To my Parents, Sungkyu, and Kwangkyu for their unconditional love and support.
ACKNOWLEDGMENTS

I would like to thank all of my committee members for their support, understanding, and advice. I would like to especially thank my chair, Dr. Kristen Kemple, for being a wonderful supporter, mentor, listener and advisor. I would not have completed my doctoral journey without her. I also would like to thank Dr. Elizabeth Bondy who supported me with insightful guide to broaden my perspectives. Sincere thanks go to Dr. Jane Townsend for her commitment, passion and encouragement. I would like to thank Dr. Timothy Brophy for providing me with useful help and guidance in the field of music education.

Special and endless thanks go to my parents who have always trusted, loved, and supported me in every step of my life. I thank my two brothers, Sungkyu and Kwangkyu, for being a source of support, encouragement and good humor. I also thank my friends – Stacy, Caitie, Yiyeon, Sora, Sungok, and Jiyoung. They made the journey enjoyable and meaningful.
TABLE OF CONTENTS

ACKNOWLEDGMENTS .......................................................................................................................... 4
LIST OF TABLES .................................................................................................................................. 8
LIST OF FIGURES ............................................................................................................................ 10
LIST OF TERMS ............................................................................................................................... 11
ABSTRACT .......................................................................................................................................... 12

CHAPTER
1 INTRODUCTION ............................................................................................................................ 14
Statement of the Problem .................................................................................................................. 14
Research Questions ......................................................................................................................... 17
Limitations of the Study .................................................................................................................. 17
Significance of the Study ............................................................................................................... 18

2 REVIEW OF LITERATURE .......................................................................................................... 21
The Importance of Music for Young Children ................................................................................. 21
Developmentally Appropriate Practice (DAP) ................................................................................ 24
Early Childhood Teacher Beliefs ...................................................................................................... 26
Definition of Belief Construct .......................................................................................................... 26
Self Efficacy ...................................................................................................................................... 28
Preservice Teacher Beliefs ............................................................................................................ 30
Subjects of Beliefs: Domain-Specific Beliefs .................................................................................. 32
Beliefs about Music, DAP, and the Relationship between the Two .............................................. 33
Beliefs about Music ....................................................................................................................... 34
Beliefs about DAP ........................................................................................................................ 36
Beliefs about the Relationship between Music and DAP ............................................................... 39
Summary .......................................................................................................................................... 41

3 METHODOLOGY .......................................................................................................................... 44
Data Collection Procedure ............................................................................................................. 44
Participants ....................................................................................................................................... 44
Sampling Procedure ....................................................................................................................... 45
Questionnaires ............................................................................................................................... 45
Follow-up Individual Interviews .................................................................................................... 46
Instrumentation ............................................................................................................................... 47
Teacher Information Questionnaire ............................................................................................ 47
Music Basic Questionnaire .......................................................................................................... 47
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1</td>
<td>Demographic and descriptive data</td>
<td>97</td>
</tr>
<tr>
<td>4-2</td>
<td>Coursework list of the participants</td>
<td>98</td>
</tr>
<tr>
<td>4-3</td>
<td>Mean scores for the benefits of music</td>
<td>99</td>
</tr>
<tr>
<td>4-4</td>
<td>The rank of six subjects</td>
<td>99</td>
</tr>
<tr>
<td>4-5</td>
<td>One-way ANOVA for music beliefs depending on academic status</td>
<td>99</td>
</tr>
<tr>
<td>4-6</td>
<td>Correlations between beliefs about music and field experiences</td>
<td>99</td>
</tr>
<tr>
<td>4-7</td>
<td>Correlations between beliefs about music and teaching experiences</td>
<td>100</td>
</tr>
<tr>
<td>4-8</td>
<td>One-way ANOVA for Music depending on confidence about the ability to implement music activities</td>
<td>100</td>
</tr>
<tr>
<td>4-9</td>
<td>Post-hoc comparison tests for confidence about the ability to implement music activities</td>
<td>100</td>
</tr>
<tr>
<td>4-10</td>
<td>One-way ANOVA for Music depending on confidence about the ability to support music development</td>
<td>101</td>
</tr>
<tr>
<td>4-11</td>
<td>Post-hoc comparison tests for confidence about the ability to support music development</td>
<td>101</td>
</tr>
<tr>
<td>4-12</td>
<td>One-way ANOVA for music depending on ability to read musical notation</td>
<td>101</td>
</tr>
<tr>
<td>4-13</td>
<td>Post-hoc comparison tests for ability to read musical notation in music beliefs</td>
<td>102</td>
</tr>
<tr>
<td>4-14</td>
<td>One-way ANOVA for music depending on confidence about the ability to implement music activities</td>
<td>102</td>
</tr>
<tr>
<td>4-15</td>
<td>Mean scores for DAP and DIP</td>
<td>102</td>
</tr>
<tr>
<td>4-16</td>
<td>One-way ANOVA for DAP and DIP depending on academic status</td>
<td>102</td>
</tr>
<tr>
<td>4-17</td>
<td>Post-hoc comparison tests for academic status in DAP beliefs</td>
<td>103</td>
</tr>
<tr>
<td>4-18</td>
<td>Correlations between beliefs about DAP/DIP and field experiences</td>
<td>103</td>
</tr>
<tr>
<td>4-19</td>
<td>Correlations between beliefs about DAP/DIP and teaching experiences</td>
<td>103</td>
</tr>
<tr>
<td>4-20</td>
<td>Correlations for DAP and music</td>
<td>104</td>
</tr>
</tbody>
</table>
4-21 Frequency of stronger, weaker, and incongruent relationships. ..................................................104
4-22 Basic information of the interview participants. ..........................................................................105
4-23 Coursework of the interview participants. ..................................................................................106
4-24 Comparison of DAP principles. ..................................................................................................106
4-25 Comparison of teachers’ roles in DAP. .......................................................................................106
4-26 Comparison of developmentally appropriate physical environment. ......................................106
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1</td>
<td>Hypothetical framework of present study</td>
<td>20</td>
</tr>
<tr>
<td>4-1</td>
<td>Rank of music</td>
<td>107</td>
</tr>
<tr>
<td>4-2</td>
<td>Confidence about ability to implement music activities and support musical</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>development</td>
<td></td>
</tr>
<tr>
<td>4-3</td>
<td>Comparison of early childhood teachers’ roles and music teachers ‘roles</td>
<td>108</td>
</tr>
<tr>
<td>4-4</td>
<td>In-depth patterns of relationship between music and DAP beliefs</td>
<td>108</td>
</tr>
<tr>
<td>4-5</td>
<td>The representative taxonomy of the early childhood preservice teachers’</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>beliefs about music, DAP and the relationship between music and DAP</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>Jen’s beliefs about the relationship between music and DAP</td>
<td>109</td>
</tr>
<tr>
<td>4-7</td>
<td>Tara and Cindy’s beliefs about the relationship between music and DAP</td>
<td>109</td>
</tr>
<tr>
<td>5-1</td>
<td>The relationship among knowledge, beliefs, confidence, and implementation of</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>music</td>
<td></td>
</tr>
</tbody>
</table>
LIST OF TERMS

Teachers’ Beliefs  Evaluation or values that teachers regard as valid, that influence teachers’ behavior and decisions, and that are formed through teachers’ experiences, training, and educational contexts.

DAP  (Developmentally Appropriate Practice) A wide range of statements outlining inappropriate/appropriate practices for children ages 0-8. DAP includes three dimensions: age appropriateness, individual appropriateness, and cultural appropriateness. It was originally published in 1986, and then revised in 1997, by the National Association for the Education of Young Children (NAEYC).

Self-efficacy  Teachers’ beliefs about their own teaching ability to facilitate students’ engagement and achievement particularly when working with difficult or challenging students who seem uninterested or unmotivated to learn.

Teaching about music  The instruction of musical activities related solely to musical content goals (i.e., teaching a new song, dancing).

Using music  The implementation of music in diverse contexts that are unrelated to musical goals (i.e., singing the alphabet song, playing background music during nap time).
The purpose of the study was to examine early childhood preservice teachers’ beliefs about music, developmentally appropriate practices (DAP) and the relationship between music and DAP. A total of sixty-five early childhood preservice teachers participated in this study. The Music Beliefs Questionnaire, the Teacher Beliefs Scale, the teacher information questionnaire, and the music basic questionnaire were used to measure the teachers’ beliefs about music and DAP. Follow-up interviews were implemented with three participants demonstrating stronger, incongruent, and weaker relationships between music and DAP.

This study found that preservice teachers have relatively strong beliefs about the importance of music, including the aesthetic, quality-of-life, and social-emotional benefits of music. The participants believed literacy is the most important subject in early childhood, while music was ranked fourth in importance. Teachers’ level of confidence in their ability to implement music activities and support musical development varied. Most preservice teachers believed music teachers’ role is more important than early childhood teachers’ in supporting music development. There was a significant difference in music beliefs depending on teachers’ confidence level. Higher levels of confidence indicated stronger beliefs about the importance of music. Depending on teachers’ ability to read music notation, a significant difference was found.
The teachers who were able to slightly read musical notation demonstrated more positive beliefs about the importance of music than the teachers who were not able to read musical notation.

This study suggests that early childhood preservice teachers possess relatively strong beliefs about the importance of using practices that have been identified as developmentally appropriate. This study also found that it is important to avoid those practices that have been identified as developmentally inappropriate for young children. There was a statistically significant difference between DAP and DIP beliefs based upon academic status. Preservice teachers who were further along in the teacher training program demonstrated stronger DAP beliefs and lower DIP beliefs than preservice teachers who had just begun the teacher training program. A statistically significant relationship between DAP and field experiences was identified. Teachers who experienced more field placements reported stronger beliefs about DAP.

Lastly, this study found a relationship between beliefs about music and DAP. This implies that a preservice teacher who possess positive beliefs about the importance of music demonstrates stronger beliefs about the importance of DAP. Three interviewees reporting various levels (e.g., stronger, incongruent, and weaker) of relationship between music and DAP reported different beliefs. Personal background, confidence level, teacher education, and professional experience influenced teachers’ beliefs about music at different levels. The preservice teachers demonstrated diverse features of appropriate practice and inappropriate practice, including definitions, the general principles to implement DAP, and experiences related to DAP. The interview participants generally agreed that music is somewhat related to DAP; however, the teacher who possessed the stronger music beliefs thought that music should be part of DAP. The other teachers reported beliefs that music could be used in limited ways used within DAP.
CHAPTER 1
INTRODUCTION

Statement of the Problem

In early childhood education, music is a primary resource. It is a beneficial and appropriate activity that encourages children’s development across cultures and histories. It is difficult to imagine a young children’s classroom without music. A number of studies report that children innately enjoy music and naturally express their emotions through music (Fox, 2000; Gruhn, 2002; Snyder, 1997). Music also facilitates communication skills, provides opportunities for social interaction, stimulates cognitive development, and provides background for cultural development (Custodero, 2002a, 2002b; Custodero, 2003a; Eisner, 2001; Mueller, 2003). Music is not only an interesting ‘subject’ to which children are naturally drawn, it is also an important ‘tool’ that enhances all areas of child development.

In spite of general agreement regarding the importance of music in early childhood education, music has recently been deemphasized in early childhood education due to the increased emphasis on academic achievement that is influenced by social and political pressures (Hill, 2003; Raver & Zigler, 2004). However, given the variety of important functions that music provides for young children, music should be implemented in early childhood education. In such a challenging educational climate that is influenced by political and social pressures, teachers’ beliefs about music have an even more critical impact on the implementation of music in the classroom because teachers’ beliefs play a primary role in educational practices. Teachers’ beliefs impact their classroom practices because their beliefs are closely related to the decision-making process, teaching implementations, and daily interactions with children (File, 1994; Kowalski, Pretti-Fronczak, & Johnson, 2001; McMullen, 1997; Pajares, 1992; Piotrkowski, Botsko, & Matthews, 2000; Stipek & Byler, 1997; Vartuli, 1999). To illustrate, if teachers hold
positive beliefs about music, those beliefs may influence their decision making, planning, and implementation of music into their curriculum. Therefore, an examination of teachers’ beliefs regarding music is important.

Music functions as a developmental tool, and as such is involved with several areas of child development. Therefore, teachers' beliefs about music should not be separated from their beliefs regarding development as a whole. Developmentally appropriate practice (DAP) is the umbrella concept that includes diverse subject areas and whole child development. Figure 1 explains the hypothetical conceptual framework of how teachers’ beliefs about music and DAP are related, and how the beliefs about music and DAP are connected to implementation of music in the classroom. This study focuses on beliefs about the relationship between music and DAP. The relationship may vary depending on teachers’ beliefs. Some teachers may hold beliefs that music is part of DAP as shown figure 1; others may view music as separate from DAP.

Teachers hold beliefs about diverse domains that range from abstract to specific concepts. In order to understand teachers’ belief system and the relationship among specific domains at a deeper level, research on the relationship between beliefs in multiple domains (i.e., music and DAP) is necessary. Beliefs about DAP may provide details that are pertinent or incompatible to planning and implementing music in the curriculum.

DAP is a key concept in early childhood education and many research investigations on beliefs about DAP and the relationship between DAP beliefs and teaching practices have been carried out. DAP was first published in 1986, and then revised in 1997 by the National Association for the Education of Young Children (NAEYC). The NAEYC influences early childhood educational curricula and practices worldwide (Bredekamp, 1987; Bredekamp & Copple 1997). DAP statements include appropriate practices for children ages 0-8, and provides
examples that emphasize age appropriateness, individual appropriateness, and cultural appropriateness. Early childhood educators hold the DAP guidelines in high regard. However, the belief studies regarding DAP reveal disagreement about what DAP is (Bredekamp, 1997; Bredekamp & Copple, 1997; Smith, 1997; Swadener & Kessler, 1991). This is due, in part, to the fact that DAP is a broad, overarching concept that pertains to diverse developmental areas (Wilcox-Herzog, 2000). Furthermore, DAP may be interpreted in various ways. Therefore, research that examines different beliefs about the definitions of DAP among early childhood educators is required to encourage understanding among educators and researchers.

Among the belief studies that have been conducted, there has been more research on inservice teachers’ beliefs than on preservice teachers’ beliefs. This may be due to the fact that many studies about teachers’ beliefs focus on the relationship between beliefs and teaching practices. The preservice educational stage, however, is a critical period in which new teachers begin to develop and elaborate upon their own beliefs (Tschannen-Moran, Woolfok Hoy, & Hoy, 1998; Weinstein, 1998). Teacher education is one of the most important factors in becoming a professional educator and profoundly influences teachers’ beliefs and teaching practices (Smith, 1997; Tschannen-Moran et al., 1998). Preservice teachers’ beliefs are constructed through teacher education programs and through personal and professional experiences (i.e., practicum, internship). Once beliefs are shaped, it is difficult to change them (Smith, 1997; Tschannen-Moran et al., 1998). Therefore, an examination of preservice teachers’ beliefs throughout a range of professional stages is needed to determine the factors that influence beliefs regarding music and DAP.

The purpose of the study is to examine early childhood preservice teachers’ beliefs regarding the importance of music for young children, to investigate the teachers’ beliefs about
the importance of DAP based on teachers’ own description of what DAP is and what features of
DAP are, and to explore the beliefs about dynamic relationship between music and DAP with
early childhood preservice teachers to include a variety of professional stages. Reflecting upon
the needs discussed, the present study will explore early childhood preservice teachers’ beliefs
about music, early childhood preservice teachers’ beliefs about DAP, and early childhood
preservice teachers’ beliefs about the relationship between music and DAP.

Research Questions

1. What are the beliefs of early childhood preservice teachers about music (the benefits of
music, the importance of music, confidence in their ability to implement music activities and
support music development, and the importance of teachers’ roles regarding music)?

2. What is the relationship between early childhood preservice teachers’ beliefs about music
and teachers’ individual characteristics (academic status, field experiences, teaching
experiences, ability to read musical notation, and music education)?

3. What are the beliefs of early childhood preservice teachers about developmentally
appropriate teaching practice (DAP)? What is the relationship between early childhood
preservice teachers’ beliefs about DAP and their individual characteristics (academic status,
field experiences and teaching experiences)?

4. What are the beliefs of early childhood preservice teachers about the relationship between
music and DAP?

5. What are the beliefs of early childhood preservice teachers who demonstrated various levels
of beliefs (stronger, incongruent, and weaker) about music, DAP, and the relationship
between music and DAP?

Limitations of the Study

Limitations to this study involve the level of teaching experience, sample of participants,
and the researchers’ knowledge of the participants. The study was conducted with preservice
teachers at universities located in the southeastern United States. Most participants are
Caucasian middle class females. Generalization of the results of this study will be limited in
terms of teaching context, race, gender, and socioeconomic status.
The researcher had previous professional experience with two interviewees (i.e., served as their practicum supervisor). The participants’ perceptions of the researcher as a former supervisor may have influenced their interactions with the researcher. This may have limited the participants’ responses during the interview.

The researcher’s personal beliefs and biases cannot be separated from the data. These perspectives include those as a former preschool/kindergarten classroom teacher, former college instructor teaching music in early childhood education, a music enthusiast, a doctoral student, and researcher of early childhood education. Additionally, the researcher’s ethnic and racial identity as an international, Asian, middle-class female may influence the interpretation, description, and analysis of the beliefs and dynamics related to the preservice teachers’ thoughts during the interviews.

**Significance of the Study**

Teacher educators may benefit from this study in designing a music curriculum for early childhood teacher education and integrating music into other courses because this study provides new and useful information on early childhood preservice teachers’ beliefs about music and the components that influence those music beliefs. The current study addresses a description of preservice teachers’ beliefs about music for young children; the various areas of teachers’ beliefs studied are the benefits of music, the importance of music relative to other subjects, the confidence of the participants in implementing music activities and supporting music development, and the roles of early childhood and music teachers. Preservice teachers’ music content knowledge, confidence level, music education, and field/teaching experiences were also taken and compared to teacher beliefs about music. This information may help educators in teacher preparation programs understand what components are missed in music curriculums and
what areas need to be changed to equip early childhood preservice teachers with information about appropriate music content and practical knowledge.

This study also aids in developing appropriate teacher education curriculums and field (practicum/internship) experiences related to DAP for early childhood programs. This study provides information on how preservice teachers understand DAP in relation to influences from teacher education programs and field experiences. This study adds to existing information regarding preservice teachers’ beliefs based on current understandings of DAP. Although DAP is a widely accepted construct, there has been disagreement among educators regarding how DAP should be implemented. This study outlines reports from preservice teachers describing their definitions of DAP, the general principles that early childhood teachers believe in order to implement DAP, the features of both appropriate and inappropriate practices, and reflections on DAP from field or teaching experiences. This information could inform the design and implementation for preservice teaching program curriculums such as balance of pedagogy and content knowledge of DAP. Teacher educators and field supervisors may have a better understanding as a result of this study about what factors and components need to be changed in order to operate effective field experiences in the practica and internships.

This study may influence the design and implementation of teacher education programs with regard to not only music curricula but other subjects as well, because the findings from this study will provide a clearer understanding of the relationship between the beliefs of early childhood preservice teachers about DAP and music. This illuminates an understanding of the relationship among different domains of beliefs. Findings demonstrate how stronger, incompatible, and weaker relationships between beliefs about music and DAP exist amongst preservice teachers. This study provides the manner in which other subjects and music interact in
early childhood education curricula. Also, descriptions from preservice teachers about the relationship between music and DAP beliefs, how these beliefs have developed, and how these beliefs have changed over time will give the field a better understanding of the process of belief development in preservice teachers.

This study provides in-depth information regarding early childhood preservice teachers’ beliefs about music and DAP using multiple methods (i.e., questionnaires, interviews, concept webs). Utilizing a variety of data collection methods can help strengthen the significance of the research. Previous belief studies showed limitations in terms of methods and measurements (Fang, 1996). Quantitative data collection methods involving a large number of participants may explain general beliefs about music and DAP. However, beliefs can be thoroughly investigated using qualitative data from a small number of participants providing a more detailed understanding of the links between teacher beliefs about music and DAP. Consequently, the power of the study is improved by providing quantitative results as well as information from the interviews regarding early childhood preservice teachers’ beliefs about music and DAP.

Figure 1-1. Hypothetical framework of present study.
The purpose of this study is to examine early childhood preservice teachers’ beliefs about music and developmentally appropriate practice (DAP), and the relationship between music and DAP. This chapter presents an overview of relevant research pertaining to teachers’ beliefs about music and DAP. Several topic areas are covered, including: 1) the importance of music for young children, 2) DAP, 3) early childhood teachers’ beliefs toward music and DAP, and 4) the relationship between beliefs about music and DAP.

**The Importance of Music for Young Children**

The importance of music for young children will be presented in this section. A number of studies have found that music plays a critical role in early childhood education. Music has diverse functions and roles for the development of young children. First of all, music is a ‘communicative tool’ for young children. Children express their feelings and thoughts, as well as respond to others, through music. Music is a natural medium to communicate human emotions and thoughts (Andress, 1998; Custodero, 2002b; Levinowitz, 2001). Since young children’s language is not fully developed, music is another language for communication available to children. Music represents a pathway for children to communicate their thoughts and can be compared to school-aged children using verbal and written language to communicate with people in conventional ways. Music can offer an advantage over traditional communication media to express an individual’s thoughts and feelings. This is due to a limitation of traditional language that relies only on linguistic methods during the representation process (Custodero, 2002a; Eisner, 2001).

Music is a social activity. Being engaged in music provides social interaction and sharing meanings in the context. Custodero (2002b) emphasized ‘musical child-in-context’, which
explains children’s interdependent relationships by sharing and understanding meanings through music. Just singing a song with a caregiver includes diverse social aspects. For example, it helps a child feel attachment and connection with significant others. A child also has the opportunity to respond to the melody, create a different pitch, or remember different experiences that the lyrics provoke. That is, children actively interpret and represent the music in their minds. These representations and creations are socially interdependent in a comfortable emotional environment. Therefore, being involved in musical interaction is important for young children.

Music is a cognitive activity for young children. Music stimulates children’s cognition by arousing young children’s perceptions. Children cognitively construct knowledge through music. While music as a communicative tool that reflects an ‘outward aspect’ of music, the cognitive component of music is also related to the ‘inward aspect’ because it occurs in children’s minds (Custodero, 2002b). Musical experiences provide opportunities to explore sounds, rhythmic movements of the body or objects, and playing instruments. Through the exploration and experimentation of sound, children realize how sounds can become music through their knowledge of musical elements, such as melody and rhythm. Specifically sound-making mechanisms and involvement in music making are important to the development of musical ability (Custodero, 2002a; Mueller, 2003).

Music can be a joyful and aesthetic form of play in which young children innately want to be involved. Children love to play with music. It is widely known that children naturally love to sing, move, dance, explore instruments, and invent sounds as play (Mueller, 2003; Tarnowski, 1999; Temmerman, 1998). Music provides a ‘flow’ experience for children, which is defined as “a state of optimal enjoyment defined by the individual’s perception of high skill and high challenge for a given activity” (p. 3, Custodero, 2002a). This implies that musical activities
provide intrinsic motivation for children to become involved in challenges by making them enjoyable.

