and post-training surveys in order to determine the effectiveness of this training. Please provide your e-mail address in the space below. Please use the same e-mail address here and on the post-training survey, so that your responses can be matched. Thank you! ________________________________

Part I: Your School or Center
Q2. Please describe your school or center.
   o For profit
   o Non-profit
   o Affiliated with a traditional PreK-12 school system
   o Affiliated with a particular approach, Ex: Montessori, Reggio-Emilia, Waldorf, or other
   o Affiliated with a government-based agency
   o Affiliated with a religious organization
   o Other
Q3. Please describe the teaching approach or philosophy used at your center or school.
   - Reggio Emilia
   - Montessori
   - Waldorf
   - Other, list: ______

Q4. In which state do you currently reside? ______

Q5. Describe the location of your school or center:
   - Urban
   - Suburban
   - Rural

Part II: Your Training, Education, and Teaching Experiences

Q6. Please indicate the total number of years you have been teaching any subject or grade level. If this is your first year of teaching please enter 1: ______

Q7. Please enter a numeral for the number of years you have been teaching preschoolers-defined as children ages three, four, or five who have not yet entered kindergarten:
   - Number of years teaching 3-year-olds
   - Number of years teaching 4-year-olds
   - Number of years teaching 5-year-olds who have not yet entered kindergarten

Q8. What is the highest level of education you have completed?
   - Less than high school
   - High School/GED
   - Some College
   - 2-year College Degree
   - 4-year College Degree
   - Master’s Degree
   - Doctoral Degree
   - Professional Degree (JD, MD)

Q9. Are you a member of these organizations?

<table>
<thead>
<tr>
<th>Organization</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAEYC (The National Association for the Education of Young Children)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>State or Local Affiliate of NAEYC</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>NAFME (The National Association for Music Education)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q10. Have you participated in other online courses?

☐ Yes
☐ No
Q11. Select "yes" or "no" for each of the following statements which begin with: I have participated in . . .

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) a music workshop at a conference</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>b) a music workshop at a location other than at a conference</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>c) training completed for a commercial music program such as Kindermusik®, Music Together®, or Musikgarten®</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>d) a college or university-based music methods course</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>e) a preschool music class with students while observing an experienced music teacher leading activities with the children</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>f) none of these training types</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>g) a type of training that is not listed</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

Q12. When considering participation in additional training opportunities, how important are the following factors? Rate the importance of each factor:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Not Important</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Vital</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) The ability to fit the training into my work and personal schedule</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>(b) The amount of time required to complete the training</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>(c) The cost of the training</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>(d) My comfort level for learning in front of peers</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>
Q13. Please rate your current confidence level for participating in an online training program:

<table>
<thead>
<tr>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q14. Please provide your opinion about online training for music education professional development:

<table>
<thead>
<tr>
<th>An online training module can be an effective format for music education training:</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Part III: Your Personal Musical Experiences

Note: While you may not remember your preschool experiences, they are included because you may have heard about them from your parents or others.

Q15. Please provide a numeral to indicate the number of years you have participated in each of the following activities. If you have not participated in any of these activities and have entered all zeros, please skip to #21.

Preschool Group Music Classes, Ex: Dalcroze, Kindermusik, Music Together, Musikgarten, or other: ______
Private Lessons: ______
School band(s): ______
School choir(s): ______
School orchestra(s): ______
Musical Theatre productions: ______
Musical activities at your place of worship: ______
Student-led musical groups with no adult supervision: ______
Family music making: ______
Elementary school music class (es) taught by a music specialist: ______

Q16. Indicate the instrument(s) or voice part on which you performed in the following. If an option does not apply to you, enter NA for "not applicable."

Private Lessons: ______
School band(s): ______
School choir(s): ______
School orchestra(s): ______
Musical Theatre productions: ______
Musical activities at your place of worship: ______
Student-led musical groups with no adult supervision: ______
Q17. Select the option that best describes your overall experience in each activity:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Negative</th>
<th>Not Applicable</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool Group Music Classes, Ex: Dalcroze, Kindermusik, Music Together, Musikgarten, or other</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Private Lessons</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School band(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School choir(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School orchestra(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Musical Theatre productions</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Musical activities at your place of worship</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Student-led musical groups with no adult supervision</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Family music making</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Elementary school music class(es) taught by a music specialist</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q18. For each activity, please describe the overall quality of the teacher feedback you received regarding your musical abilities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Negative</th>
<th>Not Applicable</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary school music class(es) taught by a music specialist</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Preschool Group Music Classes, Ex: Dalcroze, Kindermusik, Music Together, Musikgarten, or other</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Private Lessons</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School band(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School choir(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School orchestra(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Musical Theatre productions</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Musical activities at your place of worship</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Student-led musical groups with no adult supervision</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q19. For each activity, please describe the overall quality of the parent feedback you received regarding your musical abilities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Negative</th>
<th>Not Applicable</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family music making</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Elementary school music class(es) taught by a music specialist</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Preschool Group Music Classes, Ex: Daleroze, Kindermusik, Music Together, Musikgarten, or other</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Private Lessons</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School band(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School choir(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School orchestra(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Musical Theatre productions</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Musical activities at your place of worship</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Student-led musical groups with no adult supervision</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q20. For each activity, please describe the overall quality of the peer feedback you received regarding your musical abilities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Negative</th>
<th>Not Applicable</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family music making</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Elementary school music class(es) taught by a music specialist</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Preschool Group Music Classes, Ex: Daleroze, Kindermusik, Music Together, Musikgarten, or other</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Private Lessons</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School band(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School choir(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>School orchestra(s)</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Musical Theatre productions</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Musical activities at your place of worship</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Student-led musical groups with no adult supervision</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q21. Based on your personal perception, indicate the overall attitude of the following people toward the music department in the high school(s) you attended:

<table>
<thead>
<tr>
<th></th>
<th>Negative</th>
<th>Not Applicable/Don’t Know</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-music teachers</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School principal</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your own parent(s) or guardian(s)</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students that were not enrolled in music classes</td>
<td>●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q22. Are you currently participating in a musical activity outside of your teaching duties?

- [ ] Yes
- [ ] No

Q23. Please select all activities in which you are currently participating:

- [ ] I attend a preschool group music class as an adult participant with a child. Ex: Dalcroze, Kindermusik, Music Together, Musikgarten, or other.
- [ ] Private lessons
- [ ] Concert Band
- [ ] Choir
- [ ] Orchestra
- [ ] Musical Theatre productions
- [ ] Musical activities at my place of worship
- [ ] Informal "Jam sessions" with family or friends
- [ ] Family music making
- [ ] Choir, dance or instrumental ensemble related to my country of origin
Part IV: Confidence for Leading Musical Activities

Q24. Singing and Expressive Use of the Voice

Please rate the level of confidence you feel in leading the following musical activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping students vocalize environmental sounds, ex: animals, weather, car sounds</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Leading conversational singing activities. Instead of using speaking voices, teacher sings a question and children sing back. Ex. Teacher sings, &quot;Children, what do you see?&quot; Children sing their answers.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Helping students distinguish between whispering, speaking, shouting, and singing</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Singing to the children using your voice only</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Singing with the children without the use of recordings</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Singing with the children along with a recording</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ability to learn to sing new songs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q25. Playing Instruments

These questions refer to instruments such as drums, jingle bells, sand blocks, rhythm sticks, shakers, and the like. Please rate the level of confidence you feel in leading the following musical activities:

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Helping children use everyday objects as instruments: pans, blocks, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Helping children play instruments to accompany their own singing as a group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Helping children play instruments to accompany recorded music</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Helping children play instruments to accompany stories or poems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Playing instruments along with the children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q26. Moving to Music

Please rate the level of confidence you feel in leading the following musical activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modeling free movement to recorded music, Ex: Swinging, marching, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouraging children to match their bodies to the music, Ex: beat, speed, high/low sounds, and quiet/loud sounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leading songs with movement, Ex: &quot;The Old Brass Wagon&quot; or &quot;Ring Around the Rosie.&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guiding children in the use of their bodies to accompany stories or poems, Ex: Using fists to pound on the floor when the word &quot;knocking&quot; appears in a story</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q27. Reasons for Using Music in the Classroom

Please rate the level of confidence you feel in leading the following musical activities:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Using musical activities for classroom management purposes, Ex:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singing a clean-up song or other transitions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Using musical activities to calm or energize the class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Using musical activities to teach other subjects, Ex. Singing a song</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>about the days of the week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Using musical activities to facilitate the development of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>creativity, Ex. Children are encouraged to sing their own response</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to an open-ended question or share their own ideas for body movements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to match the beat of the music.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Teaching of musical concepts such as steady beat, high/low, and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>loud/quiet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Identifying musical concepts for students without directly teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the concept</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q28. Please respond to the following statement using the 5-point scale:

<table>
<thead>
<tr>
<th>Describe your overall confidence level for leading the musical activities described above: singing, playing, and moving</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part V: Your Opinions Concerning Early Childhood Music Education**

Q29. Please indicate your opinions concerning the following statements about musical development:

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Musical abilities are inherited.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Children lacking early childhood musical experiences will have lower levels of musical achievement at older ages.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-All children are capable of musical achievement.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Musical abilities can continue to improve throughout adulthood.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q30. Please indicate your opinions concerning the following statements about classroom teachers leading singing activities with preschoolers:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Teachers who lead singing with preschoolers should sing at the level of a professional singer (someone who is heard on the radio or in concert).</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- When a teacher sings with the students, modeling the enjoyment of singing is more important than singing the correct pitches.</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- Teachers who lead singing with preschoolers should sing with vibrato (the &quot;wavy&quot; sound singers sometimes use on long notes).</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- It is important that preschool teachers sing the correct pitches while leading songs with children.</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

Thank you for completing the pre-training survey! When you exit this survey, you will automatically be e-mailed the password and links to the video-training. The e-mail is generated immediately from: noreply@qemailserver.com and will be sent to the address you provided at the beginning of the survey. If it does not appear in your inbox, please check your spam folder. If you do not receive it within a few minutes, please contact me at tlenzo1@kent.edu. I will respond within 24 hours.
APPENDIX I: Final Version of the Post-Training *PGMS*

This survey was administered to participants in the formal study via Qualtrics Survey Service. It reflects changes made as a result of feedback from the expert review panel and the pilot-study respondents. The earlier version of the survey appears in Appendix F.

**Post-training Preschool Generalist Music Survey**

**Study Title:** Online Professional Development in Preschool Settings: Music Education Training for Early Childhood Generalists

**Researcher:** Terri Brown Lenzo, Ph.D. Candidate, Kent State University

**Questions:** tlenzo1@kent.edu

**Directions:**

1. Thank you for completing the pre-survey and video training! I hope participation in this study has been a positive experience for you.
2. By participating in this training and providing answers on the two surveys, you are assisting in the improvement of the materials. Your help is much appreciated!
3. As stated in the consent letter, your responses are confidential.

**Q1. Your E-mail Address:**

It is important that you provide your e-mail address on this survey so that your answers can be compared to those given on the pre-training survey. It is also important that you use the same e-mail address you used on the pre-training survey, so results can be matched. Using the information from the surveys, I hope to develop future music education training programs that will be helpful to early childhood teachers. Your e-mail address will not be shared with others. Please provide your e-mail address: ___________________________________

**Part I: Additional Training**

**Q2.** While you were involved in this study did you participate in any additional musical training or receive assistance from someone regarding musical or non-musical issues related to this training?

○ Yes
○ No

**Q3.** Please select the type of training or assistance you received during your work in this study. Please select yes or no for each item:

<table>
<thead>
<tr>
<th>-Assistance from a music specialist regarding musical content</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-Assistance from someone regarding computer or internet usage, or other non-musical items</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-Music education workshop or conference session</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-Training completed for a commercial music program such as Kindermusik, Music Together, Musikgarten, or other</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-College or university-based music methods course</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-Other</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
**Part II: Confidence for Leading Musical Activities**

Q4. Singing and Expressive Use of the Voice: Please rate the level of confidence you feel for leading the following activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping students vocalize environmental sounds, ex: animals, weather,</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>car sounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leading conversational singing activities. Instead of using speaking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>voices, teacher sings a question and children sing back. Ex. Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sings, &quot;Children, what do you see?&quot; Children sing their answers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helping students distinguish between whispering, speaking, shouting,</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>and singing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singing to the children using your voice only</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Singing with the children without the use of recordings</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Singing with the children along with a recording</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ability to learn to sing new songs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q5. Playing Instruments

These questions refer to instruments such as drums, jingle bells, sand blocks, rhythm sticks, shakers, and the like. Please rate the level of confidence you feel in leading the following musical activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping children use everyday objects as instruments: pans, blocks, etc.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Helping children play instruments to accompany their own singing as a group</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Helping children play instruments to accompany recorded music</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Helping children play instruments to accompany stories or poems</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Playing instruments along with the children</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q6. Moving to Music