The evidence that children naturally enjoy music has been supported by research about children’s attitude and preference toward music. Much research suggests that young children respond to any type of music with ‘non-discriminating and receptive’ attitudes, and they showed positive reactions to all types of music that they have had the opportunities to listen and sing to (Sims & Cassidy, 1997). Young children do not demonstrate a particular attitude toward or preference for different types of music characteristics such as style, tempo, familiarity of songs, and songs with or without lyrics. Children over fourth grade demonstrate a strong, specific attitude or preference when selecting music characteristics in style, tempo, medium, and amount of vibrato (Greer, Dorow, & Hanser, 1973; Greer, Dorow, & Randall, 1974; LeBlanc & McCrary, 1983; Schuckert & McDonald, 1968; Sims, 1987; Sims & Cassidy, 1997).

Music is a component of culture for young children. Music reflects social, historical, and local characteristics in the culture. Music has been created in every culture; time and regional factors have influenced music (Eisner, 2001). One can experience a culture by experiencing the culture’s music. Music exists within culture and music has been conveyed and imbedded within cultures (Custodero, 2003a). Group members in a certain culture and the activities that are influenced by the people in that culture strongly affect children’s musical experience and basic attitude toward music. Therefore, music includes a framework that limits the range of the experience through culture (Eisner, 2001). Culture influences the messages in that particular culture’s music, music styles, and genres. Not only is music a part of the culture for young children, but also for older children and adults. However, the degree of influence of culture at a
younger age is stronger than the influence at an older age since young children are more sensitive and flexible than older children.

Given that music has important and diverse roles for young children, music is not only ‘a favored subject’ among children, but also ‘a developmental tool’ that can provide many developmental benefits for young children. Therefore, music should be actively implemented in early childhood classrooms because music can be incorporated into enjoyable activities that provide fun and interests for children as well as opportunities to help children’s development appropriately. This implies that music can be an important medium for developmentally appropriate practice since it positively and actively facilitates children’s development. However, due to increased academic pressure influenced by the No Child Left Behind (NCLB) Act and state wide standardized tests such as the FCAT, music has recently been neglected in early childhood education (Hill, 2003; Raver & Zigler, 2004). In this challenging situation, in order to encourage approaching and using music appropriately in early childhood, the components that affect music implementation need to be investigated so that music can be highlighted in terms of critical roles and functions in early childhood education.

Developmentally Appropriate Practice (DAP)

Developmentally appropriate practice (DAP) is a major topic and umbrella concept in early childhood education. DAP is a known and accepted concept for early childhood educators worldwide, but is subject to multiple approaches, varied perspectives and interpretations. It seems that early childhood educators agree with DAP, but they understand and adapt DAP in their own ways. This section outlines the history of DAP and key concepts about DAP.

DAP was published in 1987 and revised in 1997 by the National Association for the Education of Young Children (NAEYC) (Bredekamp, 1987; Bredekamp & Copple 1997). Since its establishment in 1926, NAEYC as the largest organization involved in early childhood
education has strongly influenced early childhood curricula and practices worldwide working for young children, teachers, and families. The first edition of DAP published in 1987 was presented in response to increased academic pressure in early childhood classrooms. Since NAEYC has worked on accreditation for early childhood institutes, the administrators and educators have needed to clarify DAP in specific accreditation criteria. In the first edition, DAP included a wide range of statements with inappropriate/appropriate practices for children ages birth to eight including two dimensions – age appropriateness and individual appropriateness. Since the first edition of DAP has been published, the statements and guidelines have been considered to represent specific goals to be accomplished for children among early childhood educators (Smith, 1997). However, DAP were interpreted in various ways and there was disagreement about what DAP.

Based on significant debates and a growing need to clarify DAP, a revised version of developmentally appropriate practices was published in 1997. Revised DAP dimensions have been more extended and clarified with examples of appropriate and inappropriate practices than the first edition. It emphasized age appropriateness, individual appropriateness and cultural appropriateness based on children’s development knowledge. Also revised were guidelines including five components of early childhood practice: 1) creating a caring community of learners 2) teaching to enhance children’s learning and development, 3) constructing appropriate curriculum, 4) assessing children’s learning and development and 5) establishing reciprocal relationships with families.

Although the revised version of DAP clarified and provided more specific examples than the first edition, child centered, individual centered and culturally respected teaching practices are still debated and criticized. First of all, there have been different interpretations about DAP.
guidelines on how the guidelines should be adapted and interpreted from abstract statements to concrete practices (Bredekamp & Copple, 1997; Smith, 1997; Swadener & Kessler, 1991). For example, if a teacher were asked what a developmentally appropriate practice should look like, the answers might correspond to different aspects of DAP. Furthermore, limited studies have investigated the impact of DAP (Jones & Gullo, 1999). Research on DAP mostly focused on teachers’ self-reported practices rather than observed practices. This is related to lack of validated measures to assess DAP (Horn & Ramey, 2004). Although there are observational rating tools of DAP, the validity of measurements are still debated whether the measurements reflect appropriately the extent of whole components of DAP.

**Early Childhood Teacher Beliefs**

Beliefs are referred to as “the heart of teaching” (Vartuli, 2005, p.76). Research on teachers’ beliefs is considered critical in teacher education research because teachers’ beliefs are closely related to the process of making decisions and to behavior (Fang, 1996). Investigation on beliefs pose fundamental questions: how teachers make decisions daily in the classrooms, what teachers refer to or rely on when planning, making decisions, or interacting with students, how teachers develop their personal beliefs about a variety of developmental issues with respect to specific areas, and the specific beliefs that operate in specific situations. This chapter will provide an overview of the research related to teacher beliefs including definitions of belief, self-efficacy, preservice teachers’ beliefs, and domain specific beliefs.

**Definition of Belief Construct**

This category of teacher beliefs involves the definition of the construct ‘beliefs’. Researchers have debated the construct of beliefs in order to attain a universal definition of beliefs. However, due to the fact that beliefs are invisible, the construct is difficult to investigate.
Several definitions of ‘beliefs’ have been introduced in research, each with different layers of specificity (Pajares, 1992; K. E. Smith, 1997).

The term ‘teachers’ beliefs’ is related to a variety of concepts, such as self-efficacy, knowledge, attitude about education, epistemological beliefs, motivation, attributions, self-concept, educational beliefs about specific subjects, and thought processes (Cassidy & Lawrence, 2000; Clark & Peterson, 1986; Pajares, 1992; K. E. Smith, 1997; M. L. Smith & Shepard, 1988). Among these concepts, beliefs are most likely to be confused with knowledge (Pajares, 1992). It could be distinguished that a belief is evaluative and judgmental compared to knowledge represents the facts (Pajares, 1992). Teachers have gained knowledge from dominant theories espoused by scholars throughout preservice and in-service education programs. Conversely, beliefs are more likely to be drawn from value-laden thoughts regarding education, child development, teaching, and learning that have been affected by a teacher’s professional and personal experiences.

Beliefs are values that teachers consider to be right and true (Smith & Shepard, 1988). Teachers’ beliefs are closely related to teachers’ thought processes and essential to establishing an emotional attitude (Clark & Peterson, 1986; K. E. Smith, 1997; Smith & Shepard, 1988). Therefore, a belief system is composed of beliefs, attitudes, and values (Pajares, 1992). Similarly, beliefs may be defined in terms of a disposition that an individual possess regarding the truth of a proposition (Smith & Shepard, 1988). At times, beliefs represent a teacher’s disposition toward action (Brown & Cooney, 1982). Related to action, beliefs can be inferred from a teacher’s behavior. Research has demonstrated that teachers’ beliefs and decision-making process are related because daily decisions are based on their beliefs (Piotrkowski et al, 2000). Based on diverse definitions, beliefs have been defined as “values, which house the evaluative,
comparative, and judgmental functions of beliefs and replace predisposition with an imperative to action” (Pajares, 1992, p.314).

Self Efficacy

Teachers’ self-efficacy refers to their beliefs and evaluation of their own abilities. A teacher’s sense of self-efficacy can facilitate their students’ engagement and achievements, particularly when working with difficult or challenging students who appear to be uninterested or unmotivated to learn (Bandura, 1977, 1997; Goddard, Hoy, & Woolfolk Hoy, 2004; Tschannen-Moran & Woolfolk Hoy, 1998, 2001). Teachers’ self-efficacy refers to their beliefs and evaluation of their own abilities. A teacher’s sense of self-efficacy can facilitate students’ engagement and achievement, particularly when working with difficult or challenging students who appear to be uninterested or unmotivated to learn (Bandura, 1977, 1997; Goddard, Hoy, & Woolfolk Hoy, 2004; Tschannen-Moran & Woolfolk Hoy, 1998, 2001). Efficacy beliefs influence the degree of effort, persistence, resilience, and strategies for handling stressful teaching situations with students during specific tasks (Bandura, 1997). A teacher’s sense of self-efficacy is differentiated from other self-terms (i.e., self-concept, self-esteem) because teachers’ self-efficacy is contextual and represents a task-specific concept (Goddard, Hoy, & Woolfolk Hoy, 2000). To illustrate, teachers may perform differently (i.e., better or worse) when teaching certain subjects or in a certain atmosphere. Therefore, teachers’ self-efficacy varies depending on the different subjects they teach and the influence of the teaching environment. Furthermore, self-efficacy reflects a judgment about what teachers believe in terms of the extent to which they are able to perform tasks with a diverse group of children; self-efficacy does not represent what teachers are actually capable of teaching (Gist & Mitchell, 1992; Goddard, Hoy, & Woolfolk Hoy, 2004).
There are four factors that influence teachers' self-efficacy. These factors involve mastery experiences, physiological and emotional arousals, vicarious experiences, and verbal persuasion (Bandura, 1997; Goddard et al., 2000; Tschannen-Moran et al., 1998). Mastery experiences refer to meaningful information that teachers use to guide their expectations for effective future performance. Physiological and emotional cues refer to the physical and emotional reactions that teachers experience while they are teaching and learning. Depending on whether the teachers' reactions during teaching and learning are negative or positive, self-efficacy may be affected. Vicarious experiences are obtained through observing skillful teachers who are respected, credible models of teaching and learning. Verbal persuasion refers to a variety of feedback teachers receive (i.e., coursework, workshops, interaction with co-workers). Teachers do not just accumulate the information; they develop and reconceptualize their self-efficacy through dynamic experiences.

Since Bandura (1977) introduced the concept of ‘self-efficacy’, it has been developed and reconceptualized in various ways. A new perspective has recently emerged from individual teachers’ self-efficacy to a ‘collective efficacy’ by adding the organization attribute (Goddard et al., 2000). Teachers are involved in shared experiences as well as shared beliefs in a school community. The shared beliefs influence teachers’ perceived efficacy since teachers are interwoven in a school system. Thus, collective efficacy refers to the combined perceived ability of all teachers in the school community, not simply the sum of each person’s self-efficacy. (Goddard et al., 2004)

Teacher efficacy research has primarily occurred in liberal arts and elementary/secondary education. Such investigations have demonstrated that teachers’ self-efficacy is closely related to teachers’ performance and students’ outcomes. Teachers’ sense of self-efficacy is significantly
related to teachers’ level of enthusiasm, commitment, and effective teaching behavior. Additionally, teachers who have a higher sense of self-efficacy demonstrate the ability to enhance students’ beliefs about learning, students’ self-esteem, motivation, and family involvement (Anderson, Greene, & Loewen, 1988; Ashton & Webb, 1986; Gibson & Dembo, 1984; Goddard et al., 2004; Hoover-Dempsey, Bassler & Brissie, 1992; Pajares, 1992; Ross, 1992; Tschannen-Moran & Hoy, 2001).

Even though there have been very few studies about teachers’ self-efficacy in early childhood education, teachers’ perceived self-efficacy is important because early childhood is a critical period that may influence children’s self-concept and identity development (Bandura, 1997; Vartuli, 2005). Teachers with higher self-efficacy effectively use individual interactions to meet each child’s needs by constructing a supportive atmosphere; this is considered important in early childhood education (Vartuli, 2005). Early childhood education differs from elementary and secondary education by focusing on a child-centered approach and developmentally appropriate practices; therefore, early childhood teachers’ self-efficacy may be different from that of elementary/secondary teachers’. Thus, it will be necessary to examine early childhood teachers’ self-efficacy by considering the distinct characteristics of children’s development and diverse educational backgrounds.

Preservice Teacher Beliefs

As with research that focuses on early childhood inservice teachers, there has been limited research that centers on preservice teachers. Preservice teachers’ beliefs are important because teachers develop their own perspectives and beliefs early in the preservice teaching stage; once beliefs are developed, it is difficult to change them (Smith, 1997; Tschannen-Moran et al., 1998). Coursework has been demonstrated to affect preservice teachers’ self-efficacy; however, teaching experience (i.e., internship, apprenticeship) has a greater influence on self-efficacy for
elementary preservice teachers (Housego, 1992; Hoy & Woolfolk, 1990; Tschannen-Moran et al., 1998). Specifically, some preservice teachers’ self-efficacy declined with teaching experience due to the fact that teachers encounter the difficulties and challenges of teaching in actual school settings (Tschannen-Moran et al., 1998). Prospective teachers experience the reality of complex, dynamic situations and make multiple decisions as teachers upon entering a student teaching practicum or internship. Therefore, student teachers may negotiate their previous beliefs as they adapt and protect their self-efficacy (Tschannen-Moran et al., 1998; Weinstein, 1998).

There are studies about early childhood education preservice teachers’ beliefs. The difference between elementary and early childhood preservice teachers has been investigated. The research revealed that early childhood preservice teachers possessed more beliefs about DAP than elementary preservice teachers (File & Gullo, 2002; Smith, 1997). In school settings with cooperating teachers, there is no significant evidence of correlations between cooperating teachers’ beliefs and student teachers’ beliefs (Smith, 1997). Likewise, there is no significant change in beliefs about DAP after student teaching experience has occurred (i.e., internship).

Research on beliefs regarding family involvement revealed preservice teachers’ misconceptions and concerns about teacher-family relationships, meeting children’s needs in connection with the needs of the family, and approaching families as a resource (Baum, McMurray-Schwarz, 2004). Additionally, prospective teachers demonstrated insufficient knowledge of and experience with family involvement strategies during teacher education programs. There have not been many studies conducted about preservice teacher beliefs; however, preservice teachers’ beliefs at this initial professional stage may represent a foundation on which professional development begins. Thus, extending the research to include an
examination of preservice teachers’ beliefs may enhance the professional development of prospective teachers and impact teacher preparation programs.

**Subjects of Beliefs: Domain-Specific Beliefs**

Beliefs require subjects to believe in. Teachers hold beliefs about specific domains in education such as math, art, or music. The reason specific domain beliefs are important is because they may enhance teachers’ understanding of how children learn in different domains, how teachers define their roles to improve children’s learning skills, and how to select classroom teaching strategies in the subjects (Schirmer, Casbon, & Twiss, 1997). Teachers’ beliefs about specific domains may reveal important information; this is how teachers understand complexity of children’s learning styles related to the subjects (Pajares, 1992). Beliefs about specific subjects may also affect their decision making process for planning and implementing the curriculum. In spite of the importance of researching specific subject areas, very few studies have been conducted on early childhood education.

First, there have been studies on beliefs about school readiness. School readiness is a controversial topic in early childhood education. This is based, in part, on the fact that education is experiencing challenges due to poverty and failure to establish harmony among the diverse ethnic groups in schools. To promote school readiness for children in poverty, many programs have been implemented. In spite of the emphasis on school readiness, there has not been a universally accepted definition of school readiness construct. Piotrkowski, Botsko, & Matthews (2000) have researched preschool and kindergarten teachers’ and parents’ beliefs about children’s school readiness in culturally diverse, low-income urban schools. This study revealed that there is no difference in general school readiness in terms of health, peer relations, or emotional maturity between the parents and the teachers; however, parents emphasized that
classroom-related readiness, such as communication in English, compliance with teacher authority, or basic knowledge was different among students.

‘Beliefs about family competence’ is another subject in belief studies since the importance of family in education has been emphasized. Active inclusion of the family in diverse areas, such as decision making, the curriculum, and children’s development, represents a critical addition to the educational process. In terms of a traditional family-school partnership, communication generally flows from school-to-home. However, recently communication in family-school partnerships emphasized from ‘home-to-school’ communication (Jones, White, Aeby, & Benson, 1997; Moseman, 2003). Teachers’ beliefs are important in facilitating a home-to-school partnership because teachers play a critical role in contacting families and gain valuable information from families about their children. It was reported that many primary school teachers believed that families could provide information but do not have capability in decision-making (Moseman, 2003). As discussed, there are few studies related to subject-specific beliefs of early childhood educators, since many belief studies on early childhood education have focused on developmentally appropriate practices. Therefore, there is a growing need to research beliefs about specific domains.

Beliefs about Music, DAP, and the Relationship between the Two

Throughout this review of the research, the importance of music, information of DAP, the meanings and roles of teacher beliefs and relevant beliefs research was discussed. First, this section outlines research on the beliefs of teachers about music education, including the importance of teacher beliefs in implementing music. Then the section discusses beliefs about DAP and the relationship between teacher beliefs about DAP and actual teaching practices. Finally, beliefs about the relationship between music and DAP will be discussed.
Beliefs about Music

Relevant research on music for young children demonstrated the important roles and functions of music as an active agent to facilitate children’s development. Teachers’ beliefs about the implementation of musical education in the classroom may have an influence on teachers’ music practice and children’s perceptions of music.

There is evidence that teachers’ beliefs affect teaching practices and interactions with students (File, 1994; Kowalski et al, 2001; McMullen, 1997; Pajares, 1992; Piotrkowski et al, 2000; Pretti-Frontczak, & Johnson, 2001; Stipek & Byler, 1997; Vartuli, 1999). Therefore, if teachers hold positive beliefs about music, it may influence their decision making and planning of the curriculum to include a variety of musical activities. Most of the research on teacher beliefs about music was conducted through music education disciplines. However, outcomes from music education research imply noteworthy findings that are related to early childhood education.

First of all, a teacher’s beliefs about music affect the decision on the amount of exposure to music that is related to children’s musical perceptions. Teachers provide opportunities for children to enjoy and experience music. Children who have more opportunities to experience music at an earlier stage of life demonstrate greater potential to develop musically (Gordon, 1999). This is similar to language development in that language cannot be developed solely by intentional teaching (e.g., direct instruction), but must also include the experience of social context through interaction with significant adults (Lindfors, 1991). Likewise, children’s musical ability cannot be developed simply by having opportunities to be surrounded by music in various environments. Thus, teachers with strong beliefs about the importance of music may provide increased exposure to music and interact with children using music since teachers plan and create
the classroom environment and curriculum that children experience. Also, teachers’ beliefs about implementing music in the classroom may significantly influence children’s perceptions of music.

Teacher beliefs influence the incorporation of physical activity within the music environment. Active physical involvement represents a method of enhancing children’s experience with music (Mueller, 2003). Providing musical centers is one way to implement music in the classroom because children have the freedom to explore sounds and have opportunities to make sounds by themselves in these centers (Kemple, Batey, & Hartle, 2004; Turner, 1999). Engaging in music center activities allows children to create music even if they are exposed to outside noises during their experience (Turner, 1999). Music centers may support children’s self-initiated music play in small groups or individually, and teachers serve as observer, supporter, guide, conversationalist, cooperator, and facilitator for activities that children direct (Kemple et al., 2004; Tarnowski, 1999; Turner, 1999).

Even though teachers may believe that music is important, there are obstacles to implementing music in the classroom. For example, teachers may hesitate to actively implement music based on a lack of confidence in their own musical knowledge, insufficient resources, or inadequate support (Gharavi, 1993; Hildebrandt, 1998; l’Etoile, 2001; Isenberg & Jalongo, 1993; McDonald, 1993). Teachers who had access to inservice music education however, were able to implement a variety of music activities and facilitate children’s development of musical abilities (l’Etoile, 2001).

There is research on music preservice teachers’ beliefs about music. Preservice teachers’ beliefs relating to success and failure in teaching music was investigated (Legette, 2002). The preservice teachers reported which factor - ability, effort, task difficulty, and luck –influenced their beliefs about the cause of success and/or failure in teaching music. The results showed that
the music preservice teachers believe their ability and effort are major factors of their successes and failures in teaching music. This implies that teachers perceive that the cause of success and/or failure might be linked to their inward aspect (ability and effort) rather than outward attributors (task difficulty and luck).

Another study of preservice music teachers’ beliefs about music revealed that student teachers believe philosophical statements regarding the importance of music education including aesthetic, social-emotional, and quality-of-life benefits of music are most likely true rather than false (Austin & Reinhardt, 1999). Beliefs about the validity of music education are highly correlated with the advocacy of music education among prospective music teachers; the more preservice teachers believe in the validity of music education, the more they act as advocates for music education. Despite the importance of teachers’ beliefs about music, there has been very little research on early childhood teachers’ beliefs related to music. To gain a better understanding of the effect of teachers’ beliefs toward music, this area needs to be investigated further.

Beliefs about DAP

Although a great deal of research has been done on DAP, teachers continue to have different understandings of how to implement DAP. One reason for this could be different forms of adaptation to DAP implementations and the variety of ways in which DAP can be interpreted. Therefore, how teachers think and what they believe about DAP has become an important research topic. Research on beliefs about DAP has focused on (1) the differences among teachers in how they consider the significance of DAP and (2) the practice of how teachers implement the DAP curriculum compared to their own self-reported beliefs.

Depending on the grade level, beliefs and teaching practices are different (Stipek & Byler, 1997; Vartuli, 1999). For example, in a recent study kindergarten and Head Start teachers were
found to consider DAP more important than first and second grade teachers. Kindergarten and Head Start teachers also demonstrated developmentally appropriate practices during the observed practices than did the higher grade classrooms (Vartuli, 1999). It has been reported that preschool, kindergarten, and primary teachers who possessed child-centered beliefs demonstrated a positive social environment (Stipek & Byler, 1997). Additionally, the teachers who believed DAP was important followed specific guidelines about appropriate/ inappropriate practices.

There are differences in the relationship between beliefs and practice depending on teachers’ levels of education. Many teachers who majored in early childhood education and had higher degrees scored higher in terms of possessing developmentally appropriate beliefs and implementing such practices (McMullen, 1999; Snider & Fu, 1990). Teachers’ educational levels are negatively correlated with inappropriate beliefs related to classroom quality. This may explain why teachers with lower educational levels reported more inappropriate beliefs regarding child development (Abbott-Shim, Lambert, & McCarty, 2000).

In a comparison studies on beliefs about DAP in general, and special early childhood educators, agreement was demonstrated regarding DAP among both general and special educators. However, there was a difference in behavioral teaching and classroom management strategies among general and special educators (Sexton, Snyder, Lobman, & Daly, 2002). In a study of teachers’ beliefs about specific areas of developmental skills and abilities, the majority of the teachers believed that the social-emotional items were more important than language, literacy, and early math items (Kowalski et al., 2001). Also, this research demonstrated different beliefs between Head Start teachers, preschool teachers and preschool special educators.
Preschool special education teachers emphasized the importance of social-emotional competence among developmental skills more so than did Head Start teachers.