Please rate the level of confidence you feel in leading the following musical activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Modeling free movement to recorded music, Ex: Swinging, marching, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Encouraging children to match their bodies to the music, Ex: beat, speed, high/low sounds, and quiet/loud sounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Leading songs with movement, Ex: &quot;The Old Brass Wagon&quot; or &quot;Ring Around the Rosie.&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Guiding children in the use of their bodies to accompany stories or poems, Ex: Using fists to pound on the floor when the word &quot;knocking&quot; appears in a story</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q7. Reasons for Using Music in the Classroom

Please rate the level of confidence you feel in leading the following musical activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Using musical activities for classroom management purposes, Ex:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singing a clean-up song or other transitions</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-Using musical activities to calm or energize the class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Using musical activities to teach other subjects, Ex: Singing a song</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>about the days of the week</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-Using musical activities to facilitate the development of creativity, Ex.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children are encouraged to sing their own response to an open-ended</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>question or share their own ideas for body movements to match the</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>beat of the music.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Teaching of musical concepts such as steady beat, high/low, and loud/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>quiet</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>-Identifying musical concepts for students without directly teaching the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>concept</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q8. Please respond to the following statement using the 5-point scale:

<table>
<thead>
<tr>
<th>Describe your overall confidence level for leading the musical activities described above: singing, playing, and moving.</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part III: Your Opinions Concerning Early Childhood Music Education

Q9. Please indicate your opinions concerning the following statements about musical development:

<table>
<thead>
<tr>
<th>-Musical abilities are inherited.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Children lacking early childhood musical experiences will have lower levels of musical achievement at older ages.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-All children are capable of musical achievement.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Musical abilities can continue to improve throughout adulthood.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q10. Please indicate your opinions concerning the following statements about classroom teachers leading musical activities with preschoolers:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers who lead singing with preschoolers should sing at the level of a professional singer (someone who is heard on the radio or in concert).</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>It is important that preschool teachers sing the correct pitches while leading songs with children.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>When a teacher sings with the students, modeling the enjoyment of singing is more important than singing the correct pitches.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Teachers who lead singing with preschoolers should sing with vibrato (the &quot;wavy&quot; sound singers sometimes use on long notes).</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
**Part IV: Your Experience with this Training Program**

Q11. Describe your confidence level for participating in an online training program:

<table>
<thead>
<tr>
<th>Please rate your current confidence level for participating in an online training program.</th>
<th>Not Confident</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q12. Provide your opinion about online training for music education professional development:

<table>
<thead>
<tr>
<th>An online training module can be an effective format for music education training.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q13. Please respond to the following statement using the 5-point scale:

<table>
<thead>
<tr>
<th>This program helped me understand the role I could play in promoting the musical development of preschoolers.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q14. Please respond to the following statement using the 5-point scale:

<table>
<thead>
<tr>
<th>I will incorporate more musical activities into the curriculum as a result of my participation in this training.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q15. Please respond to the following statement using the 5-point scale:

<table>
<thead>
<tr>
<th>An online training module can increase classroom teacher understanding of early childhood music education.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>○</td>
</tr>
</tbody>
</table>

Q16. Please indicate the amount of video training that you completed. It is fine if you did not watch all of the videos and remember that responses are confidential. An accurate answer will be helpful to the study:

<table>
<thead>
<tr>
<th>Module #1-Integration of singing and literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
</tr>
<tr>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module #2-Integration of instruments and storytelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module #3-&quot;Old Brass Wagon&quot; use of creative movement to music</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
</tr>
</tbody>
</table>

Q17. Were there segments of the video training that you viewed more than once? Please answer for each module:

<table>
<thead>
<tr>
<th>Module #1-Integration of singing and literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>I DID NOT watch portions of this module more than once.</td>
</tr>
<tr>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module #2-Integration of instruments and storytelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module #3-&quot;Old Brass Wagon&quot; use of creative movement to music</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
</tr>
</tbody>
</table>

Part V: Your Feedback Regarding this Study

Q18. Approximately how many minutes did it take you to complete the surveys and training?

Minutes spent completing the pre-survey

Minutes spent viewing the training (videos and PowerPoints)

Minutes spent completing the post-survey

Q19. Please offer your opinion about the amount of time it took to complete the surveys and watch the videos. The box will expand as needed.
Q20. Please offer your thoughts about the training content:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Overall, the video clips addressed the teaching techniques listed on the surveys.</td>
<td>![Strongly Disagree]</td>
<td>![Disagree]</td>
<td>![Neither Agree nor Disagree]</td>
<td>![Agree]</td>
</tr>
<tr>
<td>-The information presented about musical development will be helpful to me.</td>
<td>![Strongly Disagree]</td>
<td>![Disagree]</td>
<td>![Neither Agree nor Disagree]</td>
<td>![Agree]</td>
</tr>
<tr>
<td>-The information about singing development and the integration of singing with use of literature offered in module #1 will help me integrate singing activities in my curriculum.</td>
<td>![Strongly Disagree]</td>
<td>![Disagree]</td>
<td>![Neither Agree nor Disagree]</td>
<td>![Agree]</td>
</tr>
<tr>
<td>-The information offered in module #2 will help me integrate use of instruments in the curriculum.</td>
<td>![Strongly Disagree]</td>
<td>![Disagree]</td>
<td>![Neither Agree nor Disagree]</td>
<td>![Agree]</td>
</tr>
<tr>
<td>-The information about creative movement offered in the third module will help me use music and movement activities with my students.</td>
<td>![Strongly Disagree]</td>
<td>![Disagree]</td>
<td>![Neither Agree nor Disagree]</td>
<td>![Agree]</td>
</tr>
<tr>
<td>-The information provided in module #1 about the desirable singing characteristics of a preschool teacher will help me integrate singing activities in my curriculum.</td>
<td>![Strongly Disagree]</td>
<td>![Disagree]</td>
<td>![Neither Agree nor Disagree]</td>
<td>![Agree]</td>
</tr>
</tbody>
</table>
Q21. If you would like to offer further comments about the training content, please enter them here:

Q22. Please indicate your opinions about the design of the surveys and videos:

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>-It was easy to access the videos using the links and password provided in the e-mail message.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>-The steps for completing the surveys and watching the videos were made clear to me.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>-The importance of completing the post-survey was clear to me.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>-It was easy to access the post-training survey.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>-Overall, the survey questions were clear and easy to understand.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>-Overall, the answer choices on the surveys were easy to understand.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q23. How did you access the post-training survey?

☐ I used the link provided in the e-mail message.
☐ I wrote down the link that was written on the last slide of video module #3, and then entered it into my web-browser.