One of issues associated with researching teachers’ beliefs revolves around the investigation of the relationship between beliefs and practice. The emphasis on teachers’ beliefs is based on the fact that beliefs are related to and affect teaching practices and interactions with children (File, 1994; McMullen, 1997; Kowalski et al, 2001; Pajares, 1992; Piotrkowski et al., 2000; Stipek & Byler, 1997; Vartuli, 1999). The research involving the relationship between beliefs and practices can be categorized in two ways. First, the relationship that exists between teachers’ stated beliefs and observed practice. Second, the relationship between teachers’ stated beliefs and self-reported practice.

Research demonstrates a positive relationship between teachers’ beliefs and observed practices (Clark & Peterson, 1986; Dunn & Kontos, 1997; Pajares, 1992; Stipek & Byler, 1997; Vartuli, 1999). However, congruence does not always exist between teachers’ beliefs and their teaching practices. A few studies have demonstrated a weak relationship between teachers’ beliefs and observed classroom practice (Bryant, Clifford, & Piesner, 1991; Munby, 1982; Wilcox-Herzog, 2000). There are reasons explaining the incongruence in the literature. This discrepancy may reflect the reality of classrooms. It could also be related to teachers’ pressure from different expectations among parents, administrators, and the government policy like NCLB or state-wide tests (Hitz & Wright, 1988; Kowalski et al., 2001; Wilcox-Herzog, 2000). Furthermore, confusion regarding definitions of DAP may affect participants’ responses. This is related to the poor and unspecific measurements of DAP beliefs (Wilcox-Herzog, 2002; Vartuli, 2005).
Studies show that teachers’ stated beliefs and self-reported teaching practices are positively related. For example, teachers who possessed inappropriate beliefs reported low classroom quality. Teachers who portrayed themselves as possessing appropriate beliefs evaluated their teaching practices to be of a higher quality (McCarty, Abbott-Shim, & Lambert, 2001). This may imply that teachers with low self-reported classroom quality may have a tendency toward inappropriate beliefs and implement inappropriate teaching practices. Cassidy & Lawrence (2000) investigated teachers’ beliefs and self-stated rationales for their behavior during classroom interactions. The rationales for teachers’ interactions are based upon teachers’ personal beliefs and professional experiences, not theories or philosophies learned in formal teacher education programs (Cassidy & Lawrence, 2000). This supports the perspective that teachers’ beliefs do not mimic espoused theories, but tend to come from their own personal and professional experience (Cassidy & Lawrence, 2000, Schoonmaker & Ryan, 1996; Williams, 1996). Teachers do not merely incorporate a formal theory or philosophy because prominent scholars propose them; rather, they have developed their own beliefs about education and development that reflects their experiences.

Beliefs about the Relationship between Music and DAP

Research has demonstrated that music is not only a preferred activity for children, but can also act as a developmental tool, and that ways in which music is approached can be easily tailored to meet the needs of children in a variety of developmental areas. DAP is considered to be the foundation and overarching term for early childhood educators. DAP includes all developmental domains, stages, and practices. As an active agent of implementing DAP, teachers’ beliefs about DAP have been researched a great deal. However, in terms of specific domains related to DAP, there is little research on teachers’ beliefs about the relationship among such constructs (i.e., ‘Do teachers who support DAP as a recommended guideline for young
children also support specific domains such as music, math, science, or art?’, ‘How does DAP affect the implementation of curriculum planning and making decisions about teaching music?’, ‘Among teachers who strongly support DAP, do they possess the ability to teach and approach music appropriately?’).

In terms of implementing developmentally appropriate musical activities, it is important to provide child-initiated and child-centered interaction that is supported by peers and teachers during musical experiences (Turner, 1999). This requires not only knowledge about music, but also an understanding of children’s developmental level, since developmental stages are closely related and are not separate (Scott, 2004). Therefore, it is crucial for teachers to possess a holistic perspective of development. A study of developmentally appropriate practices in kindergarten music classrooms revealed that a better understanding of and positive music teachers’ beliefs toward DAP are congruent with more interactions, activities, and instruction in music (Miranda, 2004). A child-centered curriculum, combined with appropriate and diverse grouping of students, has been suggested to promote musical learning as well as balanced development for children by providing children with options. Teaching beliefs may also affect specific teaching strategies. For example, a comparison study on song teaching strategies that used both a rote approach (e.g., phrase by phrase teaching) and an immersion approach (e.g., teaching the whole song) demonstrated that teaching the whole song is effective when implemented during children’s singing time because this is developmentally appropriate for young children (Klinger, Campbell, & Goolsby, 1998). Teaching strategies may reflect teachers’ attitudes and beliefs toward children’s acquisition of the subject matter.

A study of musical development and DAP investigated developmentally appropriate practices for teaching children to sing, including pitch matching and vocal range, using an early
Musical development may represent developmental milestones that encourage children’s overall development, as well as illuminate obstacles that limit teachers’ perceptions (i.e., children may be able to sing at a higher pitch than their developmental stage indicates, but teachers might not notice this enhanced ability due to the developmental information teachers acquired in their professional preparation programs). This reveals a necessary emphasis on teachers’ flexibility and adaptability in understanding the dynamics of musical development in the context of DAP (Kim, 2000). Teachers’ beliefs concerning the relationship between DAP and music may vary. Some teachers may understand that DAP is an umbrella term and that music is a subcategory of DAP. Other teachers may believe that DAP and music represent separate concepts. To illustrate, certain teachers may believe that music is not an area that they need to teach because there are teachers who specialize in music. Moreover, incompatible beliefs related to different subjects may exist within a teacher’s belief system. This topic is important because understanding teachers’ beliefs may enhance the profession’s understanding of teachers’ behavior.

Summary

Music as a meaningful tool and mode of fun play for young children, important specific domain beliefs, the meaning of music for young children, and belief studies about music have been presented. Research on DAP and early childhood teachers’ beliefs followed. This included background information as well as the definition of teachers’ beliefs, teachers’ beliefs related to their self-efficacy, preservice teacher beliefs, and domain specific beliefs. Finally, beliefs about music, beliefs about DAP, and beliefs about the relationship between music and DAP were presented.

Despite the importance of music as play and as an important medium for development, implementation of music has been deemphasized and limited in terms of the range of methods to
approach music, and the frequency with which music is used and taught. There has been no research investigating the beliefs of early childhood teachers toward music. Teachers may have various beliefs on the importance of music, how they perceive their own ability to teach and implement music, and their perceptions of the relationship between music and other subjects. An examination of teacher beliefs about music may provide information that could be helpful in the planning and implementation of music curriculum. Teacher beliefs toward music may vary based on subject knowledge, background, teaching experience, and teaching context. Teachers’ beliefs about music may influence their attitude toward music, teaching practices, and the decision making process in planning and evaluating music.

DAP is considered to be one of the critical issues in early childhood education, and a great deal of research regarding teacher beliefs has focused on beliefs about DAP. However, studies related to DAP have revealed disagreement about the definition of DAP and the best way to implement DAP in the classroom. This is due, in part, to the fact that DAP is a broad, overarching concept that pertains to diverse developmental areas (Wilcox-Herzog, 2000). Research is needed to examine early childhood teachers’ personal interpretations of the definitions of DAP to encourage agreement among educators and researchers.

Thus, it is important to understand not only beliefs about music, but also music in a larger context, not separate from other developmental areas. Teacher beliefs about the importance of music and how to approach music may be closely related to DAP. A better understanding of music within DAP can help teachers implement music in developmentally appropriate ways. This knowledge can also help teachers discover ways to implement DAP in other subject areas. Specific relationships among beliefs that may be helpful to identify are: the relationship between music and DAP, the factors that affect teacher beliefs about the relationship between music and
DAP, how music can be integrated into DAP, and whether teachers who demonstrate strong or weak beliefs about music also possess strong or weak beliefs about DAP.

The preservice stage of a teacher’s professional development is a critical period that shapes teachers’ beliefs (Smith, 1997). Preservice teachers begin to establish firm beliefs based on teacher education curriculum and their own experiences during their practicum and internship placements. Their beliefs can also be affected through exposure to model teachers. Therefore, it is valuable to study how preservice teachers’ beliefs about music and DAP develop, what factors influence the construction of beliefs about music and DAP, what background and experience effect preservice teachers’ beliefs, and what the process may be.

Reflecting upon the main findings of research on teachers’ beliefs in early childhood education, several questions will be answered with this study. First, this study will look at early childhood preservice teachers’ beliefs about music and importance of music, confidence in teaching music, content knowledge of music, and the teachers’ perceived role in music. Secondly, early childhood preservice teacher beliefs about DAP will be examined. Finally, the relationship between music and DAP will be investigated along with teacher beliefs about ways in which music and DAP can be combined in early childhood curriculum.
CHAPTER 3
METHODOLOGY

The purpose of this study is to examine early childhood preservice teachers’ beliefs’ about music, developmentally appropriate practice (DAP), and the relationship between music and DAP. Early childhood preservice teachers’ beliefs about music will be examined because music is a subject that young children are innately interested in and engaging in musical activities may enhance their development. Beliefs concerning DAP as an umbrella concept in early childhood education will be investigated. Then, beliefs of early childhood preservice teachers regarding the relationship between DAP and music will be explained.

Data Collection Procedure

Participants

The participants in the study were sixty five preservice teachers who enrolled in early childhood education program (ECE) in a university located in North Florida. The teacher education program that the participants attended was intended for early childhood preservice teachers in order to equip them with the ability to teach a diverse population of children from birth through age eight by pursuing developmentally and individually appropriate practices. The program also emphasized culturally sensitivity, inclusion, and the importance of family (Correa, Rapport, Hartle, Jones, Kemple, & Simth-Bonahue, 1997).

The participants were in their junior, senior, and graduate years of study. 38.5% of the participants were juniors and 36.9% were seniors. Participants ranged in age from nineteen to thirty two (M=21.86) years, and all were female. The majority of the participants were Caucasians (74%). Graduate students in the study had also completed a full-time internship for twelve weeks, and all participants have been involved in practicum experiences. Junior students in this study were completing the second practicum placement, and forty students (61.5%) had
completed more than four practicum placements. The average number of field placements for the participants was approximately four placements. Average time spent in field placements was about twenty weeks. Thirty-one participants (48.5%) had prior teaching experience, and 64.5% of the participants had part-time teaching positions. Three students were selected for qualitative interviews. The three teachers were twenty-one years old and all were females. Two interviewees categorized their race as Caucasian and one categorized her race as Hispanic. Two of the interviewees were in their senior year and one was in her junior year.

**Sampling Procedure**

The research was approved by the Institutional Review Board (IRB) of the participants’ university. Upon IRB approval, faculty members at ECE were contacted and asked for their permission to conduct the study. After receiving permission from faculty members in the ECE program, participants agreed to engage in the study. Then, teacher information questionnaire, the Teacher Beliefs Scale (TBS) and the Music Beliefs Questionnaires were administered by the researcher in person. Each survey packet was given a number, and these numbers were used instead of names to identify each participant and to maintain confidentiality of participants.

**Questionnaires**

The teacher information questionnaire, music basic questionnaire, the Music Beliefs Questionnaire and the Teacher Belief Scale (TBS) were administered by the researcher during the participants’ classes in early spring 2007. Participants were informed that the researcher is interested in early childhood preservice teachers’ beliefs about music and DAP. Before administering the questionnaires, the researcher explained to participants that the situations referred to in the questionnaires were focused on preschool and kindergarten classrooms and target children in that age range. Questionnaire instructions were written on the surveys and orally presented to participants by the researcher. Approximately forty minutes were required to
complete all scales. Questionnaires were administered individually at a later date for students who were absent. All sixty-three questionnaires were administered in classes, and two were returned to the researcher at a later date.

Follow-up Individual Interviews

Three of the participants from the larger questionnaire study were contacted to participate in follow-up interviews. These participants were specifically selected because they showed stronger, incongruent, or weaker beliefs about the relationship between music and DAP: One of the interviewees showed a strong relationship between her beliefs about music and DAP, the second participant showed an incongruent relationship in her beliefs between music and DAP, and the third interview participant showed a weaker relationship between her beliefs about music and DAP. A strong relationship was identified as having both music belief scores and DAP belief scores that ranged higher than 75% in both scores. An incongruent relationship was identified as having a music score ranging under 25% of all scores with a DAP scores ranging above 75% of all scores. A weaker relationship was identified if both music and DAP belief scores ranged in the bottom 25% of all scores.

One formal interview was administered with each participant. Each interview required approximately one to one and a half hours in late February and middle March of 2007. The interviews were arranged in advance and were conducted at the university at a time chosen by the preservice teachers. Upon the permission of participants, each interview was audio-taped. Before the interview, interviewees were asked to complete the informed consent form (Appendix A). The researcher took notes describing the interviewees’ gestures, facial expressions, and body language. Each interview lasted one to one and a half hours. All interviews were transcribed by the researcher that conducted the interview. All interviewees were compensated.
Instrumentation

Multiple methods including questionnaires, follow-up interviews and concept web analyses have been used in this study. Quantitative methods of data collection using the questionnaires provided belief scores and quantify the relationship between demographic factors and teachers’ beliefs about music and DAP. The measurements were from a teacher information questionnaire, a music basic questionnaire, the TBS, and the Music Beliefs Questionnaire. In order to obtain understanding of the diverse levels of teachers’ beliefs (stronger, weaker, and incongruent beliefs about the relationship between music and DAP), qualitative methods were also utilized. Qualitative data were gathered and interpreted using follow-up interviews and concept web analysis to address stronger, incongruent, and weaker beliefs of preservice teachers regarding music, DAP, and the relationship between music and DAP. These data address the importance and role of music, the confidence in implementing music in the early childhood classroom, the definition of DAP, experiences with DAP and DIP, and the relationship between music and DAP in early childhood curriculum.

Teacher Information Questionnaire

This questionnaire was created by the researcher to ask a teacher for background information (Appendix B). This questionnaire includes items related to gender, age, ethnicity, academic status, field experiences (i.e. numbers of placements, length of experiences), and teaching experiences (i.e., types of teaching experiences, length of teaching experiences). Frequency of each question was computed and used as an independent variable to analyze the teachers’ beliefs about music and DAP.

Music Basic Questionnaire

The music basic questionnaire was created by the researcher to examine music background and basic music knowledge of early childhood preservice teachers (Appendix C). This
questionnaire asks the participants to indicate their background with regard to formal and informal music education, and confidence level in implementing music activities and supporting music development. The questionnaire includes items related to the importance of the roles of early childhood teachers and music teachers. In terms of basic knowledge of music, participants answered items inquiring as to their ability to read musical notation, the meaning of using music and teaching music, and definitions of musical terms (i.e., tempo, beat, melody, rhythm, and articulation). Finally, regarding the importance of music related to other subjects, participants were asked to rank six subjects (music, art, literacy, physical education, math, and science) from most important to least important.

**Music Belief Questionnaire**

The Music Beliefs Questionnaire was originally developed as a Q-sort designed by Payne (1990), and adapted by Austin and Reinhardt (1994) for rating scales. The Music Belief questionnaire (Austin & Reinhardt, 1999) has been modified to clarify a few items and to eliminate duplicate/unclear items (Appendix D). The Music Belief questionnaire consists of two sections, although only the first section was used for this study. Section one of the Music Belief questionnaire includes items related to the validity of beliefs about music, and section two contains items pertaining to the advocacy of these beliefs. Because the primary purpose of this study was to examine beliefs about music, section one was the most appropriate section for this study. This questionnaire includes thirty-six items and allows for participants to rate their beliefs about music using a Likert-type scale (e.g., ranging from one for definitely false to six for definitely true). Participants were asked to indicate the extent to which they believe the statements are true. To score the music belief questionnaire, all items are added for a single total score. The possible range of scores for the music belief questionnaire is 36 to 216. Higher scores indicate strong beliefs about the benefits and importance of music.
Factor analysis was calculated for one hundred thirty-seven preservice music education teachers. Three factors were produced and accounted for forty percent of the total variance. The three factors included an aesthetic benefits, quality-of-life benefits, and social-emotional benefits. The aesthetic benefit factor is related to children’s direct benefit from musical experiences, and it includes ten items. The quality-of-life factor contains nine items that measure the productive benefits of experiencing music in promoting the quality of life. The social-emotional factor is composed of nine items, and it represents children’s social and emotional benefits that are gained from musical experiences. Factor loadings were greater than or equal to .35. Eigenvalues were 10.22 (aesthetic), 2.25 (quality-of-life), and 1.92 (social-emotional). The percentage of variance for each factor was 28.5% for Aesthetic factor, 6.2% for Quality-of-Life factor, and 5.3% for Social-Emotional Factor (Austin & Reinhardt, 1999). Adequate reliability coefficients were presented for Aesthetic benefit ($r = .86$), Quality-of-life benefit ($r = .72$), and Social-Emotional ($r = .76$) (Austin & Reinhardt, 1999). Internal consistency of the music beliefs scale was computed using Cronbach’s coefficient alpha. Reliability levels of .70 or higher are generally accepted as representing high reliability (Litwin, 1995). The Cronbach’s alpha based on the 36 items in the music beliefs scale was .93 for this study. This indicates a high level of reliability.

**Teacher Beliefs Scale (TBS)**

The Teacher Beliefs Scale (TBS) was developed to assess the early childhood teachers’ beliefs and practices about DAP (Appendix D). TBS was originally developed by Charlesworth, Hart, Burts, & Hernandez (1991) based on NAEYC DAP guidelines published in 1986. Then, TBS has been revised based on revised NAEYC guidelines (Bredekamp, 1987) by eliminating and changing a few items of initial TBS (Charlesworth, Hart, Burts, Thomasson, Mosley, & Fleege, 1993). TBS statements include six components that reflect NAEYC DAP guidelines: curriculum goals, teaching strategies, guidance of socio-emotional development, language and
literacy development, cognitive development, physical development, aesthetic development, motivation and assessment.

TBS consists of thirty-seven items including one item that asks the amount of influence in planning and implementing instruction and thirty-six items related to twenty-two developmentally appropriate and fourteen inappropriate beliefs questions. It is measured on a Likert 5-point scale (1=not important at all; 5 = extremely important). TBS calculates both DAP (developmentally appropriate practice) scores and DIP (developmentally inappropriate practice) scores. DAP consisted of appropriate social, appropriate individualization, appropriate literacy activities, and appropriate integrated curriculum beliefs. DIP consisted of inappropriate activities and materials and inappropriate structure. For the purposes of scoring the TBS, scale points from both DAP and DIP items are added to make total DAP and DIP scores respectively. DAP scores can range from 22 to 60, and DIP scores can range from 14 to 56. High scores on the DAP portion of the TBS represent strong beliefs about teaching practices that are aligned with DAP. High scores on the DIP portion of the TBS represent strong beliefs about developmentally inappropriate practice.

Factor analysis has been conducted with 204 early childhood teachers, and six factors were produced: inappropriate activities and materials, appropriate social, appropriate individualization, appropriate literacy activities, appropriate integrated curriculum beliefs, and inappropriate structure. The six components accounted for 52.3% of the item variance with eighenvalues greater than 1. Internal consistency was conducted using Cronbach’s alpha: developmentally inappropriate activities and materials ($r = .84$), appropriate social item ($r = .77$), appropriate individualization ($r = .70$), appropriate literacy activities ($r = .60$), appropriate integrated curriculum beliefs ($r = .66$), and inappropriate structure ($r = .58$) (Charlesworth, Hart,
Internal consistency of the TBS in this study was computed using Cronbach’s coefficient alpha. Reliability levels of .70 or higher are generally accepted as representing high reliability (Litwin, 1995). The Cronbach’s alpha based on the 36 items in the TBS was .82 for this study. This indicates a high level of reliability.

**Follow-up Individual Interviews**

To examine preservice teachers’ beliefs about music, DAP, and the relationship between music and DAP, individual follow-up interviews with open-ended questions per each participant were conducted with three preservice teachers. Interviews may provide a deep understanding of participants and their experience due to the detailed descriptions interviewees provide (Glesne, 1999). Using descriptive analysis to understand the relationship between DAP and music is effective because people have their own relevance structure, and teachers have their own definitions and beliefs with respect to music and DAP. Therefore, in order to discover the full complexity of participants’ beliefs within their diverse cultural contexts, interviews were an effective tool.

The interviewees described their beliefs about music, DAP, and the relationship through the interviews based on their personal background, content knowledge from coursework, and field/teaching experiences. Interview questions include three categories: 1) beliefs about music 2) definition and experiences of DAP 3) relationship between music and DAP. The music interview questions were developed and placed into five categories: 1) roles of music, 2) importance of music relative to the importance of other subjects, 3) personal background with music, 4) confidence in music, and 5) future implementation of music (Appendix E). The questions were derived from various resources (e.g., information from the music belief questionnaire, NAEYC DAP guidelines, Florida state standards, music association standards, and research on music education and music in early childhood education). Interview questions
related to DAP included the definition of DAP, features of DAP and DIP, the general principles of DAP, and experiences with implementing DAP in their field and/or teaching experiences. Finally, the interviews contained questions about relationships between music and DAP. Questions inquired about the beliefs about the relationship between music and DAP, and interviewees were asked to give a description of this relationship. Questions were also asked about the different ways music could be incorporated into DAP, and the relationship between music and developmental areas.

The researcher conducted all three interviews at a building in the university that the participants attended. Interview questions were prepared prior to the interviews, yet the direction of the interviews was flexible depending on the preservice teachers’ responses. Due to this flexibility in the interviews, there were variations in content between each interview. Interview times for the participants lasted between fifty minutes and one hour and twenty minutes.

All interviews were audio-taped and transcribed by the researcher that conducted the interview. Three interview transcripts were coded from the interviews based on open coding system (Strauss & Corbin, 1998). All protocols included basic information about interviewees (i.e., age, length of experiences). Based on participants’ responses to the questions, their interview content was transcribed using numbered sheets. Domain analysis was used to code protocols (Spradley, 1979). Domains represent semantic relationship, for example, ‘X is a role of music’. The domain analysis worksheets include the location and definitions of terms used in the protocols.

Based on all of the domain analyses, a taxonomy and cultural psychological theme were drawn. Taxonomy is a way to display findings, and it helps outline participants’ perceptions and beliefs (Glesne, 1999). Taxonomy consists of classification schemes and domains, and it
demonstrates the relationship between subcategories. Building taxonomy helps the researcher visually understand the relationships and components of the findings. After a thorough analysis of the data, taxonomy is built to appropriately fit the data (Glesne, 1999; Spradley, 1979). Based on all of the protocols, domains, and the taxonomy, the cultural psychological theme for each participant was drawn. The cultural psychological theme represents a common and essential dilemma that the participants have to solve (Spradley, 1979). This is a central cultural psychological problem that every early childhood preservice teacher faces and has to solve related to beliefs about music, DAP and the relationship between the two.