Q24. How could the design of the training or surveys be improved? Type your answer below. The box will expand as needed:

Thank you for completing this training study! Your answers on the two surveys will be used to improve this training module and to develop future music education professional development opportunities for early childhood teachers. Keep making music!
APPENDIX J: Pre-training PGMS E-mail Prompt

Instructions for the Training Videos and Post-Training Survey:

Thank you for completing the pre-training survey! Now to the classroom video training which is designed to provide you with additional strategies for integrating music within the curriculum. I hope the instructional techniques that are modeled in the videos and the teacher reflections, “how-to” tips, and lesson extensions in the narrated PowerPoint presentations are helpful to you.

WHAT WILL I SEE IN THE VIDEOS?

There are 3 videos of a teacher engaging a group of preschoolers in musical activities. The videos represent a real-world scenario. The teacher was introduced to the children before they began their four classes together, but no musical instruction was given prior to taping. Taping began at the first class.

Each video module demonstrates the integration of a different element of musical instruction with 21st-century skills, classroom routines, literature, and storytelling. Narrated PowerPoint slides introduce each video clip, providing information regarding the musical concepts and teaching techniques that are modeled. In order to provide additional information, the teacher comments on what went well, what could have been improved, and discusses extensions that could be used in future classes. Practical, how-to teaching tips are offered throughout the three modules.

TIME COMMITMENT

While you are welcome to watch the videos at one time, which would take approximately 70 minutes, you can use the links below to access the videos at your convenience, coming and going as your schedule permits through _________________. Additional instructions are provided at the beginning of module #1.

SHOULD I WATCH THE MODULES IN ORDER, #1-3?

YES. The links to the three video modules appear below. They are designed to be watched in order, #1-3. Module #1 contains important information and directions that you will need when watching the other two modules.

WHAT IF I WANT TO PAUSE THE POWERPOINT OR VIDEO?

Use the pause button to stop the PowerPoint presentation or the classroom videos. Click the play button to resume. There will be a pause before the program begins again.

If you will be stepping away from the computer, hit the pause button and write down the time stamp from the video counter at the bottom of the screen (Ex: 11:37). Then when you return, slide the counter bar to the time you recorded (11:37 in my example) and finish watching from that spot.

Due to issues related to specific internet connections, the video could pause on its own. If it does not resume within a minute or two, write down the time from the counter bar and use the link to re-start the video. After entering the password, slide the counter to the correct time and continue the training.

HOW CAN I VIEW THE VIDEOS IN FULL SCREEN?

At the far right of the video counter, you'll see the volume control. Just to the left of that is a small box with extending arrows. Click that box to enlarge the video to full screen. Click escape to return to the small screen.

WHAT SHOULD I DO AFTER FINISHING THE VIDEOS? THE POST-TRAINING SURVEY:

After watching the 3 video modules, please complete the post-training survey using the link below. I am attempting to determine whether or not an online music education training program is effective and convenient for preschool teachers. To do that, I will compare your responses before and after watching the videos.
TRAINING PERIOD: TODAY THROUGH ________________.

Please complete the training and post-training survey by MIDNIGHT ON ________________. After that date, the links will be inaccessible.

LINKS TO VIDEO MODULES AND THE POST-TRAINING SURVEY: Save this e-mail.

To access the videos you'll need these links. After watching each video, return to this e-mail and click on the link for the next video. When you have finished watching all 3 videos, return to this e-mail to access the link to the post-training survey.

Password for all videos is Lenzomusic (one word, case sensitive).

Note: When the links open, you'll be on KSUTube, a secure site. As a guest, you see an option to login, BUT THIS IS NOT NECESSARY. JUST ENTER THE PASSWORD: LENZOMUSIC FOR EACH VIDEO.

MODULE #1: The link appeared here.

This module contains directions for completing the program and a discussion of musical development and music teaching that applies to all three modules. Classroom demonstration videos show integration of 21st-century skills, classroom routines, literature, singing, and other musical concepts.

MODULE #2: The link appeared here.

Classroom demonstration videos show how to integrate 21st-century skills, storytelling, and use of instruments.

MODULE #3: The link appeared here.

A classroom demonstration video shows the teacher engaging the children in 21st-century learning as they create and perform gross-motor movements to music. A summary of the entire training is also provided.

POST-TRAINING SURVEY LINK: COMPLETE THIS SURVEY AFTER WATCHING THE VIDEOS. NO PASSWORD IS NEEDED.

The link to the post-training survey appeared here.

Questions? My e-mail address is below.

Thank you for your participation! All the best to you and your students as you make music together!

Terri Brown Lenzo
tlenzo1@kent.edu
### APPENDIX K: Demonstration Class Lesson Plan Analysis