To reduce researcher bias and to support trustworthiness of the study, two techniques were employed. These techniques were member checking and peer review (Creswell, 1998). First, all protocols, domains, and results were reviewed by one of the interviewees. The researcher contacted all three interviewees, but only one of the interviewees was available to review the data and results. The interviewee provided feedback in written form confirming that the analysis appropriately conveyed her beliefs and ideas. Second, a peer review was conducted to enhance trustworthiness because peer review provides external reflection (Creswell, 1998). An outside reviewer with experience in qualitative methodology reviewed the protocols, domains, and results. After reviewing the data, the reviewer provided feedback on interpretations. Confidentiality of the participants was protected.

**Concept Web**

As part of the interview on the relationship between DAP and music, the participants were asked to draw a concept web. Concept web is a drawing an individual creates that represents their perspective on specific subjects. In this study, the concept webs were used to demonstrate visualized representation about the relationship between music and DAP, which shows how preservice teachers conceive and understand music and DAP. During the interviews, the
interviewees were asked to brainstorm about music and DAP. Then, the participants were asked to draw both music and DAP as a circles and to create a concept web to visually show their views on the relationship between music and DAP. After drawing the concept web, the interviewees were asked to explain their concept web and the relationship between music and DAP.

**Data Analysis**

The purpose of this study was to examine early childhood preservice teachers’ beliefs about music, DAP, and the relationship between music and DAP.

Q1. What are the beliefs of early childhood preservice teachers about music (the benefits of music, the importance of music, confidence in their ability to implement music activities and support music development, and the importance of teachers’ roles regarding music)?

In order to investigate early childhood preservice teachers’ beliefs about music, the music belief questionnaire was administered. Participants responded to thirty-six items related to statements of music education with responses ranging from one for definitely false to six for definitely true. The mean and standard deviation were computed for each item. All thirty-six participants’ responses were combined to compute total scores. The mean and standard deviation of total scores of each participant were computed.

Benefits of music were addressed. First, the total aesthetic benefit scores of each participant were calculated for items 7, 13, 15, 16, 18, 24, 26, 33, 35, and 36 of section one. The mean for the aesthetic items was computed. In order to investigate quality-of-life benefit of music beliefs, the total scores of each participant were calculated for items 1, 5, 6, 17, 21, 23, 28, 31 and 34 of section one. The mean for the quality-of-life aspect of music scores was computed. In order to examine the social-emotional benefits of music beliefs, the total scores of each
participant were calculated for items 3, 8, 9, 11, 19, 25, 27, 29, and 30 of section one. The mean for the social-emotional benefits of music scores was computed.

In order to investigate the importance of music in relation to other subjects, the participants were asked to rank, in order of importance, the following six subjects: music, art, literacy, math, science, and PE. The frequency of each response was computed along with ranking. To evaluate the participants’ confidence level regarding their ability to implement and support music development, the participants were asked to rate their confidence level in five areas, with ratings ranging from ‘not confident’ to ‘extremely confident’. The frequency of each response was computed. To examine early childhood preservice teachers’ beliefs about the importance of early childhood teachers’ roles and music teachers’ roles, the participants were asked to indicate the level of importance of each type of teacher, with ratings ranging from ‘not important’ to ‘extremely important’. The frequency of each response was computed.

Q2. What is the relationship between early childhood preservice teachers’ beliefs about music and teachers’ individual characteristics (academic status, field experiences, teaching experiences, ability to read musical notation, and music education)?

Teachers’ individual characteristics (i.e., academic status, field experiences, teaching experiences, ability to read musical notation, and music education) were categorized. Participants’ academic status was categorized based on their year in the program. Three categories, juniors, seniors and graduate students, were used. Teaching experiences were categorized based on type of teaching (i.e., full-time teaching, part-time teaching, and no experience). Ability to read musical notation was categorized into three groups (i.e., able to read, somewhat able to read, not able to read). Then, music education was categorized in two groups (i.e., having music education, not having music education).
In order to examine the differences in preservice early childhood teachers’ beliefs about music depending on academic status, and ability to read musical notation, a one-way ANOVA was conducted. To address the difference depending on having music education, an independent t-test was conducted. To address the relationship between music beliefs and field experiences (i.e., numbers of field placements and length of field experiences) and length of teaching experiences among early childhood preservice teachers, Pearson Product correlations were conducted.

**Q3.** What are the beliefs of early childhood preservice teachers about DAP? What is the relationship between early childhood preservice teachers’ beliefs about DAP and their individual characteristics (academic status, field experiences and teaching experiences)?

In order to address early childhood preservice teachers beliefs about DAP, the Teacher Belief Scale (TBS) was administered. The first question asked participants to rank the amount of influence of planning and implementing instruction from one to six. Also, teachers responded to items two through thirty-seven on a Likert-type scale (i.e., from one for not important at all to five for extremely important). The DAP scores were calculated for items 5, 6, 12, 18, 26, 27, 28, 29, 30, 31, 33, 34, and 35. The mean and standard deviation of DAP was computed and total score of DAP for each participant was calculated. The DIP scores were calculated for items 2, 4, 7, 9, 11, 14, 15, 16, 17, 22, 23, 24, and 32. The mean and standard deviation of DIP was computed and total score of DIP for each participant was calculated. To examine the differences in early childhood preservice teachers’ beliefs about DAP depending on academic status, a one-way ANOVA was conducted. In order to investigate the relationship between DAP and field experience (i.e., numbers of field placements and length of field experiences) and length of teaching experiences, Pearson Product correlations were performed.
Q4. What are the beliefs of early childhood preservice teachers about the relationship between beliefs about music and DAP?

In order to address whether a significant relationship exists between early childhood education preservice teachers’ beliefs about music and DAP, a Pearson Product Correlations was conducted with the music beliefs scores measure by music belief questionnaire, and the DAP beliefs scores as measured by the TBS. Based on the correlation, in order to investigate in-depth patterns of relationships between music and DAP beliefs, the relationship between music and DAP beliefs was analyzed for each individual participant. The relationship between music and DAP beliefs was categorized in three groups: 1) stronger relationship, 2) incongruent relationship, and 3) weaker relationship. A strong relationship was identified as having both music belief scores and DAP belief scores that ranged higher than 75% of all scores. An incongruent relationship was identified as having a music score ranging under 25% of all scores with a DAP scores ranging above 75% of all scores. A weaker relationship was identified if both music and DAP belief scores ranged in the bottom 25% of all scores. Frequencies of participants falling into each of these three categories were computed.

Q5. What are the beliefs of early childhood preservice teachers who demonstrated various levels of beliefs (stronger, incongruent, and weaker) about music, DAP, and the relationship between music and DAP?

In order to examine preservice teachers’ in-depth beliefs about music, DAP, and the relationship between music and DAP, three preservice teachers volunteered to participate in a follow-up interview. One of these interviewees showed a stronger relationship in her beliefs about music and DAP, another showed an incongruent relationship, and the third interviewee demonstrated a weaker relationship in her beliefs. One formal interview for each participant was
conducted for a total of three interviews. Interview questions focused on three main categories: 1) beliefs about music, 2) beliefs about DAP, and 3) beliefs about the relationship between music and DAP. Each category had four to five sub-questions totaling fourteen questions.

All interviews were transcribed and coded totaling forty eight pages. The pseudo names - Jen, Tara, and Cindy - are used to identify each interviewee to protect participant confidentiality. Coded data were analyzed for patterns and taxonomies that may explain the beliefs of the interviewees. The coded data analysis focused on experiences that affected early childhood preservice teachers’ beliefs about music (i.e., the participants’ personal experience, family background).

All interview content was transcribed into text in numbered transcription forms. A domain analysis was used to code protocols (Spradley, 1979). Domain analysis utilizes semantic relationships to organize qualitative data, for example, ‘X is a role of music’. The domain analysis worksheets include the location and definitions of terms used in the protocols. The location of protocols refers to the participant’s name, the page number, and the line number. For example, J-5-3 means Jen’s interview, page five, and the third line. Based on the interview protocol, fifty-two coding forms were created after a review of the transcribed interviews. The researcher reviewed domain analyses and protocols for each interview and modified coding structures when appropriate to better reflect preservice teacher beliefs. After these modifications were made, the researcher combined and rearranged codes, and this process resulted in the creation of forty-three coding forms. Based on the domain analyses, an overall taxonomy that reflected the participants’ belief systems was established. Finally, a cultural psychological theme was created for each participant and will be introduced in the results chapter.
CHAPTER 4
RESULTS

The purpose of this study is to examine early childhood preservice teachers’ beliefs about music, developmentally appropriate practice (DAP), and the relationship between music and DAP. This chapter presents the results of the study, including descriptive data and various statistical analyses related to each research question.

**Demographic Descriptive Information**

Demographic teacher information and descriptive data were collected from the participants using a teacher information questionnaire and a basic music questionnaire. Demographic information collected from the teachers included gender, age, academic status, ethnicity, field experiences, and teaching experiences. In the basic music questionnaire, the participants were asked to give information regarding their formal and informal music education, ability to read musical notation, and knowledge of musical terms. Table 4-1 shows the demographic and descriptive information of the participants.

A total of sixty-five early childhood preservice teachers participated in this study. All of the participants were females. Ninety-seven percent of all participants were between the ages of nineteen and twenty-four years old (M=21.85, SD=1.82). The majority of the participants were Caucasian (74%) and Hispanic (14%). Twenty-five (38.5%) of the participants were juniors and twenty-four (36.9%) of the participants were seniors. Each junior participant had two practicum experiences, and each senior participant had four practicum experiences. All of the graduate students had completed four practicum experiences for two semesters and one semester of internship. The average length of time spent in field placements for all participants was about twenty weeks. Approximately half of the participants in this study had teaching experience, including full-time and part-time teaching. The average length of time that participants who had
taught full-time was less than two months, and the average length of time that participants with part-time positions had been teaching was approximately seven months. The majority of the participants (86.2%) had informal or formal music education (i.e., playing instruments, dance, or band). About 50% of the participants were able to read musical notation. To assess knowledge of music terms, five basic music concepts were presented in the questionnaire. The participants were asked to write brief definitions of the terms tempo, beat, melody, rhythm, and articulation. The term that was most frequently identified correctly was tempo. Forty-one of the participants (63.1%) were able to provide the correct definition of tempo. The most correctly identified to least correctly identified terms were tempo, melody, rhythm, beat, and articulation respectively. Seven of the participants were able to correctly identify four of the five terms, and none of the participants identified all five terms correctly. Sixteen of the participants (24.6%) were not able to identify any term correctly.

An outline of the coursework the participants has taken is shown in Table 4-2. Because all of the participants attended the same program which has a rigidly structured sequence of courses in a university in Florida, the preservice teachers at each year (e.g., junior, senior, graduate year) had taken the same courses. At the time of this study, junior students were taking math, science, emergent literacy, and multicultural education. Senior students were taking technology, measurement and evaluation, language arts for diverse learners, and curriculum and management. Junior and senior students had not had taken music related courses before. Only graduate level students were taking a creativity course that included a portion on music.

**Early Childhood Preservice Teachers’ Beliefs about Music**

**Q1.** What are the beliefs of early childhood preservice teachers about music (the benefits of music, the importance of music, confidence in their ability to implement music activities and support music development, and the importance of teachers’ roles regarding music)?
To address early childhood preservice teachers’ beliefs about music, total scores on the 36-item Music Belief Scale were computed by summing individual scores. The music belief scale scores in this study ranged from 118 to 213 (the possible range is from 36 to 216). The mean score was 167.8 (SD = 16.3). Higher scores on the music belief scale indicate that respondents felt the statements about music were true, and lower scores indicate that respondents felt the statements about music were false. The mean score on individual questions was 4.66 out of a possible six points. This score was calculated by taking the total scores divided by the total number of questions answered. The range of mean scores on individual questions was 3.28 to 5.92. Average scores on eight of the test items were above five, indicating that respondents felt the statements about music were true. Average scores on twenty seven of the items were above four, indicating that the respondents felt the statements were more true than false. The average score of only one item was below three, indicating that respondents felt the statement was more false than true.

To assess early childhood teachers’ beliefs about the benefits of music, the scores of teacher beliefs on the aesthetic, quality-of-life, and social-emotional benefits of music were computed. First, ‘aesthetic’ benefit scores were analyzed by summing the responses. The mean score of beliefs on the aesthetic benefits of music was 48.23 with a standard deviation of 4.8. The scores ranged from 31 to 60 (the possible range is 10-60). The mean score of individual items was 4.82, and the range of individual item scores was 3.10 to 6. Second, ‘quality-of-life’ benefit scores were analyzed by summing the responses. The total mean score of aesthetic benefit was 37.38 with a standard deviation of 4.7. The score ranged from 26 to 52 (possible range is 9-54). The mean score of individual items was 4.15 and it ranged from 2.89 to 5.78. Third, ‘social-emotional growth’ benefit scores were analyzed by summing the responses. The total mean score
of social-emotional growth benefit was 44.52 with a standard deviation of 4.4. The score ranged from 34 to 54 (possible range is 9-54). The mean score was 4.94 and it ranged from 3.78 to 6. Table 4-3 provides mean scores of three benefits of music.

To identify teacher beliefs on the importance of music relative to the importance of other subjects, the participants were asked to rank six subjects (e.g., music, physical education [P.E], literacy, art, math, and science) from the most important subject to the least important subject in early childhood education. Results of this assessment were, in order of most important to least important, literacy, math, science, music, art, and P.E. Of all the participants, 96.9% ranked literacy the most important subject. Fifty of the subjects (78.1%) ranked math as the second most important subject. Almost half of the participants (45.3%) ranked science the third most important subject. Music was ranked the fourth most important subject by twenty-four (37.5%) participants. Art was ranked the fifth most important subject by 37.5% of the participants. Finally, P.E. was ranked the least important subject thirty four (52.3%) participants. Table 4-4 outlines the rank of six subjects.

No participant ranked music as the most important subject. One participant ranked music as the second most important subject. Twelve participants ranked music as the third important subject. Twenty four participants ranked music as the fourth most important subject. Nineteen participants ranked music as the fifth important subject, and eight participants ranked music as the least important subject. Figure 4-1 provides the results of the rankings on music.

In order to address early childhood preservice teachers’ beliefs about their ability to implement music activities and support music development in the classroom, the participants were asked to report their confidence levels in various areas from ‘not confident’ to ‘extremely confident’. Figure 4-2 provides a summary of the teachers’ beliefs about their ability to
implement music activities and support music development. Over 50% of the respondents answered they feel either very or extremely confident in their ability to implement music activities in the classroom. Twenty-three (35.4%) participants were moderately confident in their ability to implement music activities, and 12% of the participants felt either somewhat confident or not confident in their ability to implement music activities. Several of the respondents (41.5 %) also indicated that they are very confident in supporting music development. Over 20% of the respondents reported that they felt either somewhat confident or not confident in supporting music development.

Figure 4-3 provides a summary of participants’ beliefs about the roles of early childhood teachers and music teachers to support music development. Over 80% of the participants stated that both music teachers’ roles and early childhood teachers’ roles are very or extremely important. Thirty six (55.4%) of the participants responded that they felt early childhood teachers’ roles are very important. Twenty (31%) of the participants indicated that early childhood teachers’ roles are extremely important. Twenty eight (43.1%) of the respondents responded that they felt music teachers’ roles are very important. Finally, thirty four (52%) of the participants responded that they felt music teachers’ roles are extremely important in supporting music development.

Q2. What is the relationship between early childhood preservice teachers’ beliefs about music and teachers’ individual characteristics (academic status, field experiences, teaching experiences, ability to read musical notation, and music education)?

To determine there are differences in early childhood preservice teachers’ beliefs about music depending on academic status, one-way between subjects ANOVA was performed, where academic status served as the factor and music belief scores served as the outcome variable.
Means (with standard deviations in parenthesis) for groups who are juniors, seniors, and graduate students were 169.76(16.99), 168.74(14.02), and 163.38(18.24), respectively. With an alpha level of .05, the effect of ethnicity was not statistically significant, $F(2, 61) = .807, p = .451$. Results of ANOVA are presented in Table 4-5.

To examine the relationship between music beliefs and field experience (numbers of placements and length of experiences), a Pearson product correlation was performed. There was no statistically significant relationship between beliefs about music and numbers of practicum placements with an alpha level of .05 ($n = 64, r = -.147, p = .246$). Also, there was no statistically significant relationship between beliefs about music and number of length of practicum with an alpha level of .05 ($n = 64, r = -.136, p = .284$). Table 4-6 shows the results of correlation.

To identify the relationship between music beliefs and teaching experiences, a Pearson Product correlation was performed. There was no statistically significant relationship between beliefs about music and length of teaching experiences with an alpha level of .05 ($n = 64, r = -.066, p = .606$). Table 4-7 presents the results of correlation.

In order to determine there are differences in early childhood preservice teachers’ beliefs about music depending on confidence level of implementing music activities, one-way between subjects ANOVA was performed, where academic status served as the factor and music belief scores served as the outcome variable. Means (with standard deviations in parenthesis) for groups who feel somewhat/not confident, moderately confident, very confident and extremely confident were 164.75(11.61), 160.78(16.48), 167.13(11.96) and 187.90(12.21), respectively. With an alpha level of .05, the effect of confidence level of implementing music activities was
statistically significant, $F (3, 60) = 9.215, p = .000$. Table 4-8 shows one-way ANOVA summary.

On the basis of the F test, the group means were inspected. To find the location of the statistically significant mean differences the Scheffe procedure was implemented at alpha level of .05. First, the difference between teachers who feel extremely confident and somewhat/not confident was statistically significant, $t(60) = 23.15, p = .009$. Secondly, the difference between teachers who feel extremely confident and moderately confident was statistically significant, $t(60) = 27.12, p = .000$. Thirdly, the difference between teachers who feel extremely confident and very confident was statistically significant, $t(60) = 20.77, p = .003$. Table 4-9 shows post-hoc comparisons.

To determine there are differences in early childhood preservice teachers’ beliefs about music depending on confidence level of supporting musical development, one-way between subjects ANOVA was performed, where confidence level of supporting musical development served as the factor and music belief scores served as the outcome variable. Means (with standard deviations in parenthesis) for groups who feel somewhat/not confident, moderately confident, very confident and extremely confident were 163.46(20.43), 163.53(10.87), 168.27(14.47) and 188.67(14.73), respectively. With an alpha level of .05, the effect of confidence level of supporting musical development was not statistically significant, $F (3, 60) = 4.770, p = .005$. The result of One-way ANOVA is summarized in Table 4-10.

On the basis of the F test, the group means were inspected. To find the location of the statistically significant mean differences the Scheffe procedure was implemented at alpha level of .05. First, the difference between teachers who feel extremely confident and somewhat/not confident was statistically significant, $t(60) = 25.21, p = .013$. Secondly, the difference between
teachers who feel extremely confident and moderately confident was statistically significant, \( t(60) = 25.14, p = .008 \). Thirdly, the difference between teachers who feel extremely confident and very confident was statistically significant, \( t(60) = 20.40, p = .037 \). The summary of the pairwise post-hoc comparisons were presented in Table 4-11.

In order to determine there are differences in early childhood preservice teachers’ beliefs about music depending on ability to read musical notation, one-way between subjects ANOVA was performed, where ability to read musical notation served as the factor and music belief scores served as the outcome variable. Means (with standard deviations in parenthesis) for groups who could read, could read somewhat, and couldn’t read musical notation were 171.37(13.53), 162.94(15.53), and 183.75(26.12), respectively. With an alpha level of .05, the effect of ability to read musical notation was statistically significant, \( F(2, 61) = 4.496, p = .015 \). The result is shown in Table 4-12.

On the basis of the F test, the group means were inspected. To find the location of the statistically significant mean differences the Scheffe procedure was implemented at alpha level of .05. The difference between teachers who could somewhat read musical notation and who couldn’t read musical notation statistically significant, \( t(61) = 20.81, p = .046 \). Table 4-13 presents post-hoc comparisons.

To identify there are differences in early childhood preservice teachers’ beliefs about music depending on having music education, independent T-test was performed, where music education served as the factor and music belief scores served as the outcome variable. Means (with standard deviations in parenthesis) for groups who have had music education and no music education were 169.13(15.14) and 160.63(22.46). With an alpha level of .05, the effect of having
music education was not statistically significant, \( t(61) = 1.39, p = .169 \). Table 4-14 shows the summary of one-way ANOVA.

**Early Childhood Preservice Teachers Beliefs about DAP**

Q3. What are the beliefs of early childhood preservice teachers about DAP? What is the relationship between early childhood preservice teachers’ beliefs about DAP and their individual characteristics (academic status, field experiences and teaching experiences)?

DAP and DIP scores were computed to assess teacher beliefs about DAP and DIP. First, DAP scores were analyzed by summing the response. The mean score of items assessing DAP was 57.32 with a standard deviation of 4.8. The scores ranged from 47 to 65 with a possible range of 13 to 65. The mean score was DAP 4.41 and the score is between very important and extremely important. Second, DIP scores were analyzed by summing the responses. The mean score of items assessing DIP was 37.42 with a standard deviation of 5.5. The scores ranged from 26 to 52 with a possible range of 13 to 65. The mean score of DIP was 2.9 and it is between not important and fairly important. Table 4-15 shows the results of DAP and DIP.

In order to determine whether there are significantly differences in early childhood preservice teachers’ beliefs about DAP depending on academic status, one-way between subject ANOVA was conducted, where academic status served as the factor and DAP scores served as the outcome variable. Means (with standard deviations in parenthesis) for groups who are juniors, seniors and graduate students were 54.68(5.45), 59.29(3.09), and 58.50(4.36), respectively. With an alpha level of .05, the effect of academic status was statistically significant, \( F(2, 62) = 7.40, p = .001 \). Table 4-16 shows a summary of one-way ANOVA.

On the basis of the F test, the group means were inspected. To find the location of the statistically significant mean differences the Scheffe procedure was implemented at alpha level
of .05. First, the difference between juniors and seniors was statistically significant, \( t(62) = 4.61, p = .002 \). Secondly, the difference between juniors and graduates was statistically significant, \( t(62) = 3.82, p = .032 \). Post-hoc comparisons were presented in Table 4-17.

To identify whether there are significantly differences in early childhood preservice teachers’ beliefs about DIP depending on academic status, one-way between subject ANOVA was conducted, where academic status served as the factor and DIP scores served as the outcome variable. Means (with standard deviations in parenthesis) for groups who are juniors, seniors and graduate students were 39.96(4.98), 33.88(5.66), and 38.75(3.22), respectively. With an alpha level of .05, the effect of academic status was statistically significant, \( F(2, 62) = 10.24, p = .000 \). Table 4-15 demonstrated a summary of ANOVA.

On the basis of the F test, the group means were inspected. To find the location of the statistically significant mean differences the Scheffe procedure was implemented at alpha level of .05. First, the difference between juniors and seniors was statistically significant, \( t(62) = 4.61, p = .002 \). Secondly, the difference between seniors and graduates was statistically significant, \( t(62) = 4.88, p = .012 \). The results of post-hoc comparisons were summarized in Table 4-16.