<table>
<thead>
<tr>
<th>Activity Titles with Corresponding Lesson Numbers (I-IV)</th>
<th>Activity Type</th>
<th>DAP (In addition to the techniques listed in this column, three areas of practice will occur in each activity: highlighting the elements of music, joyful participation, and teacher modeling.)</th>
<th>1994 Prekindergarten Music Standard(s) *2014 standards included below</th>
<th>Corresponding Pre-Training PGMS Question Number in Part IV: Confidence for Leading Musical Activities (Appendix H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hello Everyone! (I-IV)</td>
<td>Welcome and Transition Song/Vocal Warm-up/Creativity/Fine-Motor Movement/Steady Beat</td>
<td>Curricular Integration</td>
<td>1a, 4b</td>
<td>24, 26, 27</td>
</tr>
<tr>
<td>Echoes/Conversational Singing (I-IV)</td>
<td>Welcome/Vocal Warm-up/Creativity</td>
<td></td>
<td>1a, 2a</td>
<td>24, 27</td>
</tr>
<tr>
<td>Talking Drum (I-walk, II-tiptoe, III-jump, IV-gallop)</td>
<td>Gross-Motor Movement/Listening Skills/Steady Beat</td>
<td></td>
<td>1c, 4b, 4a</td>
<td>25, 26, 27</td>
</tr>
<tr>
<td>This Old Man (I, II)</td>
<td>Counting and Rhyming Song</td>
<td>Curricular Integration</td>
<td>1a</td>
<td>25, 27</td>
</tr>
<tr>
<td>This Jazz Man (II, III, IV)</td>
<td>Counting and Rhyming Story/Vocal Development/Creativity</td>
<td>Curricular Integration</td>
<td>1a, 1c, 2a</td>
<td>24, 26, 27</td>
</tr>
<tr>
<td>We're Going to the Circus? (bears, jazz, lyrics, student lyrics I-IV)</td>
<td>Singing Game/Gross-Motor Movement/Creativity</td>
<td>Curricular Integration/Full-body activities requiring rhythm and timing</td>
<td>1a, 4b</td>
<td>24, 26, 27</td>
</tr>
<tr>
<td>Chicka Chicka Boom Boom (I-voices only, II-voices/body percussion, III-voices/instruments, IV-voices/instruments)</td>
<td>Story/Vocal Development/Instrument Exploration/Teaching Sequence</td>
<td>Curricular Integration</td>
<td>1a, 1c, 2b</td>
<td>24, 25, 26, 27</td>
</tr>
<tr>
<td>Shake, Shake, Shake Your Eggs (I, II) Old Joe Clark (III, IV)</td>
<td>Vocal Development/fine-motor steady beat with instrument/creativity</td>
<td>Curricular Integration/repertoire of songs from a variety of cultures</td>
<td>1a, 1c, 4b</td>
<td>24, 25, 26, 27</td>
</tr>
<tr>
<td>Jazz Recording Ella Fitzgerald/scat (I, II) Louis Armstrong/scat (III, IV)</td>
<td>Listening skills/fine-motor steady beat with instrument/creativity</td>
<td>Curricular Integration/repertoire of songs from a variety of cultures</td>
<td>1c, 4b</td>
<td>25, 26, 27</td>
</tr>
<tr>
<td>Instrument Demonstration/Vocal Play Slide Whistle (I, II) Clarinet (III, IV)</td>
<td>Listening skills/vocal development/gross-motor movement</td>
<td>Full-body activities requiring rhythm and timing</td>
<td>1a, 1c, 4a, 4b</td>
<td>24, 26, 27</td>
</tr>
<tr>
<td>Walking Through the Town (I-IV)</td>
<td>Vocal development/gross-motor movement/creativity</td>
<td>Curricular Integration/Full-body activities requiring rhythm and timing</td>
<td>1a, 4a, 4b</td>
<td>24, 26, 27</td>
</tr>
<tr>
<td>Rain, Rain/I Can Hear the Rain (I, II-voices and bodies, III-IV-voices, bodies and instruments)</td>
<td>Vocal development/fine-motor and gross-motor movement</td>
<td>Curricular Integration</td>
<td>1a, 4b</td>
<td>24, 26, 27</td>
</tr>
<tr>
<td>Weather Story (I-IV)</td>
<td>Instrument and Sound Exploration/Creativity</td>
<td>Curricular Integration</td>
<td>1a, 1c, 2b, 3b</td>
<td>24, 25, 26, 27</td>
</tr>
<tr>
<td>Multicultural recording Carnival of the Animals/Aviary (I, II) Corn Grinding Song (III, IV)</td>
<td>Expressive Movement</td>
<td>Curricular Integration/repertoire of songs from a variety of cultures/Full-body activities requiring rhythm and timing</td>
<td>3b</td>
<td>26, 27</td>
</tr>
<tr>
<td>Abiyoyo (I, II) Obwisana (III, IV)</td>
<td>Lullaby from South Africa/Game from Ghana/steady beat</td>
<td>Curricular Integration/ songs from a variety of cultures</td>
<td>1a, 4b</td>
<td>24, 26, 27</td>
</tr>
<tr>
<td>Goodbye Everyone (I-IV)</td>
<td>Closure and transition Song</td>
<td></td>
<td>1a, 4b</td>
<td>24, 26, 27</td>
</tr>
</tbody>
</table>

*As stated in chapter three, this project was completed prior to the release of the 2014 revised national standards. However, all activities on this plan remain vital to early childhood music education and are represented by these 2014 standards: (1) Experience a variety of music, Cr1.1.PreKa; (2) Explore favorite ideas-movements, vocalizations, or instrumental accompaniments, Cr2.1.PreKa; (3) Explore and demonstrate awareness of musical contrasts, Pr4.2.PreKa, and (4) Explore expressive qualities, e.g. vocal quality, dynamics, and tempo, Pr4.3.PreKa.*
APPENDIX L: Parental Videotape Permission

Dear Parents,

My name is Terri Lenzo, and I am a Ph.D. candidate in music education at Kent State University. Prior to my studies at Kent State, I taught preschool music classes for twelve years. For my dissertation project, I am developing an online music education training program for preschool classroom teachers.

Teachers will take a survey, watch a video of me teaching a preschool music class, and then answer some questions about the teaching techniques I modeled in the video. My goal is to model music teaching strategies that will be helpful to classroom teachers, and to determine if teachers will feel more confident in trying some of the strategies after watching the video. I am requesting your permission to allow your child to participate in this video-taped music class.

This study has been approved by the Institutional Review Board (IRB) at Kent State University. I will come to your school to teach a series of four-to-six 30-minute music classes which will be videotaped and viewed online by classroom teachers. In these classes the children and I will sing, play instruments, tell musical stories, and move to music. The children and their behavior are not the subject of this study. However, measures have been taken to ensure your child’s privacy.

Video Recording, Privacy, and Confidentiality

1. *All information is confidential.* While the children’s faces will be visible in the video, their names will not be disclosed. The name and specific location of the school will not be disclosed. It will be described as “a child care center in the Midwest.” Therefore, if your child participates in this music class, please make certain that their name or other identifying information does not appear on their clothing. I will monitor this at each class.

2. Footage from the music classes will be edited, combined into a single 30-minute video, and posted online using the secure server: KSUTube. This means that the video is not searchable via the worldwide web. Only teachers who have received a consent form, agreed to participate in the study, and who have also completed a pre-training survey will be given a password to access the video. In addition, these statements appear in the adult consent form issued to the teachers: “By agreeing to participate in the study, you also agree to keep the study website and password confidential. This adds an additional measure of privacy for the children appearing in the classroom video.”

3. However, it is possible that the teacher could share the password with someone else, enabling them to view the music class video.

It is my goal that your children have an enjoyable and productive time in these music classes. I will endeavor to increase their level of musical skill and understanding during our time together. Thank you for your consideration, and I look forward to singing, galloping, and playing drums with your child! If you have any questions, please contact me at 330-730-6886 or tlenzo1@kent.edu. You may also contact the IRB office at Kent State University; 330-672-2704.

If you would like your child to participate in these music classes, please sign one copy and return it to the school by ____________ (tba). You may keep the second copy for your records. The first music class will be taught on ____________ (tba).

Permission Statement and Signature

I have read the details of this project and understand how the classroom video will be used. I grant permission for my child to take part in these music classes and to be videotaped while participating.

_________________________________  ______________________  ____________
Parent or Legal Guardian Signature   Child’s Name          Date
APPENDIX M: Assent Script for Children in the Demonstration Class

Study Title: Online Professional Development in Preschool Settings: Music Education Training for Early Childhood Generalists

Researcher: Terri Brown Lenzo

To be offered at the first class prior to beginning instruction:

1. Hi! My name is Miss Terri, and I am here to teach some music classes. We will play instruments, sing songs, read stories, and dance to music! My friend (introduce the assistant who is taping the class) will videotape our classes.

2. Do you want to do this?

3. Do you have any questions before we start?

4. If you want to stop at any time just tell me. Now let’s sing our Hello Song!
APPENDIX N: PowerPoint Slides for Training Module #1

These slides were originally in color but have been reformatted to black and white for printing purposes. Information on the slides was amplified and supported by recorded narrations. Video clips from the demonstration class were inserted as indicated.
COMPONENTS OF THIS TRAINING

- Welcome to the 1st Video Module of the Training and Thank you!
- Practical Skills for Integrating Musical Learning with 21st-century Skills, Classroom Routines and Transitions, Literature, and Storytelling
- Components Remaining: 3 video modules and the Post-training Survey
- A convenient and effective way to experience music education professional development?
- Real-world Scenario
- Videos and Narrated PowerPoint Presentations Offer Teaching Techniques
- View the Three Video Modules in order, #1-3.
- This is module #1: (Two sections of approx. 22 minutes and 30 minutes each) Description of training procedures and discussion of musical development along with classroom videos which focus on the integration of singing with 21st-century skills, classroom routines, and use of literature.
- Module #2 (approx. 11 minutes) - Classroom videos focusing on the integration of instruments and musical development (shakers and sand blocks) with 21st-century skills and storytelling.
- Module #3 (approx. 8 minutes) - Classroom videos which focus on the integration of 21st-century skills and gross-motor movements set to music.
- Final Step: Complete the Post-training Survey. The link is provided on the last slide of module #3 and in your welcome e-mail.
- Directions and procedures appear on the next slide.

TRAINING PROCEDURES

- Watch the 3 videos in order, #1-3, on your own schedule using the links provided in your e-mail. This is module #1. Use the video counter in each module to start and stop as needed.
- Deadline: Please finish watching the training videos and complete the post-training survey within the timeframe indicated. After that date the links will be inactive, and you will no longer have access.
- Video-Training Format
- Complete the Post-training Survey
- Post-training Survey link appears at the end of module #3.
**Musical Development**

- All children are capable of musical achievement.
- Innate Characteristics vs. Inherited Characteristics
- The Myth of the “Talent Factor”: Musical abilities are not inherited.
- Early Childhood is a Critical Period for Musical Development.
- What does this mean for me, as a teacher or parent?
- Musical achievement can continue to develop throughout adulthood!
- The Researcher’s Hunch (or hypothesis)

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**Teaching Music in Early Childhood:**
**Integrating Music Education into Classroom Routines**
**Clip #1-70 Seconds**

- I’m responsible for teaching many subjects. How can I include the development of musical concepts?
- Musical Integration
  - *Notice* the different types of voices used by the children.
- QUESTION? How does the teacher recognize the efforts of the children while leading them to use their singing voices?
Teaching Music in Early Childhood: Integrating Music Education into Classroom Routines
Clip #1 - Answer

- QUESTION? How does the teacher recognize the efforts of the children while leading them to use their singing voices?
  1. Identify the child’s response.
  2. After recognizing the effort, offer encouragement.
  3. Tactile or Kinesthetic Representation of the Notes
  4. It’s a game!
  5. Group Singing
  6. Teacher Modeling

Teaching Music in Early Childhood: Integrating Music Education into Classroom Routines
Clip #2 - 80 Seconds

- Sing to Assess.
- 21st Century Skills: Critical-Thinking and Creativity or Improvisation
- Improvisation - “creating and performing your own idea on the spot”
- Notice the responses of Kendall, Alison, Brent, and Lucia.
- QUESTION? How did Morgan respond?
Teaching Music in Early Childhood:  
Integrating Music Education into Classroom Routines  
Clip #2 - Answer

- QUESTION? How did Morgan respond?
- ANSWER: Speaking voice, then singing voice
- NOTE: Reminders are helpful.

Teaching Music in Early Childhood:  
Vocal Play and Exploration - What Can My Voice Do?  
Clip #1 - 50 Seconds

- Exploring our voices: speaking, shouting, singing, and whispering
- Notice the explanation of mapping which is a visual representation of the pitches.
- QUESTION? What is the difference between the two sung responses of the children?

- QUESTION? What is the difference between the two sung responses of the children?
- ANSWER: There are a variety of responses.
- It's Natural!
- Next- Integrating Vocal Play and Singing with Literature

Teaching Music in Early Childhood: Integrating Literature, Vocal Play/Exploration & Singing Development. Introduction & Clip #1-13 Seconds

- Myths Concerning Teaching Young Children How to Sing
- Defining a “Good Singer” as it Applies to Teaching in Early Childhood:
  1. Use songs that are within the singing range of the young child.
  2. Do not use vibrato.
  3. Provide an accurate singing model.
- Vocalizing Environmental Sounds Promotes Singing Development.

Notice the contrasting high and low sounds.
SUMMARY & ENCOURAGEMENT!

- All children can learn to sing. Musical abilities are not inherited.
- Early childhood is a critical period for musical development.
- There are many ways to facilitate musical development in young children.
- Teaching Children How to Sing
- Note: Singing or Shouting?
- "Good Singing" as Applied to Teaching Music in Early Childhood
- Model the correct pitches along with the enjoyment of music.
- The Researcher’s Hunch (or hypothesis)
- Your Feedback is Important. THANK YOU!
- More Classroom Videos

TIME FOR A BREAK???
WRITE DOWN THE NUMBER ON THE VIDEO COUNTER & RETURN TO THIS SPOT LATER.

- Next Section: 4-step sequence for integrating literature, classroom routines, vocal development, singing, steady beat, critical-thinking, creativity & improvisation
- Tips for Exploring Your Own Singing Voice
- How to Help Children Find Their Singing Voices
- How to Create a Safe Environment that Encourages Creativity & Improvisation
- Teacher Reflections: what went well, what could have been done better, what to do next
- Approximately 31 minutes
“BROWN BEAR” SEQUENCE INTEGRATING LITERATURE, VOCAL DEVELOPMENT, SINGING, STEADY BEAT, CRITICAL-THINKING, CREATIVITY & IMPROVISATION: INTRODUCTION

Video Overview

Book Choice

Format:
- Group speaking voices to individual speaking voices
- Group singing voices to individual singing voices

21-st Century Skills

Sequence
1. Teacher guides exploration of the story using animal sounds and speaking voices.
2. Students are given the opportunity to share their favorite animals with their speaking voices-first as a group and then as individuals.
3. Students begin to sing their favorite animals and other parts of the book.
4. Students progress toward more solo singing and creative or improvised answers.

Improvisation- “creating and performing your own idea on the spot.”