To examine the relationship between beliefs about DAP and field experience (numbers of placements and length of experiences), a Pearson product correlation was performed. There was statistically significant relationship between beliefs about music and number of practicum placements with an alpha level of .05 (\( n = 65, r = .364, p = .003 \)). It indicates that beliefs about music positively related to numbers of practicum placements. Also, There was statistically significant relationship between beliefs about music and length of practicum experience with an alpha level of .005 (\( n = 64, r = .384, p = .002 \)). It implies stronger beliefs about DAP is related to longer field experiences. Table 4-17 presents the summary of correlations.
In order to examine the relationship between beliefs about DIP and field experiences (numbers of placements and length of experiences, a Pearson product correlation was performed. There was no statistically significant relationship between beliefs about music and numbers of field placements with an alpha level of .05 ($n = 65, r = -.192, p = .126$). Also, there was no statistically significant relationship between beliefs about music and length of practicum with an alpha level of .05 ($n = 65, r = -.222, p = .076$). Table 4-18 presents the results of correlations.

In order to determine whether there are significantly relationships between early childhood preservice teachers’ beliefs about DAP and teaching experiences, a Pearson product correlation was performed. There was no statistically significant relationship between beliefs about DAP and length of teaching experiences with an alpha level of .05 ($n = 65, r = -.093, p = .461$). Table 4-18 presents the results of correlation.

In order to determine whether there are significantly relationships between early childhood preservice teachers’ beliefs about DIP and teaching experiences, a Pearson product correlation was performed. There was no statistically significant relationship between beliefs about DIP and length of teaching experiences with an alpha level of .05 ($n = 65, r = -.138, p = .275$). The results of correlations were summarized in table 4-19.

**Early Childhood Preservice Teachers Beliefs about the Relationship between Music and DAP**

**Q4.** What are the beliefs of early childhood preservice teachers about the relationship between beliefs about music and DAP?

The relationship between early childhood preservice teachers’ beliefs about DAP and music was assessed using a Pearson Product Correlation with music belief scores and DAP scores. There was a statistically significant relationship between beliefs about music and DAP with an alpha level of .05 ($n = 64, r = .305, p = .014$). This indicates that stronger beliefs about
music are positively correlated with stronger beliefs about DAP. Also, weaker music beliefs are correlated with weaker level of beliefs of DAP. Table 4-20 presents a summary of correlations.

Based on the correlations found between beliefs about music and DAP, in-depth patterns of the relationships between music and DAP beliefs was assessed. This was done by conducting an analysis on the correlation between music and DAP for each participant. The participants were divided into three brackets. These brackets were created based on scores of music and DAP beliefs. Figure 4-4 shows how the three groups were divided in each belief. Participants placed in the ‘stronger beliefs’ category had belief scores on both music and DAP belief assessments that were above 75% of the participants. This means that these participants had the strongest beliefs about music and DAP of the participants. The participants placed in the ‘incongruent’ category received scores in one category that were over 75%, but scored below 25% in the other category. Participants placed in the ‘weaker beliefs’ category had belief scores on both music and DAP that were below 25% of the participants. This means that these participants had the weakest beliefs about music and DAP of the participants.

Table 4-21 shows the numbers of participants with stronger, incongruent, and weaker relationships. Three juniors and two seniors had stronger beliefs in both music and DAP. No graduate students demonstrated a stronger relationship between music and DAP. Seven juniors and one graduate student demonstrated a weaker relationship between music and DAP. No senior students demonstrated a weaker relationship between music and DAP. Only one junior demonstrated an incongruent relationship through demonstrating strong music beliefs and weak DAP beliefs. One senior and one graduate student showed an incongruent relationship through demonstrating weak music beliefs and strong DAP beliefs.
Q5. What are the beliefs of early childhood preservice teachers who demonstrated various levels of beliefs (stronger, incongruent, and weaker) about music, DAP, and the relationship between music and DAP?

The purpose of this research question was to investigate deeper levels of early childhood preservice teacher beliefs who demonstrate stronger, incongruent, and weaker beliefs of music and DAP. In-depth interviews with three participants were conducted to answer this question. The interviews used for these participants covered three areas in depth: 1) beliefs about music, including the meaning and role of music, personal and professional background related to music, teacher education, and confidence levels, 2) beliefs about DAP including the meaning of DAP and description of DAP and DIP (i.e., general principles to implement DAP, teacher roles, physical environment), and 3) beliefs about the relationship between music and DAP. The analysis presented in this section was based on questionnaire results (i.e., Teacher Beliefs Scale, music belief scale, teacher information questionnaire, and music basic questionnaire), interviews with the participants, including protocols and domains, and concept webs created by the interviewees. The interview participants were Jen, Tara, and Cindy (pseudo names). Jen demonstrated a ‘stronger’ relationship between music and DAP with both strong music and DAP beliefs. Tara demonstrated an ‘incongruent’ relationship with weak music beliefs and strong DAP beliefs, and Cindy demonstrated a ‘weaker’ relationship with both weak music and DAP beliefs. Table 4-22 outlines the basic information of the three teachers who participated in the follow-up interviews.

Jen and Tara were senior students and Cindy was junior. They were all twenty-one years old. Jen and Cindy reported that they were Caucasian, and Tara reported that she was Hispanic. Jen and Tara had six-month of practicum experiences at four different practicum placements.
Cindy was in her second practicum at the time of her interview. Only Tara had part-time teaching experience. All of the interviewees had informal or formal music education (i.e., learning to play instruments, playing in a band). Jen received the strongest music belief score of the three participants. Tara showed the strongest DAP score of the three participants. Jen reported that she was extremely confident with her ability to implement and support music activities. Tara reported that she was moderately confident with her ability to implement and support music activities. Cindy stated that she was moderately confident in her ability to implementing music activities; however she reported that she was not confident in her ability to support music development. Only Jen was able to read musical notation and correctly defined four of the five musical terms (i.e., tempo, beat, melody, and rhythm).

**Taxonomy**

Figure 4-5 shows the taxonomy that outlines the three teachers’ beliefs about music, DAP, and the relationship between music and DAP. Important components that influence teachers’ beliefs in these areas were found. These areas include personal background, confidence level, professional experience, and teacher education. The primary layers of connections among the components in the taxonomy exist in music, DAP, and the relationship between music and DAP. The taxonomy was built from second-order constructs. Second-order constructs are an explanatory structure created through the researcher’s reflections based on the first-order constructs from the participants responses (Spradley, 1979). In other words, second-order constructs are the interpretations of the beliefs of the participants made by the researcher.

Reflecting upon all three interview transcripts, domain analyses, concept webs, and the questionnaires, the important factors of beliefs were drawn: personal background (i.e., people or events that influence beliefs), teacher education (i.e., coursework), professional experiences (i.e.,
field experiences, teaching experiences), and confidence (confidence level in implementing music or DAP). The arrows represent the relationships.

The taxonomy outlines: 1) how the three participants overall perceive and believe music and DAP are related, 2) what factors and components may have had an effect in their establishment of beliefs regarding music and DAP, and 3) how various factors and components may have influenced beliefs about music and DAP and the differing degrees of influence these factors may have had. Based on the representative taxonomy, the beliefs of the three participants in the areas of music, DAP, and the relationship between music and DAP will be described, explained, and compared.

Teachers’ Beliefs about Music

The participants’ beliefs about music were analyzed from the results of the interviews. In the analysis of beliefs about music, the meanings and roles of music for young children arose as a core concept. Also, there arose various components that were found to have an effect on music beliefs. These components were: 1) personal background (i.e., events, people, or formal and informal music education), 2) professional experiences (i.e., practicum, teaching, cooperating teachers, and children), 3) teacher education (i.e., coursework, faculty), and 4) confidence in their ability to implement and support music development.

The Meanings and Roles of Music for Young Children

All three preservice teachers basically agreed that music is important for young children. However, each teacher had a different definition of the meaning of music. Jen reported that the meaning of music included several diverse functions of music, such as using music as a means of expression, a tool to support other learning, and a source of emotion. This definition varied with the definitions of Tara and Cindy. The italic font reflects the key words and important components.
Jen: Music is *a means of expression*. (J-13-21) I mean you can express your emotions or even by listening to music. (J-13-40)

It’s a tool that can be used to supplement learning as well (J-8-39).


Tara stated that music plays an important role and can be both fun and educational for young children. Also, she felt music could speak to ‘the different types of learning styles and different kinds of multiple intelligences’ (T-10-23). However, she explained that music is not a core subject, which implies that she felt core subjects were separate from music. She distinguished her definition of core (literacy, math, science) and non-core (music, art, PE) subjects. Tara stated that music is positive, but merely a supplementary subject that might help children succeed in school.

Tara: Music, it’s just…*not so core*…It’s not as core subject as academic. (T-10-43)

It was never something that ‘oh this is what you’re gonna do because you have to’. It was just if you wanted to do it, you could choose to do it. (T-11-43)

I mean the role of music *can help students succeed* even better in the classroom if they have that. (T-10-23)

Cindy described music as both a ‘backdrop’ and a ‘good supplement’. Cindy reported that music could be used as a supplement to support other academic areas.

Cindy: it’s a *good supplement* to different activities. Using it as…I think sometimes it’s good to use as a *backdrop* to your classroom. (C-7-28)

Like a *background* music. I think like having a special like music class is good for a lot of kids because they like music and music class gives them something other than academics all day long. (C-7-34)

**Personal Background**

All three preservice teachers had different personal backgrounds related to music. Among three participants, Jen and Tara described a positive background experience with music. The
The effect of Jen’s personal experiences with music on her positive beliefs toward music was evident in her interviews.

Jen: *music is personally very important to me. It’s a part of my life.* I guess that’s why it [music] should be important for everyone else. (J-9-29)

There was always music in my house. …. I always remember singing in church when I was young so that probably play a factor. As I grow up there were the specials like an elementary school and I love to. They had Orff instruments. I just loved playing those (J-9-38)… I went in middle school; I started playing with the band. I played music all through high school. (J-10-1)

Tara reported that she enjoyed music when she was younger and played clarinet in band. She personally enjoyed listening to the music, but she considered music an extracurricular activity that should be based on choice rather than necessary for all students.

Tara: I did music when I was in band when I was in middle school. I liked it, but it was always something that was just *extracurricular.* (T-11-34)

I wanted to learn to play different instruments. I thought it was interesting, but it was never something that ‘oh this is what you’re gonna do because you have to’. (T-11-42)

Like my mom, we’ve always listened to music (laughter) since I was young. Even now. I mean I like music. I was very sad in Italy when I couldn’t listen to music. (T-12-27)

Jen and Tara had similar positive attitudes toward music. However, their positive backgrounds related to music had different effects on their beliefs about music for young children. Jen’s personal background with music had a positive effect on her perspective and beliefs about music for young children. This was revealed in her report of her roles of music and the meaning of music for young children. However, Tara’s positive personal experiences with music did not seem to have an effect on her beliefs about music for young children.

Cindy had negative experiences in relation to music. She recalled her experience of trying to learn hand bells when she was in the sixth grade. She described that she was not good at learning music and she did not like music at that time.
Cindy: but my mom tried to make me play hand bells. I wasn’t very good at it. I didn’t understand and read music. (C-8-30)

I think I didn’t like it because I didn’t get it. I couldn’t do it. They highlighted the notes on the page for me because I didn’t know what my note was like to play. I was very bad at reading music so I think I didn’t like it because of that experience. (C-8-38)

Tara and Cindy mentioned that their mothers influenced their beliefs and experiences with music. Tara had positive memories related to her mother with music. Cindy, however, received a negative musical influence from her mother related to the pressure when her mother attempted to urge Cindy to learn a new instrument. Cindy had difficulties learning how to read music and understand musical concepts. She also did not like music. These factors influenced her attitude toward music and appear to currently have an affect on her beliefs toward music as well.

Cindy: I think that my mom was probably the most [influential]. She is the one that tried to make me take hand bells that I didn’t want to. The reason she wanted me to do that is because her mom made her take piano. She didn’t really do well in piano as a child, but as an adult, she really regretted not knowing how to read music, not knowing how to play piano and so she thought if she encourage to me to learn something, I would be appreciative of that when I got older. I would be appreciative that I learned how to read music but it kind of backfired on her. I think (laughter). I was stubborn. (C-10-14)

I do [regret]. I know I do [regret]. I wish that I could. I think the way she tried to make me do it didn’t work. She tried to force me into it more than encouraging or letting me do it on my own. She is not really like that except when playing hand-bells. She really really wanted me to do it and I just resisted it. (C-10-27)

Professional Experiences

All of the interviewed preservice teachers had their musical beliefs influenced by their practicum experiences. Overall, the participants did not see evidence of diverse music activities at their practicum sites. Most of the music activities they observed during practicum were comprised of singing and a few dances. Jen especially did not have many opportunities to observe music in her early childhood practicum classrooms. Also, she explained her reflection about her cooperating teacher’s attitude toward music.
Q: Have you seen a lot of music activities in your practicum?
Jen: No. Not at all, really.
Q: at all?
Jen: I can’t really remember. I’m sure that it was little bit, but I think at least in the public school setting, they think ‘oh, they are going to music on Tuesday.’ So you know, ‘I don’t need to do music if they are going to music’ maybe that’s their thinking.
I don’t remember dancing, but I know in circle time, it was probably the most usual time that singing what happened. (J-11-7 to J-11-24)

Jen reported what she guessed regarding her co-teacher’s beliefs about music - ‘I don’t need to do music if they [children] are going to music [special]’. This statement could reflect the current educational attitude toward music. Because there are special classes for music, some early childhood educators tend to see music as a special, not a part of early the childhood curriculum (I’Etoile, 2001). Tara observed that the music activities in her practicum and part-time teaching sites were mostly singing and dancing. Also, she reported that the purpose of the music activities was ‘being active with the music.’ This is only a part of the various goals and potential benefits of music.

Tara: I have always seen it where in the mornings and circle times there is consistently music playing. Kids are participating by singing and dancing. Just being active with the music. (T-10-15)

Teacher Education

For the purposes of this study, teacher education includes all coursework that the preservice teachers have taken, including readings, content knowledge, discussions, and faculty and peer influence. Because all three preservice teachers were in same early childhood pro-teach program as juniors, seniors, and graduate students, coursework required by the program is the same for each academic status. Therefore, their teacher education backgrounds are similar in regards to their academic status. Table 4-23 shows the courses that the participants were taking at the time of the interview. Cindy and Jen had not taken any early childhood education music
course. Tara individually had taken an introductory art/music class that was not early childhood focused in her sophomore year.

Among the three interviewees, Cindy frequently mentioned that she had no opportunities to take music classes. She explained that the main reason for her low level of confidence in implementing music is due to the lack of her opportunities to take a music class.

Cindy: personally, I’m not trained musically to be able to. We didn’t have music class. I haven’t taken any music class at college I wouldn’t be able to implement music practices. (C-7-38) I think elementary education takes a class on music in the classroom, but we don’t. (C-8-4)

Cindy explained the reasons why she believed literacy and math were more important subjects than music and art; many of the courses she had taken emphasized the subjects of literacy, math, and science. Also, she said that academic subjects are very important to her because she wants to be a ‘normal classroom teacher.’ The normal classroom may imply a typically developing classroom. She revealed her beliefs that ‘literacy, math, and science’ are important for typically developing children. Also, it seems as though she believed literacy, math, and science are helpful for all children, but music, art, and PE is only helpful for ‘some’ children.

Cindy: The first three [literacy, math and science]…I wanna be a normal classroom teacher, so those three [literacy, math and science] are really important to me. Particularly, because that’s what I have been taught to consider looking for it I guess. (C-9-5) Music, PE, and art are important for different reasons for different children. I know some students thrive in music, but little boys hate music and never wanna go to music and they only wanna go to PE. (C-9-16) I’ve taken reading class and math and science class. And I haven’t taken any other classes on music, PE or art. There is always talk about those [music and art], how they are good like in addition to your class, but I haven’t been taught really how to use music, PE and art in my classroom. (C-9-36) My learning in this program has been primarily focused on literacy, math, and science. (C-10-9)

Tara discussed her experiences in her introductory music and art class. However, she mentioned that she did not learn how to teach music for young children in that class because the class was not specifically for early childhood educators. Tara and Cindy frequently mentioned
they did not learn ‘how to teach music.’ They both agreed that music is somewhat important for some children, but they both stated that they do not know how to implement specific music activities.

Tara: cause right now the class [music/art introductory class] that they give that is half art and half music. I didn’t feel like it was a lot of how to teach art and how to teach music. It was just learning about basic stuff but maybe in those classes they can talk more about it.

Tara believed a major component of early childhood education is an emphasis on literacy and math. Also, she stated that it is important to prepare teachers to teach these academic subjects. She believed that early childhood educators do not need to learn music content knowledge and how to teach music.

Tara: I think the biggest things right now in education would be literacy and math, but also to learn how to integrate the subjects. (T-12-44) It’s just how to teach and how to read sounds, how to teach math, things like that. I mean those are very important to teach math and literacy (T-13-21). I don’t know if it necessarily needs to be taught how to teach music but it’s more if you have the ability to play instruments or to sing, you can bring that into your classroom. I don’t know if it specifically has to be a class that is taught. (T-14-3)
Like the tempo and rhythm, actual music content knowledge, it’s not necessary to learn that in an early childhood classroom. (T-18-14)

Confidence in Implementing and Supporting Music

All three preservice teachers demonstrated different levels of confidence in their ability to use and teach music to young children. These different levels of confidence were influenced by personal experience, professional experience, and teacher education. Jen demonstrated stronger confidence levels in the area of music implementation than the other two teachers. Regarding the sources of the confidence, she mentioned her personal music background and positive experiences related to music.

Jen: I guess it’s just because my background includes a lot of music. And also because I know that most children love music. They love to sing or hum or whatever. So I think it’s something they’ll enjoy. I should be confident about using it in a classroom.
Tara demonstrated separate levels of confidence between using music and teaching music. She mentioned that she is confident in using and incorporating music into other core subjects, but she is not confident in her ability to teach music content knowledge. She repeated her opinion that early childhood teachers do not necessarily need to know music content knowledge.

Tara: I’m more confident in incorporating music into my classroom. Q: how do you feel that you are confident in teaching about music?

Tara: No. I don’t know. I’m not at all. (T-16-6) I don’t think they [early childhood teachers] have to know about it [music content knowledge] and it would be good if they did, but I don’t feel also a lot of kids at that three or four year age are like ‘oh, what’s a tempo or what’s rhythm?’ I think you could provide them with instrument like drums and things like that is not necessarily you have to do like ‘this is a rhythm or this is… you know’. I feel like it’s not something I would know about it to sit and to talk about it with my students. (T-16-21)

Tara also had different opinions on roles of early childhood educators and music educators in terms of music content knowledge and implementation of music activities in the classroom. She supported the idea that music educators are more responsible for teaching music than early childhood educators.

Tara: I think it’s important to have the actual classroom teacher to introduce them to music but I feel it will be more like that the music educators to teach them [children] about the tempo or rhythm cause they [music educators] are the ones that know about it. (T-16-12)

Additionally, Tara mentioned that she feels most competent in teaching literacy skills. She explained the sources of her confidence with literacy as “it’s my coursework, the books because I’ve always been interested in from when I was younger. Also seeing it [literacy] done in the kindergarten classroom and working with the kids…” (T-19-21). This indicates that her confidence may derive from her own personal interest, strong content knowledge in this area, and several positive experiences related to the subject through field experience.
Cindy expressed that she did not feel confident in her music content knowledge and her
skills with teaching students about music. She explained that her lower level of confidence in
music was due to the lack of coursework related to music. Among three interviewed teachers,
Cindy showed the lowest level of confidence in teaching about music.

Cindy: Personally, I’m not trained musically to be able to. (C-7-38)
Cindy: I feel I can play music and we can talk about like ‘is this song faster or slow’. I can
probably do that, but other than that I don’t feel I can [teach music]. I haven’t taken class
on music (C-8-1).

Similar to Tara, she believed that she is able to implement some music activities, but she
reported that she is not able to teach music content knowledge such as musical notation and signs
(i.e., flat).

Cindy: I think it’s appropriate for teachers to know and understand to be able to talk to kids
about patterns and music like ‘here we hear the drum and then we hear the horn, then,
that’s a pattern. I can tell you that kind of thing, but if you ask me like is this flat whatever
the other, I wouldn’t be able to tell you. I don’t think that’s necessarily something I need to
know. For the age that I want to teach, I don’t think it would be incredibly important that I
would be able to tell them or explain the notes drawn. (C-12-26)

Based on Tara and Cindy’s interviews, most of their low levels of confidence were
influenced by their lack of sufficient music content knowledge and training in how to implement
music activities appropriately. This may implicate the importance of content knowledge and
opportunities to learn how to approach music for young children.

Teachers’ Beliefs about DAP

Three preservice teachers’ beliefs about DAP have been investigated using interviews and
TBS questionnaire information. This section begins with three preservice teachers’ definitions of
DAP and the principles of DAP. Then, characteristics of DAP and DIP will be explained in terms
of teacher roles, features of DAP and DIP practices, and the physical environment.
Meaning of DAP

Regarding DAP, all three preservice teachers addressed their own definitions of DAP. Jen mentioned three essential components to consider when implementing DAP, which are individual, age, and cultural appropriateness. The three terms are key concepts in the revised DAP guidelines (Bredcamp & Copple, 1997). Jen was the only participant who mentioned about the three components in DAP. This may indicate that Jen has correct and sufficient knowledge of DAP. Tara described the components of age and ability level, and Cindy did not discuss any of the three components.

Jen: I think DAP is all about looking at each child individually and seeing what they need and what their strengths are, what their weaknesses are, what you should focus on? Of course, that would include you always hear about that it is needs to be culturally appropriate. You need to look at where they are coming from what their life is like outside of a school. In fact, what’s happening in the classroom. Of course, it is age-appropriate. For what level they're at, what their ages- just individually looking at them as a person because no teacher would be at the same place and need to realize that in your classroom.” (J-1-2 to J-1-13)

Jen: what they [children] are interested in, what they need to focus on, what you [teachers] think it would be important for them [children] as an individual (J-1-36)

Tara and Cindy had some similarities in their definition, particularly pertaining to the provision of appropriate activities depending on children’s ability through a modification of difficulty level.

Tara: DAP is just a way to have an appropriate practice in your classroom so that you’re applying activities and giving activities to students so that they are able to complete that. They [the activities] are easy enough for them to complete but also difficult enough for them to be challenged but it’s completed successfully, eventually with help of the teacher or help of the students (T-2-3).
It’s not just academic work and in a classroom kids need to play and have fun in order to, also to learn also just the activities they’re doing appropriate to their age and to their abilities. Not things that are too easy like coloring in paper that really has no significance to them. (T-2-28)

Cindy: I would define (them) as practices particularly in education that fit the needs of the child and that they fit the needs the child in a way that is not asking like two year-old to write a paragraph. Something like that is just ridiculous. We can’t do that or vice versa, asking someone that’s in fifth grade to do something that isn’t appropriate for them because you know a baby can do it. That one would be inappropriate either. (C-1-31)
Principles to Implement DAP

The principles needed to implement DAP have been analyzed based on the interview participants’ explanations and examples pertaining to DAP. The participants had similarities and differences in their discussions of important principles and definitions surrounding DAP. Diverse perspectives on the principles of DAP were evident. Jen mentioned that activities should be ‘interest’ based, ‘active’, ‘hands-on’, involve ‘making choices’, and involve an ‘exchange between peers’.

Jen: what they are interested in, what they need to focus on, what you think it would be important for them as an individual (J-1-36)
I think they need to be active and involved in learning in to use the term ‘hands-on’ they need to be just be very active what they are doing cause that’s the way that they learn as children (J-2-5)
I think children are involved in making choices, and you know there are of course plans made by the teachers, but the children are involved in making choices about what they learn (J-2-14)
I think that the exchange between peers is very valuable. (J-7-44)

Tara stated that DAP needs to be ‘interactive and communicative’, and she also emphasized the ‘importance of rules and structure’ as principles.

Tara: also just during circle time, it’s interactive type of circle time, where kids are communicating and teachers communicating back to them. It’s just interactive type of classroom where the kids feel safe to talk and discuss anything they want to talk about. (T-2-42)
Like an indefinable structure. Like kids understand it. The teachers understand it. There is a rule that are set; you know you have to take turns, you have to but now everybody can see there is structure. But the kids and the teacher know that ’cause it has been established before. (T-4-42)

Cindy described that DAP principles need to allow the child to ‘succeed’, involve ‘scaffolding’, ‘interaction,’ and be ‘specialized to each child’.

Cindy: making practices that help the child grow particularly in areas that will help them succeed in school.(C-2-1)… it’s to take their potential that they have and to grow that potential and make them be able to do things that they want . Kind of scaffolding them up, so they’ll be able of succeed either that means just passing third grade, or it that means being a professor at UF or being the president whatever (laughter). Whatever the most, it’s different for different kids.(C-2-15)
Cindy: It was very wide range of students in this classroom. From very high functioning to very low functioning, so the practices on that classroom very like *specialized to each child* because they all were at such different levels. (C-7-19)

The most commonly mentioned aspect of all three interviews about DAP principles was the concept of the need for interaction. Jen primarily focused on the children’s perspective, and Tara emphasized classroom structure. Cindy focused on helping each individual child’s needs. Table 4-24 shows the comparison of the principles.

**Characteristics of DAP**

In terms of the characteristics of DAP, the following areas will be discussed in this section: 1) teacher roles, 2) features of DAP, and 3) physical environment.

**Teachers’ roles:** The three teachers discussed the various roles of teachers who implement DAP. Table 4-25 presents the comparison of the perceived roles of teachers. Jen and Tara shared some common perceptions of teacher roles as did Tara and Cindy. Jen and Tara emphasized the importance of ‘making plans’, ‘observing children’, and ‘asking questions’. Tara and Jen stated that teachers who implement developmentally appropriate practice make plans that are ‘flexible’ and ‘lenient’ to meet children’s needs and reactions. In addition to this, Tara and Jen discussed the importance of ‘asking questions’ to understand children and their abilities. Jen also discussed the teacher’s need to assess children based on observations while understanding the three basic concepts of DAP.

Jen: what’s happening in her classroom, what the children are already succeeding, what they don’t need more practice what necessarily, what they need to work on more, and what they need to be focused on’ (J-3-5).

Tara emphasized ‘providing appropriate materials’, ‘communicating with children’, ‘getting to know children and parents’ and ‘continuing looking for the new resources’ as the roles of early childhood educators who implement DAP. Cindy added to this list by discussing
other teacher roles, which are ‘fostering the growth and challenging the children’, and ‘scaffolding.’

Cindy: They [teachers] had activity set up in the room that matched students’ abilities or a little bit higher than students’ abilities so that it would promote growth with the students’ (C-5-28). Teachers need to be aware of ‘where the students were and could be(C-5-32).

Tara and Cindy both discussed the importance of ‘knowing children’ to properly implement DAP. As seen the in the table 4-25, Jen and Tara proposed more aspects and examples of teacher roles than Cindy.

**Features of developmentally appropriate activities:** In describing developmentally appropriate practice, the three teachers all described common features. They all emphasized the importance of diverse and child-centered activities, the importance of play in centers, and involvement or engagement. Jen talked about the importance of hands-on and center activities.

Jen: activities that offer them tangible objects’ so that they can grasp the concept (J-2-36) They’re reading, they’re looking at books or writing…they’re drawing all those things (J-2-27) Implement maybe free choice, I mean center time where children can make choices but there are still, you know, learning the objectives that need to be covered all of that. (J-7-36)

Tara also discussed the importance of centers and engagement in activities in developmentally appropriate classroom.

Tara: In general, engaging in activities themselves with different learning centers around the classroom. (T-2-22)

Cindy focused on play, including the utilization of diverse activities (i.e., blocks, sand, books, puzzles, pictures, C-2-41) for younger children. Then, as children are getting older, she expressed that practice needs to move from play-based activities to academic preparation for first graders.

Cindy: it needs to be like a lot of play especially in the beginning of the year emphasis on activities (J-3-35). I think it’s usually like a spectrum how like in the beginning of the year we have a long time. We have a lot of play and then moving slowly as the children mature,
and they mature so much in the beginning of kindergarten to the end of the year and maturing into so that they’ll be prepared for first grade (C-3-40).

**Developmentally appropriate physical environment:** The three teachers explained components of a developmentally appropriate physical environment. Jen and Tara described several aspects of the environment. Cindy only mentioned ‘no desks and chairs’ as a component of the developmentally appropriate environment. Jen was the primary interviewee to describe the emotional atmosphere of environment, which is an environment that feels welcoming and safe. Table 4-26 shows the components of a developmentally appropriate physical environment presented by the three teachers.

Tara emphasized the importance of learning centers and boundaries between the centers.

Tara: A classroom would have certain boundaries within centers within different areas of the classroom like say the teacher’s area. Between the centers, there is not like, the library is not right next to dramatic play where more blocks and dramatic play together. Library and writing center together. You know things like that so that one activity is not disturbing the other activity. Things like that, and where a center time is it’s not, it’s a space just for center time they are not being distracted by different objects in the classroom like blocks. (T-4-3)

It appeared as though Tara held strong beliefs about the physical environment because she had positive experiences during her part-time teaching experience. She described how she and her co-teacher had changed the classroom furniture arrangement, and how this had an effect on the classroom atmosphere and children’s behavior.

Tara: I said this is what we do. Can we try to move furniture around, *it maybe work? And it worked* (laughter). It really changed the behavior like the students in the classroom.

**Characteristics of Developmentally Inappropriate Practice (DIP)**

The characteristics of developmentally inappropriate practice that the participants described primarily are related to practicum experiences. They illustrated specific examples of DIP through their own reflections. The main characteristics of DIP that the teachers discussed
were a lack of interaction and a lack of rules or structure (C-5-3, T-4-24, T-4-32). These concepts are opposite to DAP principles. The teachers descriptions of DIP will be discussed pertaining to the following three areas: 1) characteristics of teachers using DIP, 2) features of DIP, and 3) developmentally inappropriate physical environment.

**Characteristics of teachers in DIP:** All three preservice teachers explained the characteristics of teachers who are implementing inappropriate practice with various examples. Jen stated that the reason inappropriate practice was implemented was because of the teachers. She said that teachers in developmentally inappropriate classroom are inflexible and overly structured in their teaching. She stated that teachers implementing DIP use a direct approach with worksheets and workbooks, and they did not adapt to the needs of the students.

Jen: I feel like *the teachers were the problem*. The environment was pretty good environment but it was just the teachers were (laughter) not quite doing everything right I think.(J-4-17) They didn’t plan really ahead of time at all. They would….be there in the morning. “Oh. What are we gonna do science for today?” I don’t know.(J-4-30)

Then, she mentioned about aspects that the teachers missed compared with the teachers who implement DAP. For example, Jen mentioned commonly observation in DAP and DIP. However, she pointed out the difference between them.

Jen: I am sure they [teachers who implement DIP] did observe some obviously they were watching the children, but *I don’t think they took the opportunity to really use what they saw in their observing* and use it to help children and support them and scaffold their learning as much as they really could have. (J-5-14)

Also Jen made a distinction between personality and teachers’ ability to implement DAP.

Jen: I know that they [teachers who implement DIP] definitely cared about the children and wanted to be a good teacher.
Jen considered that teacher ability was more important in relation to implementation of DAP than personality. Thus, it seems that Jen believes that a good personality is not sufficient to ensure that a teacher will implement good teaching practices.

Tara described teacher characteristics in developmentally inappropriate classrooms as ‘not engaging’ and as having ‘no communication with children.’ Cindy also mentioned that students were less involved in their learning. Tara and Jen proposed more diverse examples than Cindy in terms of teacher characteristics.

Tara: *Not engaging* herself with the students. Not trying to communicate with them just kind of sitting back or just giving a rule or just giving demands of what… you need to do this, you need to do that. But not really explaining to them why they should be doing this or there is no intent like learning outcome that she is giving them. (T-5-5)

The teacher really didn’t do much to try to fix the problem. It was ‘well, they always do that’, ‘Why don’t we do something about it’, but I never said anything, but I mean that just how it seemed. (T-6-44)

Cindy: the teacher is *not less involved*, just like expecting students to do things rather than being involved helping them figure it out things, talking to the children. (C-4-43)

**Features of DIP:** There are common features of DIP that were mentioned by the three preservice teachers. Jen and Cindy frequently discussed how inappropriate practice involved teacher activities such as sitting at the desk for longer periods of time, giving students worksheets, and lack of interaction with the students. They both described the atmosphere of developmentally inappropriate classrooms as ‘rigid’ and ‘isolated.’

Jen: Just from my personal experience I have been in a kindergarten classroom and they were all day long doing *worksheets sitting at their desks*. (J-2-2)

It was like listen to the teacher, *sitting in a chair, don’t talk, just do your worksheets*, color in the lines, you know very just a *rigid*. (J-3-29)

Cindy: *Sitting in a desk, isolated*, they are not working in groups. They’re doing *individualized work*, they’re not on groups. (C-4-40)

Really hard *worksheets* or try to make them like read the book by themselves of regular chapters books. (C-5-11)
They [children] did their work and they didn’t interact with their peers at all. (C-5-42)

Also, the teaching approach in DIP was described as having more lecture-based and direct instruction while not having many opportunities for center activities (J-2-41, J-7-5, & C-5-41). Tara described the atmosphere of DIP as chaotic because of a lack of rules and structure. Along with principles of DAP, she considered structure of classroom practice important component in teaching. Tara stated that if the classroom operates in well-organized way and agreed upon rules exist, this will prevent chaos.

Tara: They’re mostly likely being in a center. They aren’t teaching them anything or giving them knowledge of anything like…. There is kind a jumping around and playing that they’re….. Kids are not spending enough time in one center and they are just running off doing something that has nothing to do with what the teacher intended them to do. It’s just a chaotic classroom. (T-4-18)

I felt like it was a lot like the kids are out of control. (T-6-43)

**Developmentally inappropriate physical environment**: Jen and Tara described characteristics of the physical environment in DIP. Jen described emotional aspects, such as ‘uncomfortable’ and ‘not meaningful’ for children. Jen considered physical environment as not only pertaining to physical features and classroom arrangement, but also meanings and emotions.

Jen: I guess so an inappropriate one would be not child’s size, not comfortable for the children and I guess … inappropriate one probably have things that you know they might be pretty to look at, they might have nice bulletin board but they are not meaningful to the children in the classroom. (J-4-2)

Compared with Jen, Tara talked about an imbalanced and inappropriate arrangement for children in centers. Also Cindy mentioned issues surrounding desk and chair setting in a developmentally inappropriate environment.

Tara: it will probably be like an imbalanced environment. There might not be well-defined centers like areas. They might just all be cluttered around together. There are no boundaries between different places in the classroom. (T-5-14)
Jen was the only interviewee who iterated the importance of the socio-emotional aspect of the environment in relation to DAP. Tara and Cindy primarily described the physical arrangement of the environment.

**Teachers’ Beliefs about the Relationship between Music and DAP**

Reflecting upon interviews, questionnaires, and concept webs, three early childhood preservice teachers’ beliefs about the relationship between music and DAP have been examined. The relationships are categorized in two ways: 1) music as a developmental tool used to implement DAP, and 2) music as a supplemental activity that is a part of DAP. Jen’s beliefs about the relationship reflect the idea expressed in the first category, and Tara and Cindy’s beliefs reflect the idea expressed in the second category.

**Music as a Developmental Tool of DAP – Music is Part of DAP**

Jen considered music a part of DAP and insisted that music should be a part of DAP. This relationship was also found in her concept web (Figure 4-6). She placed music inside of the DAP circle.

Jen: It would be developmentally appropriate to include music in an early childhood classroom. (J-12-21)

Jen believed that a relationship exists between music and other developmental areas. She mentioned that social development and cognitive development were related to music.

Jen: music and social development. I could definitely see it [relationship]. (J-13-16) You have heard about like ‘if you play this music, then it will make your children smart’ which I don’t necessarily think that. But it does have a relationship. But I don’t know how. (J-13-27)

Jen talked about music activities that she is able to implement in the classroom, such as singing. She emphasized the use of songs in different ways, such as during transition time or
throughout the day. It appeared as though she thinks it is important for children to be exposed to music continuously in the curriculum and routine.

Jen: I think maybe it will be good in a kindergarten classroom to have maybe just some songs that you teach the children just to use even like during transition time would be maybe good time. You could start singing the song, and then they just sing along. It doesn’t even like to be like ‘okay, let’s sit down on the carpet, and we’ll sing that song together. They’ll sing that song.’ You can just be fairly informal just throughout the day, once if they learn the song, you know, sing the song. Just incorporate however you can (J-11-43 to J -12-7)

She also described how music could be used in DAP through integration with other activities related to the theme.

Jen: just to include it don’t necessarily make it one section of it. They just integrate it throughout the day whatever ways you see are fitting or whatever ways be beneficial. (J-12-41)

If you had a unit on some particular thing, find music that goes along with that. Theme and include with that.(J-12-13)

**Music as a Supplemental Activity Partially Related to DAP**

This relationship represents the idea that music can play a partial role in DAP. Within this concept, music is not considered a primary tool to facilitate DAP, but as a supplemental activity to aide the implementation of DAP. Figure 4-7 explains the relationship between music and DAP that Tara and Cindy drew.

Cindy viewed the relationship between music and DAP as being appropriate for ‘some’ children who have had musical background or musical experiences at their homes. This indicates that she views music as important only for certain children who have a personal musical background. She did not believe music was necessary for all students.

Cindy: there is probably a relationship between like one that atmosphere that music can bring to classroom like exploring or doing their own things. I also think like music might in some children be part of their life even when they are very young, the parents might play the music and I think that it can help them understand concepts that they might not get otherwise. That each child probably has something that makes them understand ideas better than other children. Music could be one of things that help some children, so I can
see where [it can be] developmentally appropriate for some children to use music as their means for learning. (C-11-24)

Also, Cindy described functions of music as supplementary, such as to refresh students or calm them down from the pressure of academics. However, these functions are not major roles of music, but partial and minor aspects. As discussed in literature review, there are many diverse functions of music such as cognitive, social, aesthetic, cultural, and emotional.

Cindy: I think having a special like music class is good for a lot of kids because they like music and music class gives them something other than academics all day long. (C-7-35)

Cindy: during rest/nap period using calm music like quite classroom down. I liked that. I think that’s one of music is not better points, but something really good about music that has ability to calm you down. (C-11-5)

When describing ways to integrate and implement music in the classroom, Cindy described the experience that she liked in her practicum. This may imply positive experiences and good demonstrations of music integration into the classroom that could help preservice teachers better understand how to implement music activities into their own classrooms. Therefore, experience from field or teaching practice is important because it demonstrates a specific approach for the implementation of music activities in the classroom. If Cindy had more opportunities to observe diverse music activities, she may possess more positive beliefs about music, including a belief of music as an active medium of development.

Cindy: I liked how they used music. They also had a time in the morning, it was like circle time, talking about the calendar and then they had one kid got to pick a song that they wanted to listen to, so they either dance to it or sing to it. I thought that the kids really enjoyed that and made them learn the things that we were going to, along with the songs. (C-13-20)

Regarding the relationship between music and other developmental areas, Cindy recognized relationship between music and social, cognitive, and motor development. Although she
recognized the relationship between music and important developmental areas, this relationship was not reflected in her descriptions of the meaning and role of music.

Cindy: socially you can dance that’s building social skills. Cognitively like understanding the notes would be cognitive development. Gross motor can be dancing and building most muscles. I think that you could definitely use it with all those if you knew how or wanting to your classroom. (C-13-4)

Tara saw a partial relationship between music and DAP, and saw the possibility of music being integrated into DAP practices, as did Cindy. However, Tara considered more diverse uses for music in DAP than Cindy. Tara emphasized how music could be integrated into academic subjects. She explained that certain topics related to music could be overlapped with other academic areas, and that the remaining areas of music could focus on music specific knowledge (i.e., tempo, rhythm, beat).

Tara primarily considered music as a supplemental tool to facilitate academic or core subjects related to DAP in terms of ‘integration’. She did not see a clear place for activities focused solely on music. For example, she stated music can be integrated with literacy and math (i.e., rhyming, counting) using repetition.

Tara: You can use art and music to integrate into there [literacy and math], but it’s not specifically that I’m just gonna teach ‘oh this is a kind of music, and teach like specific things about music’. I think music and art always are gonna be integrated in early childhood but through like reading and through math things like that. It’s not just separate subject. (T-12)

Tara: It’s still something that kids need to be introduced to whether different songs that they are learning different words to. Also songs will teach kids rhyming. Kids count even memorizing singing songs. Kids like memorizing words and they don’t even realize that they were just remembering them. Just sing it over and over again. I don’t know exactly how to explain like how it’s developmentally… you know… I know it’s something that has always incorporated into a classroom. And it helps kids in different ways to learn. (T-17-25)

Tara mentioned relationships between music and cognitive, physical, and social development.
I mean music can help kids cognitively whether it’s like they learn better while listening to music. Also physically you dance it helps when you’re listening to music. Socially you can give kids like common interests of something that they like, you know, specific. I mean I think it’s integrated in all the different domains. (T-28-34)

Tara described some ways that developmentally appropriate music activities can be approached. She described the purposes of music activities as providing fun and interest for the children. Tara was able to recognize more benefits of music than Cindy. However, Tara primarily emphasized music’s role in relation to academic areas (i.e., literacy, math) instead of the importance of a focus on music alone.

Tara: doing it to integrate different subjects also provide like instruments in the classroom to have maybe during center time or in the morning when everybody gets there just to have them play or just to introduce them to different musical instruments like maraca, a recorder, and things like that. Just get them to introduce that there are different instruments to create music. (T-16-39)

Tara: Just for fun. Like the song ‘we’re going to a bear hunt’. Kids are listening to the music and should pay attention to what’s going on. To get them interested or just to get energy out because that’s what you do with music. You dance and you let energy out. You sing. It’s just supposed to be fun. (T-18-25)

Tara: Music doesn’t, music just can be songs from that you use that teachers nowadays use during circle time things like that. (T-14-6)

Summary

Early childhood preservice teachers’ beliefs about music, DAP, and the relationship between music and DAP have been analyzed using teacher information questionnaire, music basic questionnaire, the TBS questionnaire, music belief scale, and follow-up interviews. First, the study demonstrated that preservice teachers have relatively positive beliefs about the importance of music, including the aesthetic, quality of life, and social emotional benefits. The participants believed that literacy is the most important subject in early childhood, and music is
the fourth most important subject. Confidence levels on individual ability to implement and support music development in the classroom varied. Most preservice teachers believed that the role of music teachers in facilitating music development is more important than the role of early childhood teachers.

There was a significant difference in music beliefs that was correlated with the teachers’ confidence level in their ability to implement music activities and to facilitate music development in early childhood classroom. Higher levels of confidence were correlated with strong beliefs about the importance of music. A significant difference was also found in beliefs about the importance of music in relation to the ability to read musical notation. The teachers who were able to slightly read musical notation demonstrated more positive beliefs about the importance of music than the teachers who were not able to read musical notation.

This study also showed that these early childhood preservice teachers possess relatively strong beliefs about DAP and weak beliefs about DIP. There was a statistically significant difference in DAP and DIP beliefs depending on academic status. Preservice teachers with a higher academic status demonstrated stronger beliefs in relation to DAP, and lower beliefs in relation to DIP than preservice teachers at junior level. A statistically significant relationship between DAP and field experience was identified. Teachers who had more field experiences demonstrated stronger beliefs about DAP.

Lastly, there was a statistically significant relationship between beliefs about the importance of music and DAP such that teachers who strongly believed in the importance of music showed positive beliefs about DAP. In order to examine in-depth beliefs about music and DAP, three participants who represented stronger, incongruent and weaker relationships were interviewed. Based on the taxonomy and cultural psychological theme, beliefs of each
interviewee varied in different areas, including: 1) beliefs about music in relation to personal background, teacher education, professional experience, and confidence, 2) beliefs about DAP including descriptions of characteristics of DAP and DIP, and 3) beliefs about the relationship between music and DAP. In the next chapter, the implications and significance of the study will be examined.
Table 4-1. Demographic and descriptive data.

<table>
<thead>
<tr>
<th></th>
<th>Frequencies</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-20</td>
<td>11</td>
<td>16.9 %</td>
</tr>
<tr>
<td>21-22</td>
<td>36</td>
<td>55.4 %</td>
</tr>
<tr>
<td>23-24</td>
<td>16</td>
<td>24.6 %</td>
</tr>
<tr>
<td>25-</td>
<td>2</td>
<td>3.0 %</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>48</td>
<td>73.8 %</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9</td>
<td>13.8 %</td>
</tr>
<tr>
<td>African-American</td>
<td>5</td>
<td>7.7 %</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>4.6 %</td>
</tr>
<tr>
<td><strong>Academic status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td>25</td>
<td>38.5 %</td>
</tr>
<tr>
<td>Senior</td>
<td>24</td>
<td>36.9 %</td>
</tr>
<tr>
<td>Graduate</td>
<td>16</td>
<td>24.6 %</td>
</tr>
<tr>
<td><strong>Numbers of field placements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>25</td>
<td>38.5 %</td>
</tr>
<tr>
<td>4-5</td>
<td>24</td>
<td>36.9 %</td>
</tr>
<tr>
<td>5-6</td>
<td>16</td>
<td>24.6 %</td>
</tr>
<tr>
<td><strong>Length of field experiences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2 months</td>
<td>25</td>
<td>38.5 %</td>
</tr>
<tr>
<td>5-6 months</td>
<td>24</td>
<td>36.9 %</td>
</tr>
<tr>
<td>7-9 months</td>
<td>16</td>
<td>24.6 %</td>
</tr>
<tr>
<td><strong>Teaching experiences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>11</td>
<td>16.9 %</td>
</tr>
<tr>
<td>Part time</td>
<td>21</td>
<td>32.3 %</td>
</tr>
<tr>
<td>None</td>
<td>33</td>
<td>50.8 %</td>
</tr>
<tr>
<td><strong>Length of teaching experiences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>33</td>
<td>50.8 %</td>
</tr>
<tr>
<td>0 -1 year</td>
<td>15</td>
<td>23.1 %</td>
</tr>
<tr>
<td>1- 2 years</td>
<td>10</td>
<td>15.4 %</td>
</tr>
<tr>
<td>More than 2 years -</td>
<td>7</td>
<td>10.7 %</td>
</tr>
<tr>
<td><strong>Having formal/informal music Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, I did</td>
<td>56</td>
<td>86.2 %</td>
</tr>
<tr>
<td>No, I did not</td>
<td>8</td>
<td>12.3 %</td>
</tr>
</tbody>
</table>
### Table 4-1. Demographic and descriptive data.