“BROWN BEAR” INTEGRATION SEQUENCE:
EXPLORING THE STORY USING ANIMAL SOUNDS AND SPEAKING VOICES
CLIP #1-50 SECONDS

The First Class

From Speaking to Singing

Notice the bird and duck sounds made by the children

QUESTIONS?: How did the teacher try to help children explore different types of voices? What questions did she ask?
“Brown Bear” Integration Sequence:
Exploring the Story Using Animal Sounds and Speaking Voices
Clip #1-Answer

- QUESTIONS?: How did the teacher try to help children explore different types of voices? What questions did she ask?
- Answer
- Explore your own voice.
- Chest voice vs. Head voice
- Goal: Teaching Singing through Vocal Exploration

“Brown Bear” Integration Sequence:
Exploring the Story Using Animal Sounds and Speaking Voices
Clip #2-60 Seconds

- Vocal play or exploration leads to development of the singing voice and offers opportunities to explore musical concepts.
- Notice how the teacher attempts to guide the vocal responses of the children through questioning techniques and by identifying their answers. “That’s a high sound.”

- QUESTIONS?
  1. How did the teacher incorporate the wolf idea offered by the children?
  2. Was the teacher successful in getting the children to make a low sound by asking about big dogs?
“Brown Bear” Integration Sequence:
Exploring the Story Using Animal Sounds and Speaking Voices
Clip #2-Answer

- Questions?
  1. How did the teacher incorporate the wolf idea offered by the children?
     ANSWER: The teacher helped the class explore the new animal idea.
  2. Was the teacher successful in getting the children to make a low sound by asking about big dogs?
     ANSWER: The students continued to respond loudly, rather than with their low voices.
     Turn the TV up? OR Make the sound louder?
     In Future Classes-more practice with high/low and loud/quiet

“Brown Bear” Integration Sequence: Critical-thinking & Creativity-Cultivating a Safe Environment Conducive To Idea-sharing and Musical Improvisation
Clip #3-60 Seconds

- What’s your favorite animal?
  - No, Thank-you.
  - There are no “solos.”
  - An Invitation to Participate
  - It might be noisy, but group responses encourage participation.
  - Using the Book
  - Notice that the children have time to explore their ideas with their speaking voices first in a group and later as individuals. The next step in the sequence will be to progress to creative responses using singing voices.
BROWN BEAR INTEGRATION SEQUENCE:
STUDENTS BEGIN TO SING THEIR FAVORITE ANIMALS
CLIP #4-36 SECONDS

- Step #3: Singing our Ideas!
- Musical & Creative Warm-up
- Notice the question/answer structure of “Brown Bear.”
- Notice that the children do not echo the teacher on “I see a Brown Bear.”
- QUESTIONS?
  1. How does the teacher begin to teach the students that they did not echo her, but sang a different pattern?
  2. How does the teacher help the students visually identify the notes?

BROWN BEAR INTEGRATION SEQUENCE:
STUDENTS BEGIN TO SING THEIR FAVORITE ANIMALS
CLIP #4-ANSWER

- Questions and Answers:
  1. How does the teacher begin to teach the students that they did not echo her, but sang a different pattern?
  2. How does the teacher help the students visually identify the notes?

- Note

- Next Clip
"Brown Bear" Integration Sequence: Singing Individually/Created or Improvised Responses: Introduction to Clip #5.

- Review of Sequence Integrating Literature, Critical-Thinking & Creativity/Improvisation, and Singing:
  
  1. Vocal Play & Exploration: Environmental Sounds
  2. Share Ideas Using Speaking Voices
  3. Share Ideas Using Singing Voices: I suggest starting with just 2-3 notes, such as those from "Rain, Rain, go Away."
  4. Increased Participation and More Singing & Creating!

"Brown Bear" Integration Sequence: Singing Individually/Created or Improvised Responses
Clip #5-1 Minute 38 Seconds

- Notice the teacher re-group from a miscalculation.
- A Note About the Posture of the Children
- Notice the responses of the children.
- QUESTION?
- Regarding singing development, I mentioned above that the children used their speaking voices, singing voices, and a combination of both.
- Regarding Critical Thinking-what are they singing? Are they using ideas from the book or making up their own?
“BROWN BEAR” INTEGRATION SEQUENCE: SINGING INDIVIDUALLY/CREATED OR IMPROVED RESPONSES

CLIP #5-ANSWER

- QUESTION? Critical-Thinking and Creativity/Improvisation-WHAT are they singing about?
- ANSWER: The children offered a variety of responses.
- 1. Yellow Duck (story)
- 2. Blue Bird (story has a red bird)
- 3. Blue Monkey (new idea-perhaps piggy-backing off of “blue bird”)
- 4. Brown Monkey (new idea-perhaps piggy-backing off of “blue monkey”)
- 5. I see some glasses looking at me! (New idea-the child sings about me looking at her.)

- Adding Instruments to the Syllables (rhythm) of the Story - Review the last video again.
- 1. Ask students to notice what is different.
- 2. Clap (pat or tap) to the syllables of a short phrase or sentence from the story.
- 3. Ask students to identify the words on which they were clapping. Use echo-technique: I clap, you clap.
- 4. Students say and clap the sentence or words.
- 5. After the students are successful at this, a period of time which will be unique to all groups of students, replace the hand-claps with an instrument.
- 6. It is helpful to use an instrument that is played in close to the same manner as the body movement that was used. For example, clapping regular blocks, sand blocks, or sticks are easy transitions from hand-clapping.

- NEXT-The last clip in this sequence: SINGING & IMPROVISING SNOW ANGELS!!

“BROWN BEAR” INTEGRATION SEQUENCE: SINGING INDIVIDUALLY/CREATED OR IMPROVED RESPONSES

CLIP #6-2 MINUTES 30 SECONDS

- Notice the singing and improvising snow angels!

- QUESTION? How did the teacher (😊) guide the students to use their singing voices?
“BROWN BEAR” INTEGRATION SEQUENCE: SINGING INDIVIDUALLY/CREATED OR IMPROVISED RESPONSES CLIP #6-ANSWER

- QUESTION? How did the teacher guide the students to use their singing voices?
- ANSWER: There’s an unspoken expectation that children will try to sing, yet they also have the choice to say “no, thank-you.”
- Various phrases were used to encourage singing responses:
  1. Excellent speaking voice, can you try your singing voice?
  2. If a child uses their speaking voice, the teacher encourages and sings a model: “Sing, Brown Bear, Brown Bear.”
  3. As Snow Angels. . .
- CELEBRATE! The integration of literature, singing and vocal development, and 21st-century skills-critical-thinking, creativity/improvisation!
- Next Module: Playing Instruments

CONGRATULATIONS!
YOU HAVE COMPLETED THE FIRST (AND LONGEST) OF THE THREE MODULES.