<table>
<thead>
<tr>
<th>Ability to read music notation</th>
<th>Frequencies</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to read</td>
<td>28</td>
<td>43.1%</td>
</tr>
<tr>
<td>Somewhat able to read</td>
<td>4</td>
<td>6.2%</td>
</tr>
<tr>
<td>Not able to read</td>
<td>33</td>
<td>50.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge on musical terms</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tempo</td>
<td>41</td>
<td>63.1%</td>
</tr>
<tr>
<td>Beat</td>
<td>19</td>
<td>29.2%</td>
</tr>
<tr>
<td>Melody</td>
<td>28</td>
<td>43.1%</td>
</tr>
<tr>
<td>Rhythm</td>
<td>22</td>
<td>33.8%</td>
</tr>
<tr>
<td>Articulation</td>
<td>4</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

### Table 4-2. Coursework list of the participants.

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusive EC studies</td>
<td>EC math &amp; science</td>
</tr>
<tr>
<td>The young child</td>
<td>Assessment in ECSE</td>
</tr>
<tr>
<td>Social foundation of education</td>
<td>Practicum</td>
</tr>
<tr>
<td>Teachers &amp; learners</td>
<td>Emergent literacy</td>
</tr>
<tr>
<td>Language acquisition</td>
<td>Multicultural issues ECSE</td>
</tr>
<tr>
<td>Family involve in ECSE</td>
<td></td>
</tr>
<tr>
<td>Social competence in EC</td>
<td>Technology</td>
</tr>
<tr>
<td>EC program for infant/toddler</td>
<td>Measurement and evaluation</td>
</tr>
<tr>
<td>EC science &amp; social studies</td>
<td>Language arts for diverse learners</td>
</tr>
<tr>
<td>Severely handicapped</td>
<td>ECSE curriculum and management</td>
</tr>
<tr>
<td>Practicum</td>
<td>EC curriculum and management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&lt;Summer&gt;</th>
<th>&lt;Fall&gt;</th>
<th>&lt;Spring&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC background &amp; concepts</td>
<td>Internship in EC</td>
<td>Creativity in EC curriculum administration</td>
</tr>
<tr>
<td>Reading/primary grades</td>
<td>Trasdiscipline exceptional students</td>
<td>Issues in child care</td>
</tr>
</tbody>
</table>

Graduate

| EC curriculum methods assessment | EC children’s literature | Intervention for language & learning disabilities |
Table 4-3. Mean scores for the benefits of music.

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Total mean</th>
<th>Quality-of-Life benefit</th>
<th>Social-emotional benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic benefit</td>
<td>48.23</td>
<td>37.38</td>
<td>44.52</td>
</tr>
<tr>
<td>Quality-of-Life benefit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social-emotional benefit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.82</td>
<td>4.15</td>
<td>4.94</td>
</tr>
<tr>
<td>SD</td>
<td>4.8</td>
<td>4.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Range</td>
<td>31-60</td>
<td>26-52</td>
<td>34-54</td>
</tr>
</tbody>
</table>

Table 4-4. The rank of six subjects.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Literacy</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>Math</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>Science</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Music</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Art</td>
</tr>
<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Physical education</td>
</tr>
</tbody>
</table>

Table 4-5. One-way ANOVA for music beliefs depending on academic status.

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music</td>
<td>Between Groups</td>
<td>429.615</td>
<td>2</td>
<td>214.807</td>
<td>.807</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>16238.745</td>
<td>61</td>
<td>266.209</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16668.359</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4-6. Correlations between beliefs about music and field experiences.

<table>
<thead>
<tr>
<th></th>
<th>Numbers of field placements</th>
<th>Length of field experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music</td>
<td>Pearson Correlation -.147</td>
<td>-.136</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) .246</td>
<td>.284</td>
</tr>
<tr>
<td></td>
<td>n 64</td>
<td>64</td>
</tr>
</tbody>
</table>
Table 4-7. Correlations between beliefs about music and teaching experiences.

<table>
<thead>
<tr>
<th>Length of teaching experiences</th>
<th>Music Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>-.066</td>
<td>.606</td>
</tr>
</tbody>
</table>

Table 4-8. One-way ANOVA for Music depending on confidence about the ability to implement music activities.

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC</td>
<td>5257.428</td>
<td>3</td>
<td>1752.479</td>
<td>9.215</td>
<td>.000***</td>
</tr>
<tr>
<td></td>
<td>11410.922</td>
<td>60</td>
<td>190.182</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16668.359</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

***p < .001

Table 4-9. Post-hoc comparison tests for confidence about the ability to implement music activities.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean differences</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not and somewhat confident</td>
<td>Moderately confident</td>
<td>3.97</td>
<td>5.661</td>
</tr>
<tr>
<td>Very confident</td>
<td>-2.38</td>
<td>5.661</td>
<td>.981</td>
</tr>
<tr>
<td>Extremely confident</td>
<td>-23.15**</td>
<td>6.541</td>
<td>.009</td>
</tr>
<tr>
<td>Moderately confident</td>
<td>Not and somewhat confident</td>
<td>-3.97</td>
<td>5.661</td>
</tr>
<tr>
<td>Very confident</td>
<td>-6.35</td>
<td>4.067</td>
<td>.492</td>
</tr>
<tr>
<td>Extremely confident</td>
<td>-27.12**</td>
<td>5.224</td>
<td>.000</td>
</tr>
<tr>
<td>Very confident</td>
<td>Not and somewhat confident</td>
<td>2.38</td>
<td>5.661</td>
</tr>
<tr>
<td>Moderately confident</td>
<td>6.35</td>
<td>4.067</td>
<td>.492</td>
</tr>
<tr>
<td>Extremely confident</td>
<td>-20.77**</td>
<td>5.224</td>
<td>.003</td>
</tr>
<tr>
<td>Extremely confident</td>
<td>Not and somewhat confident</td>
<td>23.15**</td>
<td>6.541</td>
</tr>
<tr>
<td>Moderately confident</td>
<td>27.12**</td>
<td>5.224</td>
<td>.000</td>
</tr>
<tr>
<td>Very confident</td>
<td>20.77**</td>
<td>5.224</td>
<td>.003</td>
</tr>
</tbody>
</table>

** p < .005, ***p < .001
Table 4-10. One-way ANOVA for Music depending on confidence about the ability to support music development.

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC</td>
<td>3209.943</td>
<td>3</td>
<td>1069.981</td>
<td>4.770</td>
<td>.005*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>13458.416</td>
<td>60</td>
<td>224.307</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>16668.359</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16668.359</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

Table 4-11. Post-hoc comparison tests for confidence about the ability to support music development.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean differences</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not and somewhat confident</td>
<td>-.06</td>
<td>5.391</td>
<td>1.000</td>
</tr>
<tr>
<td>Very confident</td>
<td>-4.81</td>
<td>5.087</td>
<td>.827</td>
</tr>
<tr>
<td>Extremely confident</td>
<td>-25.21*</td>
<td>7.392</td>
<td>.013</td>
</tr>
<tr>
<td>Moderately confident</td>
<td>Not and somewhat confident</td>
<td>.06</td>
<td>5.391</td>
</tr>
<tr>
<td>Very confident</td>
<td>-4.74</td>
<td>4.520</td>
<td>.777</td>
</tr>
<tr>
<td>Extremely confident</td>
<td>-25.14*</td>
<td>7.014</td>
<td>.008</td>
</tr>
<tr>
<td>Very confident</td>
<td>Not and somewhat confident</td>
<td>4.81</td>
<td>5.087</td>
</tr>
<tr>
<td>Moderately confident</td>
<td>4.74</td>
<td>4.520</td>
<td>.777</td>
</tr>
<tr>
<td>Extremely confident</td>
<td>-20.40*</td>
<td>6.783</td>
<td>.037</td>
</tr>
<tr>
<td>Extremely confident</td>
<td>Not and somewhat confident</td>
<td>25.21*</td>
<td>7.392</td>
</tr>
<tr>
<td>Moderately confident</td>
<td>25.14*</td>
<td>7.014</td>
<td>.008</td>
</tr>
<tr>
<td>Very confident</td>
<td>20.40*</td>
<td>6.783</td>
<td>.037</td>
</tr>
</tbody>
</table>

*p < .05

Table 4-12. One-way ANOVA for music depending on ability to read musical notation.

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC</td>
<td>2141.434</td>
<td>2</td>
<td>1070.717</td>
<td>4.946</td>
<td>.015*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>14526.925</td>
<td>61</td>
<td>238.146</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>16668.359</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16668.359</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
Table 4-13. Post-hoc comparison tests for ability to read musical notation in music beliefs.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean differences</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes I can read</td>
<td>8.43</td>
<td>4.005</td>
<td>.118</td>
</tr>
<tr>
<td>No I can’t read</td>
<td>-8.43</td>
<td>4.005</td>
<td>.118</td>
</tr>
<tr>
<td>Yes I can’t read somewhat</td>
<td>-20.81*</td>
<td>8.170</td>
<td>.046</td>
</tr>
<tr>
<td>No I can’t read</td>
<td>12.38</td>
<td>8.268</td>
<td>.333</td>
</tr>
</tbody>
</table>

*p < .05

Table 4-14. One-way ANOVA for music depending on confidence about the ability to implement music activities.

<table>
<thead>
<tr>
<th>MUSIC</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5257.428</td>
<td>3</td>
<td>1752.479</td>
<td>9.215</td>
<td>.000***</td>
</tr>
<tr>
<td>Within Groups</td>
<td>11410.922</td>
<td>60</td>
<td>190.182</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16668.359</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

***p < .001

Table 4-15. Mean scores for DAP and DIP.

<table>
<thead>
<tr>
<th></th>
<th>DAP</th>
<th>DIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total means</td>
<td>57.32</td>
<td>37.42</td>
</tr>
<tr>
<td>Mean score</td>
<td>4.41</td>
<td>2.9</td>
</tr>
<tr>
<td>SD</td>
<td>4.8</td>
<td>5.5</td>
</tr>
<tr>
<td>Range</td>
<td>47 - 65</td>
<td>26-52</td>
</tr>
</tbody>
</table>

Table 4-16. One-way ANOVA for DAP and DIP depending on academic status.

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAP</td>
<td>289.817</td>
<td>2</td>
<td>144.909</td>
<td>7.398</td>
<td>.001**</td>
</tr>
<tr>
<td>Between Groups</td>
<td>214.398</td>
<td>62</td>
<td>19.587</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>1504.215</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1724.615</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIP</td>
<td>491.200</td>
<td>2</td>
<td>245.600</td>
<td>10.243</td>
<td>.000***</td>
</tr>
<tr>
<td>Between Groups</td>
<td>486.585</td>
<td>62</td>
<td>23.977</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>1451.720</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1942.305</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .005, ***p < .001
Table 4-17. Post-hoc comparison tests for academic status in DAP beliefs.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean differences</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td>-4.61**</td>
<td>1.265</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>-3.82*</td>
<td>1.417</td>
<td>.032</td>
</tr>
<tr>
<td>Senior</td>
<td>4.61**</td>
<td>1.265</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>.79</td>
<td>1.428</td>
<td>.858</td>
</tr>
<tr>
<td>Graduate</td>
<td>3.82*</td>
<td>1.417</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>-.79</td>
<td>1.428</td>
<td>.858</td>
</tr>
<tr>
<td>DIP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td>6.09***</td>
<td>1.399</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>1.21</td>
<td>1.568</td>
<td>.743</td>
</tr>
<tr>
<td>Senior</td>
<td>-6.09***</td>
<td>1.399</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>-4.88*</td>
<td>1.580</td>
<td>.012</td>
</tr>
<tr>
<td>Graduate</td>
<td>-1.21</td>
<td>1.568</td>
<td>743</td>
</tr>
<tr>
<td></td>
<td>4.88*</td>
<td>1.580</td>
<td>.012</td>
</tr>
</tbody>
</table>

* p < .05,  **p < .005, ***p< .001

Table 4-18. Correlations between beliefs about DAP/DIP and field experiences.

<table>
<thead>
<tr>
<th></th>
<th>Numbers of Field Placements</th>
<th>Length of Field Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.364**</td>
<td>.384**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.003</td>
<td>.002</td>
</tr>
<tr>
<td>n</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>DIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-.192</td>
<td>-.222</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.126</td>
<td>0.76</td>
</tr>
<tr>
<td>n</td>
<td>65</td>
<td>65</td>
</tr>
</tbody>
</table>

**p < .005

Table 4-19. Correlations between beliefs about DAP/DIP and teaching experiences.

<table>
<thead>
<tr>
<th></th>
<th>Length of teaching experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAP</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-.093</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.461</td>
</tr>
<tr>
<td>n</td>
<td>65</td>
</tr>
<tr>
<td>DIP</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-.138</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.275</td>
</tr>
<tr>
<td>n</td>
<td>65</td>
</tr>
</tbody>
</table>
Table 4-20. Correlations for DAP and music.

<table>
<thead>
<tr>
<th></th>
<th>DAP</th>
<th>MUSIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAP</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>65</td>
</tr>
<tr>
<td>MUSIC</td>
<td>Pearson Correlation</td>
<td>.305*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>64</td>
</tr>
</tbody>
</table>

* p < .05

Table 4-21. Frequency of stronger, weaker, and incongruent relationships.

<table>
<thead>
<tr>
<th></th>
<th>Juniors</th>
<th>Seniors</th>
<th>Graduate</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stronger</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Weaker</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Incongruent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>higher music vs. lower DAP</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>lower music vs. higher DAP</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>15</td>
</tr>
</tbody>
</table>
Table 4-22. Basic information of the interview participants.

<table>
<thead>
<tr>
<th></th>
<th>Jen</th>
<th>Tara</th>
<th>Cindy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The relationship between</td>
<td><strong>Stronger:</strong></td>
<td><strong>Incongruent:</strong></td>
<td><strong>Weaker:</strong></td>
</tr>
<tr>
<td>music and DAP</td>
<td>Strong music vs. Strong DAP</td>
<td>Weaker music vs. Strong DAP</td>
<td>Weaker music vs. Weaker DAP</td>
</tr>
<tr>
<td>Age</td>
<td>21</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Academic Status</td>
<td>Senior</td>
<td>Senior</td>
<td>Junior</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Caucasian</td>
<td>Hispanic</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Field Experiences</td>
<td>4 (6 months)</td>
<td>4 (6 months)</td>
<td>2 (2 months)</td>
</tr>
<tr>
<td>Teaching experiences</td>
<td>None</td>
<td>Part-time teaching (4 months)</td>
<td>Babysitting (10 years)</td>
</tr>
<tr>
<td>Music education</td>
<td>Band (bassoon, percussion), Piano</td>
<td>Clarinet</td>
<td>Singing, Hand bells</td>
</tr>
<tr>
<td>Music Belief Scores</td>
<td>195</td>
<td>143</td>
<td>156</td>
</tr>
<tr>
<td>DAP scores</td>
<td>61</td>
<td>63</td>
<td>50</td>
</tr>
<tr>
<td>Confidence about the ability to</td>
<td>Extremely confident</td>
<td>Moderately confident</td>
<td>Moderately confident</td>
</tr>
<tr>
<td>implement music activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidence about the ability to</td>
<td>Extremely confident</td>
<td>Moderately confident</td>
<td>Not confident</td>
</tr>
<tr>
<td>support children’s musical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Importance of the role of early</td>
<td>Extremely confident</td>
<td>Very important</td>
<td>Somewhat important</td>
</tr>
<tr>
<td>childhood educators</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Importance of the role of music</td>
<td>Extremely confident</td>
<td>Very important</td>
<td>Very important</td>
</tr>
<tr>
<td>teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to read musical notation</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Music content knowledge – tempo,</td>
<td>4 of 5</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>beat, melody, rhythm, articulation</td>
<td>(tempo, beat, melody, and rhythm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4-23. Coursework of the interview participants.

<table>
<thead>
<tr>
<th>Jen &amp; Tara (Senior)</th>
<th>Cindy (Junior)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>EC math and science</td>
</tr>
<tr>
<td>Measurement and Evaluation</td>
<td>Assessment in EC special education</td>
</tr>
<tr>
<td>Language arts for diverse learners</td>
<td>Practicum</td>
</tr>
<tr>
<td>ECSE curriculum and management</td>
<td>Emergent literacy</td>
</tr>
<tr>
<td>EC curriculum and management</td>
<td>Multicultural Issues in ECSE (ESOL)</td>
</tr>
</tbody>
</table>

Table 4-24. Comparison of DAP principles.

<table>
<thead>
<tr>
<th>Jen</th>
<th>Tara</th>
<th>Cindy</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘interest’ based</td>
<td>‘interactive’</td>
<td>‘succeed’</td>
</tr>
<tr>
<td>‘being active’</td>
<td>‘communicative’</td>
<td>‘scaffolding’</td>
</tr>
<tr>
<td>‘hands-on’</td>
<td>‘rules and structure’</td>
<td>‘interaction’</td>
</tr>
<tr>
<td>‘making choices’</td>
<td></td>
<td>‘specialized to each child’</td>
</tr>
<tr>
<td>‘exchange between peers’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4-25. Comparison of teachers’ roles in DAP.

<table>
<thead>
<tr>
<th>Jen</th>
<th>Tara</th>
<th>Cindy</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Making plans</td>
<td></td>
<td>*Fostering the growth and challenging the children</td>
</tr>
<tr>
<td>*Observing children</td>
<td></td>
<td>*Scaffolding</td>
</tr>
<tr>
<td>*Asking questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Flexible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Assessing by observation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Lenient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Providing appropriate materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Communicating with children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Getting to know children and parents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Continuing looking for the new resources’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Be aware of and knowing children’s ability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4-26. Comparison of developmentally appropriate physical environment.

<table>
<thead>
<tr>
<th>Jen</th>
<th>Tara</th>
<th>Cindy</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Welcoming environment</td>
<td></td>
<td>No desks and chairs</td>
</tr>
<tr>
<td>*Feeling safe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Assessable furniture with appropriate size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Display of children’s work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Learning centers – library with different types of books, dramatic play, writing center, manipulative center with blocks, computers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*certain boundaries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*certain rules in center arrangement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 4-1. Rank of music.

Figure 4-2. Confidence about ability to implement music activities and support musical development.
Figure 4-3. Comparison of early childhood teachers’ roles and music teachers’ roles.

Beliefs about Music

- 75-100%
- 25-75%
- 0-25%

Beliefs about DAP

- 75-100%
- 25-75%
- 0-25%

Figure 4-4. In-depth patterns of relationship between music and DAP beliefs
Figure 4-5. The representative taxonomy of the early childhood preservice teachers’ beliefs about music, DAP and the relationship between music and DAP.

Figure 4-6. Jen’s beliefs about the relationship between music and DAP

Figure 4-7. Tara and Cindy’s beliefs about the relationship between music and DAP.
This chapter discusses the findings and implications of this study. First, early childhood preservice teachers’ beliefs about music will be discussed. Then, the teachers’ beliefs about DAP, including the relationship between these beliefs and individual teacher variables will be presented. Finally, early childhood preservice teachers’ beliefs about the relationship between music and DAP will be introduced with in-depth explanations of this relationship from teachers who possess stronger, incongruent, and weaker beliefs about music and DAP.

**Early Childhood Preservice Teachers’ Beliefs about Music**

An analysis of a music belief questionnaire led to the current understanding regarding these early childhood preservice teachers’ beliefs about music in this study. This study demonstrates that these early childhood preservice teachers possess strong beliefs about the importance of music. Specifically, most early childhood preservice teachers believe that over 97% of the statements about the importance of music are more true than false. This result is consistent with a study of music education preservice teachers’ beliefs about music conducted by Austin and Reinhardt (1999). The study contends that preservice music teachers also believed the overall statements are more true than false. Since a recent review of the literature yielded little research on early childhood teachers’ beliefs about music, this outcome provides new and useful information to understand how early childhood teachers perceive the importance of music.

Overall music beliefs, aesthetic, quality-of-life, and social-emotional benefits of music were analyzed. The findings showed that these early childhood preservice teachers relatively hold strong beliefs in three domains. The early childhood preservice teachers believe that the statements of aesthetic and social-emotional growth benefits are true and the statements of quality-of-life benefits are more true than false. In addition, early childhood preservice teachers
believe music has more social-emotional growth than other two benefits. This outcome was supported by follow-up interviews concerning the relationship between music and other developmental areas. All of the interviewees discussed the social and emotional value of music; for example, music has a calming effect on the classroom atmosphere and it is an enjoyable activity for both children and teachers. Furthermore, the teachers emphasized that music facilitates children’s social development through activities such as singing and dancing. Early childhood preservice teachers noticed that music activities help develop social-emotional competence. This result is consistent with research indicating that music functions as a social development tool. The term ‘musical child in context’ implies music assists children in developing interdependent relationships (Custodero, 2002b).

This study on early childhood preservice teachers’ beliefs regarding the importance of music relative to other subjects reveals a belief that literacy is the most important subject in early childhood education. The teachers rank order of the subjects from the most important to the least important was literacy, math, science, music, art and PE. Music was not ranked as important relative to academic subjects (i.e., literacy, math, science). Over 97% of the participants indicated that literacy is the most important subject for young children, while music was ranked as the fourth most important subject. This finding reflects the current educational dilemma; there has been an increase in the high stakes testing emphasizing academic subjects in early childhood education. Since the No Child Left Behind Act (NCLB), many schools must focus on academic outcomes, while other developmental areas have been overlooked (Hill, 2003; Raver & Zigler, 2004). The top three subjects - literacy, math, and science – that the participants ranked were the subjects of Florida Comprehensive Assessment Test (Florida Department of Education, 2007). This finding is also supported by follow-up interviews. All three interviewees nominated literacy
as the most important subject. They addressed two major reasons for their beliefs. First, the priority of literacy has been influenced by their practicum experiences. Most of the teaching practice at practicum sites was related to literacy and math for young children. The preservice teachers reported that they have not seen many music activities in their practicum experiences. Second, the interviewees explained that the coursework in the teacher education for early childhood education (i.e., Proteach program) consisted of literacy, language, math and science. Music and art were reserved for graduate courses. This may influence teachers’ beliefs about music and art. This result may imply the importance of providing diverse contents and approaches in teacher preparation programs and field experiences.

This study shows that confidence level of these early childhood preservice teachers varied in implementing and supporting music. The early childhood preservice teachers reported that about half of the participants feel very confident about their ability to implement music activities and support children’s musical development compared with other participants, who answered that they were somewhat or moderately confident in implementing music in the classroom. Many teachers do not feel confident in their ability to implement musical activities although they do believe music is important in early childhood education. Relevant studies of music implementation for young children have also demonstrated that teachers may hesitate to actively implement music in the classroom due to a lack of confidence in their knowledge of music or inadequate support (Gharavi, 1993; Hildebrandt, 1998; McDonald, 1993, l’Etoile, 2001).