REFERENCES FOR THIS MODULE APPEAR ON THE NEXT PAGE. NOW OPEN THE NEXT VIDEO:
MODULE #2:

Module #2: Playing Instruments
Integrating 21st-century skills with musical development while using instruments to accompany singing and storytelling.
REFERENCES FOR MODULE #1


APPENDIX O: PowerPoint Slides for Training Module #2

These slides were originally in color but have been reformatted to black and white for printing purposes. Information on the slides was amplified and supported by recorded narrations. Video clips from the demonstration class were inserted as indicated.

Online Professional Development in Preschool Settings:
Music Education Training for Early Childhood Generalists

Module #2 of 3:
Playing Instruments

Integrating 21st-century skills with musical development while using instruments to accompany singing and storytelling.
Playing Instruments: Overview

1. Clip #1: The teacher guides the children as they explore steady beat and “not a steady beat.” Segue into...

2. The teacher and children accompany their singing with mini-maracas called chikitas. Children are encouraged to discover their own ideas for playing the instruments while they match the beat of their singing.

3. Clip #2: Teacher and children create their own story and use instruments to represent parts of the story.

Clip #1:

Children use instruments to match the steady beat of their singing.

- Distribution of Instruments
- Period of Exploration: “How can you play them while holding on to them?”
- Recognizing Ideas: “I see...”
- A Rhythm Emerges!
- Rhythm—a pattern that occurs within the steady beat.
- NOTICE: Modeling & Waiting
Clip #2: Using instruments to accompany storytelling

- Telling a Weather Story
- Teacher Modeling
- Body 1st-then instruments
- Distribute/Explore/Recognize
- Next step—guide students to create the story.

Playing Instruments: Summary

- 21st-century skills of critical-thinking and creativity
- Steady Beat Ideas
- Create a story, and play the instruments to represent story elements.
- Explore musical concepts throughout.
CONGRATULATIONS!

You have completed the 2nd module-only one more to go, and it is the shortest! Now open the final video: Module #3, which also contains the link to the post-training survey.

Module #3 of 3-The Final Module: & Post-training Survey Link:

Integrating 21st-century skills and musical development by using gross-motor movements to accompany singing.
APPENDIX P: PowerPoint Slides for Training Module #3

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Online Professional Development in Preschool Settings:
Music Education Training for Early Childhood Generalists

Module #3-The Final Module and Link to the Post-training Survey

Integrating 21st-century skills and musical development by using gross-motor movements to accompany singing.
Integrating Critical-thinking, Creativity/Improvisation, Singing, and Gross-motor Movement

- Why use gross-motor movement to music?

**NOTICE:**

1. Guidelines for participation and teacher modeling
2. Locomotor and non-locomotor movements
3. Song Teaching

**QUESTION:**

1. How many directional concepts are being taught while students move to “The Old Brass Wagon?”

Integrating Critical-thinking, Creativity/Improvisation, Singing, and Gross-motor Movement

**Answering the Question:**

1. How many directional concepts were being taught while students moved to “The Old Brass Wagon?”

- Freedom within Structure/Movement Choices
Training Summary

- Musical Development
- Teacher Singing and Modeling

Practical teaching skills modeling integration of musical development such as: singing, steady beat, listening skills, and the musical concepts of high/low, fast/slow, loud/quiet with...

1. Classroom management, routines, and transitions
2. Literature
3. Storytelling

Going Forward and the Post-training Survey

- You can do it!
- Give yourself permission to be new.
- Thank you!
- Click on the link below to answer the short Post-training Survey so I can determine the effectiveness of this training:
  - The post-training survey link appeared here.
APPENDIX Q: Recruitment Script for Adult Study Participants

**Study Title:** Online Professional Development in Preschool Settings: Music Education Training for Early Childhood Generalists

**Researcher:** Terri Brown Lenzo

**Introduction**

My name is Terri Brown Lenzo, and I am a PhD candidate conducting a research project in music education at Kent State University. This research would involve voluntary, confidential participation of your preschool teachers (serving children ages 3-5 who have not yet entered kindergarten) in the completion of a brief online training program designed to increase teacher confidence for integrating music activities into their curriculum. The training is designed to model developmentally appropriate music practice (Copple & Bredekamp, 2009) and use of the prekindergarten music education standards (MENC, 1994). It is offered free of charge.

I am not comparing teachers or schools, or advocating for a particular type of music education. The focus is on what exists: the attitudes and opinions preschool teachers have toward music education and their confidence level for leading selected musical activities with their students.

This study has received approval from the Institutional Review Board at Kent State University.

**Purpose of the Study**

The study is being conducted in order to answer two major questions: (1) “What beliefs do preschool generalists hold about teaching music to young children?” (2) Will teacher confidence levels for teaching music increase after participation in online training?

**Benefits of the Study**

1. Participation is confidential, voluntary, and free of charge.
2. Teachers who participate in this training may receive additional strategies for integrating music into their curriculum and may increase their confidence level for leading musical activities.
3. By studying the effectiveness of this online training module, it may be possible to develop additional resources or training programs that would be effective, easily accessible, and cost effective for the in-service training of preschool teachers.

**The Online Training Program**

The entire study will take place online using a secure server. It may be reached from any computer with internet access and can be completed in approximately 90 minutes. There are three parts to the study:

1. A short, multiple-choice pre-training questionnaire concerning personal experiences with music and opinions about music education
2. Video excerpts of preschool music classes conducted by the researcher
3. A short, multiple-choice post-training questionnaire

Teachers will have unlimited access to the training from ________ to _________. They may view the videos at their convenience, as many times as desired during the training period.
Procedures

1. In the accompanying e-mail I have provided you with the web link to the study description and consent form, which you will distribute it to your teachers.

2. Teachers will begin by reading a description of the study and a consent form. If they choose to participate, they will be e-mailed a link to the training program.

3. Participation is confidential, voluntary, and free of charge. Teachers may choose to answer all or some of the questions.

4. Teachers will not be asked to provide their name or the name of their institution. Teacher e-mail addresses will be used for the purposes of this study only. All information and responses will remain confidential.

5. If you would like to receive a copy of the study results, I will provide them to you upon completion of the study, which will be some time during the fall of 2013.

Permission to Offer the Training to Your Teachers

I am requesting permission to offer your teachers an opportunity to participate in this training. Again, participation is confidential, voluntary, and free of charge. Due to federal laws governing protection of human research subjects, it is important that teachers are not required to take part, but are given the opportunity to participate voluntarily.
REFERENCES


Golden, K. (1989). *An examination of the uses of music in selected licensed preschools in the state of Ohio.* (Doctoral dissertation). The Ohio State University, Columbus, OH.