This is supported by the follow-up interview analyses. Through the interviews, the reasons for the low level of confidence in implementing music stem from lack of music content knowledge and the assumption that music should be taught by music teachers. However, one of the interviewees distinguished between teaching music and incorporating music in the classroom.
Although she reported a lower level of confidence in teaching music content knowledge, she demonstrated a higher level of confidence in integrating music into other subject areas (i.e., literacy, math). Additionally, another interviewee who has not taken any music related class pointed out the lack of instruction in teacher education courses regarding how to specifically implement music in the classroom. In order to improve this low level of confidence, research suggests that music education including music activities and content knowledge helps facilitate teachers’ confidence in implementing music (I’Etoile, 2001).

The early childhood preservice teachers in the current study believe that the roles of early childhood educators and music teachers are important. However, the teachers believe music teachers’ roles are more important than early childhood education teachers’ roles to support the musical development of young children. This finding is consistent with the follow-up interview analysis. All interviewees agreed that music is important for young children. However, two interviewees described music as an extracurricular activity in the early childhood curriculum and believe it is a special subject that needs to be taught by music teachers. These beliefs may be due to limited experiences with music activities in practicum placements. Additionally, the supervising teachers’ attitudes toward music may have influenced the preservice teachers’ beliefs. One of the participants discussed a co-teacher’s negative attitude toward music. In addition to that, the early childhood teachers’ lack of music subject knowledge may have affected their beliefs about the role of early childhood teachers.

There are significant differences in music beliefs depending on teachers’ level of confidence in implementing music activities and the ability to read musical notation. First, teachers who feel more confident in implementing musical activities, supporting music development, and supporting musical development have stronger beliefs about music. This
finding is related to teachers’ self-efficacy research. Confidence in one’s ability to implement and support music represents self-efficacy, a self-evaluation of one’s own ability (Bandura 1977; 1997). Teachers’ self-efficacy acts as beliefs about their own abilities, which influences their practice and behavior. For example, higher self-efficacy is positively related to children’s social interaction and supportive atmosphere (Vartuli, 2005). The source of teachers’ beliefs may be based on their confidence in their own ability and knowledge. If a teacher feels confident in implementing music, that might influence his or her beliefs about music. This finding is supported by follow-up interviewees who reported that they are not confident in teaching music and demonstrated a weaker level of belief in the importance of music.

Next, the preservice teachers who are able to read musical notation have more positive beliefs about the importance of music than teachers who are not able to read such notation. This study showed that there is difference between teachers who can ‘somewhat’ read musical notation and teachers who are unable to read musical notation. This implies that music content knowledge may affect the ability to build positive beliefs about music although the knowledge is not perfect or complete. During the interviews, the two teachers who had lower scores on their beliefs about the importance of music frequently mentioned their lack of knowledge about musical content; for example, they were not able to read musical notation. They were also less knowledgeable of musical terms than the interviewee who held stronger beliefs about the importance of music.

There was no significant difference in these early childhood preservice teachers’ beliefs about music based upon academic status. This is consistent with research on music educators’ beliefs about music in different academic status (Austin & Reinhardt, 1999). The participants were enrolled in the same early childhood program and the program operated one ‘creativity in
early childhood curriculum’ course that includes music contents and implementations for early childhood educators during the three-year teacher education program as a graduate course. Therefore, all junior and senior participants had not taken the course. Graduate students had started to take the course, but the present study was implemented early in the semester. Therefore, the graduate participants did not have the opportunity to learn musical content at the time of the study. This may explain why the results show no difference in music beliefs depending on academic status.

There has been no difference in early childhood preservice teachers’ beliefs about music in terms of field and teaching experience. The participants in this study had average twenty-week practicum experience; however, as stated previously, music activities in practicum experiences have been reported as limited in terms of frequency and diversity. Also only half of the preservice teachers had teaching experiences for less than eight months. Therefore, teaching experience may not affect their beliefs about music.

**Early Childhood Preservice Teachers’ Beliefs about DAP**

Preservice teachers in this study demonstrated stronger beliefs about DAP than DIP. This suggests that the participants possess strong beliefs about DAP and weak beliefs about DIP. The mean score for individual DAP items on a questionnaire was 4.4. This supports the idea that preservice teachers believe that it is important to use practices that are identified as developmentally appropriate. This result is similar to previous studies on preservice teachers (File & Gullo, 2002; Stipek & Byler, 1997). The DIP means score was 2.8. This implies that preservice teachers believe that it is important to avoid the practices that are identified as developmentally inappropriate for young children. Therefore, the participant preservice teachers possess stronger beliefs about developmentally appropriate practice and weaker beliefs about developmentally inappropriate practice.
This study also investigated the relationship between DAP and DIP beliefs and teacher demographic variables (i.e., academic status, field experiences, and teaching experiences). There were several findings in this area. First, there were significant differences in beliefs about DAP and DIP in relation to academic status. Seniors and graduate students held more positive beliefs about DAP than did the junior students. Also, the senior students, more so than the junior students believed the practices that are identified as developmentally inappropriate are not as important. The graduate students believed DIP is not important for young children more so than senior students did. This indicates that the length of teacher education and amount of coursework has a positive affect on beliefs about DAP, and has a negative effect on the preservice teacher beliefs toward DIP. This is consistent with research on the influence of coursework in teacher education (Hoy & Woolfolk, 1990; Tschannen-Moran et al., 1998).

The graduate students had received significantly more experiences in relation to DAP than junior and senior level students. Particularly, the graduate students had completed an internship and had taken more than 60 credits in early childhood education coursework, including early childhood curriculum. Therefore, graduate students had more opportunities to gain DAP related knowledge and develop their own beliefs about DAP than did the juniors and seniors. Also, in the follow-up interviews, the two senior students were able to identify general principles of DAP in relation to three key concepts: age, individuality, and cultural appropriateness. The junior student was unable to identify any of these concepts. The senior interviewees were also able to elaborate on a variety of examples exemplifying characteristics of DAP and DIP (i.e., teacher roles, features of DAP and DIP, physical environment) than the junior student was.

There was also a significant relationship between amount of field experience and early childhood preservice teachers’ beliefs about DAP. Preservice teachers who had more field
placements for longer period displayed stronger beliefs about DAP. Previous studies have also demonstrated a relationship between field experience (i.e., internship, apprenticeship) and teacher beliefs (Housego, 1992; Hoy & Woolfolk, 1990; Tschannen-Moran et al., 1998). These studies showed internship or apprenticeship has a significant influence on teacher beliefs. Diverse experiences in different settings and length of experience may affect teacher beliefs about DAP because these experiences may offer opportunities to observe DAP as well as DIP and reflect on DAP concepts.

Finally, there was no statistically significant relationship between teaching experience and beliefs about DAP. As was previously discussed in the music beliefs section, over 50% of the teachers did not have teaching experience. Also, the preservice teachers who did have teaching experience had an average of less than nine months experience, and the majority of the teaching experience was part-time. This may have not been enough experience to have an impact of beliefs relating to DAP.

**Early Childhood Preservice Teachers’ Beliefs about the Relationship between Music and DAP**

The findings of this study show a statistically significant relationship between early childhood preservice teachers’ beliefs about music and DAP. This implies that preservice teachers who have more positive beliefs about the importance of music also believe that DAP is more important. This result supports the idea that music can act as a developmental tool. This idea has been iterated in several studies. Previous studies have introduced several diverse functions of music that facilitate children’s cognitive, social, emotional, aesthetic, and cultural development (Caulfield, 1999; Custedero, 2002; Esner, 2001; Fox 2000; Mueller, 2003; Sims & Cassidy, 1997; Tarnowski, 1999; Temmerman, 1998). Therefore, if a teacher believes that music can be an active medium for instruction and that it has the potential to help the holistic
development of young children, he or she might be able to see the role of music in DAP. This outcome is also consistent with the results of a study by Miranda (2004). The study investigated the link between beliefs about DAP and teaching practice for three music teachers. Interviews and observations were used to investigate music teacher practice. The results of the study showed a positive relationship between DAP beliefs and ideas of how to implement music activities appropriately. The teachers in the study who possessed positive beliefs about DAP also were seen implementing more developmentally appropriate music practice.

To conduct a more thorough investigation about the relationship between beliefs of music and DAP, stronger, incongruent, and weaker beliefs were analyzed. Fifteen of the participants met the criteria for the stronger, incongruent, and weaker belief categories. Of these participants, preservice teachers in their junior year were more likely to show both weaker and stronger relationships in their beliefs. These three relationships were drawn from the extremely highest and lowest portion within the belief range. Senior and graduate students had more practicum experience and a longer amount of time receiving teacher education. Thus, these preservice teachers had longer periods of time and a greater number of opportunities to develop and change their personal beliefs through practical experience and content knowledge from class. This process may have had an influence in their beliefs and caused them to change and modify their beliefs from an extreme level to a moderate level. However, junior level preservice teachers may not have had enough opportunities to fully develop their beliefs about music and DAP as the senior and graduate students.

Based on an analysis of the relationship between the beliefs, three teachers, one who showed stronger beliefs about both music and DAP, one who showed weaker beliefs about both music and DAP, and one who showed incongruent beliefs about music and DAP, were
interviewed. Using the transcription of interviews, domain analyses, results from the questionnaires, and a concept web drawn by each of the interviewees, an overall taxonomy and cultural psychological theme that represent the teachers’ beliefs created to demonstrate preservice teacher beliefs about music, DAP, and the relationship between the two.

The overarching cultural psychological theme is ‘how to best use music along with developmentally appropriate practice – using music as an active developmental tool, as integration, or as a supplemental activity’. A cultural psychological theme represents a core issue or dilemma that all participants are commonly faced with and need to solve (Spradley, 1979). In this study, three teachers had to reflect the degree of the importance of music, significance of DAP, and how to approach music within DAP. Although the teachers believed that music could be used in DAP practice in their future classrooms, the core issue addressed was the different beliefs and perspectives toward how music could be used in DAP. One teacher held strong beliefs that music could be used in implementing DAP. The other teachers considered music as secondary to other activities in the classroom. The following section discusses the distinctive belief patterns of each interview participant. These beliefs will be explained through a reflection on the taxonomy and cultural psychological theme.

**Jen’s Story: a Strong Relationship between Music and DAP Beliefs**

Jen showed strong beliefs about music and DAP. Her cultural psychological theme was ‘music as a developmental tool in DAP’. She was able to define music using a broader perspective than the other two interviewees. She stated that music could be a fun and enjoyable activity for children, a means of expression, and a tool of learning. She also discussed essential aspects of music for young children. As discussed in the literature review chapter, music has traditionally been considered a way to implement fun activities that children naturally want to participate in, and a way for children to express their emotions and thoughts (Mueller, 2003;
Furthermore, music is also a learning and developmental tool that facilitates children’s whole development. Jen was able to recognize all three of these aspects of music.

As seen in her taxonomy and the results, Jen had a strong personal music background, sufficient music content knowledge, and received a positive influence from family in regards to music. Jen was the only interviewee with the ability to read musical notation. She was also the most knowledgeable interviewee in four of the five musical content knowledge areas (i.e., rhythm, tempo, melody, beat). Jen had also received music experience and music education throughout her childhood. She revealed a strong confidence in her ability to implement and support music development in the classroom than the other interviewees. She emphasized the ability of music to be a natural part of the early childhood classroom routine.

Jen discussed some of the attitudes about music that she discovered in her practicum experiences. She stated that many of her cooperating teachers felt that music needs to be taught by music teachers, not early childhood educators. She also reported that she did not observe many experiences with music in her practicum. However, she continued to express the necessity of using music in early childhood classrooms because music is an area that children love. Jen also believed that early childhood educators should use music activities in their classroom because music can provide both fun and appropriate activities for young children. It appeared as though her lack of positive experiences with music in her practicum sites did not have an effect on her beliefs about music. This suggests that personal background can play an important role in establishing strong beliefs about music, and that these experiences can overcome professional experiences.
Jen was knowledgeable about content knowledge in DAP. These content areas are individual, age, and cultural appropriateness. She explained the principles of DAP using a wide range of terms and adding examples from her experiences. Jen was also able to identify important teacher roles in DAP, such as planning, observing and assessing. She experienced positive and negative DAP in her practicum, and she reflected on what would be developmentally appropriate for young children based on her own principles and content knowledge. Also, she considered the creation of an emotionally safe environment important. She was able to describe diverse features of both DIP and DAP, and showed a strong preference for DAP.

Jen was also the only interviewee to identify a strong link between music and DAP, and to understand music as an integral part of DAP. She expressed her beliefs as to why music should be a part of DAP. However, she did not present diverse examples of music practices that can be implemented in the early childhood curriculum. This may be due to a lack of opportunities to observe music activities in her field experience. If Jen had the opportunity to take music related coursework and field experience, this could help her identify possible music activities to implement in the classroom, and to extend her understanding of music development in the classroom.

Tara’s Story: an Incongruent Relationship between Weaker Music and Strong DAP Beliefs

Tara showed incongruent beliefs for music and DAP. Her cultural psychological theme was ‘music as an integration tool for core subjects’. She demonstrated more negative beliefs about music, and more positive beliefs about DAP. This relationship between her beliefs will be discussed. Tara’s DAP belief score was the highest amongst the interview participants; however, her music belief scores were lower than 25% of all participants.
Tara considered music as addressing a different type of learning style. She also consistently described music as ‘not a core’ subject. She stated that core subjects for early childhood education were literacy and math. Especially, literacy was one of her favorite subjects. She agreed that ‘fun and joyful’ music could have a positive influence on young children, but she believed that music was merely a good supplement for the learning of ‘core’ subjects. Tara had a positive musical background through her experience in a band when she was young, but merely considered music an extra-curricular activity. This assumption may have affected her current beliefs about music for young children.

Although Tara had formal and informal music education, she was not able to read musical notation at the time of this study, and she reported that she did not know musical terms. This was different from Jen. Unlike Jen, Tara did not feel confident in her ability to implement music activities in the classroom. She stated that she did not feel confident because she is not knowledgeable about music terms and how to teach music. However, she expressed a higher level of confidence in her ability to incorporate music with core subjects (i.e., math, literacy).

Tara was able to identify more diverse and critical components about teacher roles in DAP than the other interviewees. She emphasized the importance of structure, creating agreed upon rules with children, and interacting with children in the early childhood classroom. Tara also had four-month part-time teaching experience unlike the other interviewees. Through her part-time teaching experience, she had an opportunity to change from inappropriate practice to appropriate practice using her DAP content knowledge from coursework (i.e., ECERS, physical environment, literacy, etc). That experience had a positive influence on her beliefs about DAP, because she was able to see a positive change in both children’s behavior and the classroom atmosphere after developmentally appropriate changes had been made. Most of her
developmentally appropriate changes in her part-time teaching experience related to literacy education. Literacy was her favorite subject and she ranked it as being more important than any other academic subject. These experiences may have strengthened her beliefs about DAP and literacy. Tara was also able to provide diverse examples of DAP and DIP pertaining to teacher roles, various features, and the physical environment.

Tara believed that music is only partially related to DAP. She believed that music is a fun and enjoyable activity for children, but she admitted that the link between music and DAP exists in limited ways by focusing on the integration of music into other subjects. She considered music content knowledge (i.e., tempo, rhythm, etc) as not being related to DAP. This may reflect her conception of music as an ‘extra-curricular activity’. Along with integration, she recognized the relationship between music and other developmental areas. However, she did not believe music should be an independent subject in the early childhood curriculum. In her beliefs, there was a distinctive separation between core subjects (i.e., literacy, math) and non-core subjects (i.e., music, art). Therefore, she believed that the possibilities of using and teaching about music are limited for young children.

**Cindy’s Story: a Weaker Relationship between Music and DAP Beliefs**

Cindy demonstrated a weaker relationship in the areas of music and DAP. Her cultural psychological theme was ‘music as a supplemental activity and backdrop’. She also continued to demonstrate low levels of music beliefs throughout her interviews. She regarded music as backdrop, or a supplemental function of the classroom. Cindy felt that music was only useful for ‘some’ children who have a musical background. Cindy had negative experiences with music in her childhood. Her mother wanted her to learn hand-bells when she was young. She discovered that she had difficulty reading musical notation, and she did not like playing an instrument. That experience gave her a negative attitude toward music. She never learned how to read musical
notation, and she reported that she did not know musical terms. Therefore, she felt unconfident in musical areas both personally and professionally.

Cindy discussed her lack of opportunities to take music related courses that focused on how to approach music for young children during her explanation as to why she felt unconfident in musical areas. Jen did not have the benefit of music courses either. Despite this, Jen continued to have strong beliefs about music. This suggests that factors of beliefs vary depending on individuals, and that beliefs pertaining to music could be significantly affected by personal background or experience.

Also, Cindy felt that her weak confidence in musical areas derived from her lack of knowledge in how to teach or approach music activities in the classroom. She felt that in the future, she would only be able to implement a limited number of music activities in the classroom. Another explanation that Cindy gave about her weak confidence levels in music was that her coursework focused on literacy, math, science and so forth. Because of the focus on these subjects, Cindy believed that these subjects were core subjects, unlike music and art.

Cindy, like the other interviewees, had experience with music that was not diverse in her practicum. Most of the music activities she observed in the classroom were the utilization of music as a background for nap or transition time, and singing during circle time. She thought that these uses of music were sufficient for children in early childhood education. This experience affected the activities that she wants to implement in her future classroom. This implies that practicum experience can have an important influence in determining a teacher’s utilization of a range of music activities.

To define DAP, Cindy mentioned the importance for children to ‘succeed’ and for activities to be ‘individualized for each child using scaffolding’. She presented a narrower
definition of DAP and mentioned fewer DAP principles than the other preservice teachers. This is possibly because she was a junior student and had less opportunities to gain knowledge about DAP. Regarding features of DAP, she emphasized the importance of ‘playing’. When asked about necessities in the physical environment, she only mentioned that it would be helpful to have no desks and chairs in a classroom. Compared with the other two interviewees, her examples and descriptions were limited, vague, and unspecific. When discussing DIP practice, she only gave one example, which was the use of worksheets placed on the desks. She primarily described observable aspects of DIP and DAP instead of invisible yet crucial components of these areas, such as teacher roles and principles. This may be because of her smaller amount of coursework and practicum experience in relation to the other two interviewees.

Cindy considered music as having a partial relationship with DAP, and primarily being in the background (such as being played during nap or transition time). She had the narrowest descriptions of music used in DAP amongst the three interviewees. Out of various functions of music, she only recognized the refreshing or relaxing functions. Tara also considered music plays a partial role in DAP; Tara emphasized active use as integration to facilitate learning for core subjects. However, Cindy only focused on background function. She described weak link between music and DAP because Cindy primarily thought music was a supplemental subject.

**Implications for Teacher Education**

The findings of this study suggest that early childhood preservice teachers possess strong beliefs about music. Confidence levels on preservice teachers’ ability to implement and support music development in the classroom varied. Most preservice teachers believed that music teachers had a more important role in the facilitation of music development than early childhood teachers. The participants believed that literacy is the most important subject in early childhood education, compared to music which was ranked the fourth most important subject. Teachers
who demonstrated higher confidence levels and were able to read musical notation demonstrate stronger music beliefs. Also, the preservice teachers in this study believed that DAP is very important. Beliefs about the importance of DAP varied depending on academic status. In addition, a relationship was found between field experiences and DAP beliefs. Furthermore, there was a significant relationship between beliefs about music and beliefs about DAP. These findings indicate several implications.

First, level of confidence and music content knowledge has been found to be a key factor in beliefs about music. The preservice teachers who had greater confidence levels demonstrated stronger beliefs about music. Through the interviews, it was found that low levels of confidence in musical areas derived from a lack of music content knowledge and practical knowledge about how to implement musical activities in the classroom. The main sources of music content knowledge came from personal music background instead of teacher education. This could be because the music course was a graduate level course. None of the interviewees had taken this graduate level course. If these teachers had more opportunities to take courses that facilitate their music subject knowledge and how to implement music activities in early childhood education, they may have been able to better recognize the importance of music.

A relationship was also found between knowledge, beliefs, confidence, and implementation of music activities (Figure 5-1). Beliefs were described using a more evaluative aspect than knowledge, which was described using facts and theories (Pajares, 1992). In this study, the results of the interviews showed that low confidence levels derived from a lack of content knowledge, and this can lead to lower levels of music beliefs. Research reported that early childhood educators felt that music was a special subject that required professional training (l’Etoile, 2001). Providing basic music content knowledge with information on how to
implement appropriate activities may enhance teachers’ confidence and comfort levels in the area of music. Also, this education may lead to stronger beliefs about music. Using workshops or demonstrations of appropriate music activities could expand teachers’ beliefs about how to use music in the classroom.

Second, this study provides support for the importance of field experiences in developing preservice teachers’ beliefs. The results of the interviews highlighted a limited use of music practices in the participants’ practicum experiences. Although the preservice teachers held positive beliefs about music, many of the experiences they encountered at their practicum sites were not diverse and did not demonstrate sufficient music practice for the early childhood curriculum. Discussions with the preservice teachers are important to help them reflect on the importance of music through supervision regarding the current educational problems of academic pressure and test focused curriculums. It is important to make music an integral part of teacher training to overcome possible influences of personal experiences with music and to teach preservice teachers how to implement music activities in the classroom.

Third, the findings of this study highlight the importance of teacher education in music and DAP beliefs. The teacher education program influences beliefs of preservice teachers (File & Gullo, 2002; Smith, 1997). Particularly related to music beliefs, the majority of the participants had not taken music courses specified for early childhood educators in the teacher education program. Because the creativity class that addresses music is only given at the graduate level, preservice teachers at the undergraduate level might not have enough opportunities to learn about music. Preservice teachers also should be aware of the importance of music because of the role music can play for child development. Therefore, preservice teachers should learn how to teach about music using diverse music activities and how to integrate music in other courses, such as
math, literacy, science, or special education. To meet more of a music focus in early childhood education curriculums, coursework should help early childhood preservice teachers creatively develop ideas for music integration, implementation, and provide them with content/practical knowledge about music. Music coursework that includes information about the diverse implications music can have in child development may help increase preservice teachers’ confidence levels with music, and thus increase the implementation of music activities for future classroom.

Fourth, the findings demonstrated that early childhood preservice teachers possess strong beliefs about DAP. The results, however, revealed an imbalance between pedagogical knowledge and subject knowledge among preservice teachers. Through the interviews, the teachers who held stronger beliefs about DAP demonstrated knowledge about key principles of DAP and were able to provide rich examples of both DAP and DIP. They were able to reflect on their practicum work and able to offer constructive criticism about the DAP in these schools. They noticed that teachers play a key role in the implementation of DAP. However, their descriptions of DAP and criticisms of DIP were primarily focused on ‘how to teach’, not ‘what to teach’. The discrepancy between DAP and teaching content has been proposed in terms of how to implement DAP on teaching subjects and learning standards (Da Ros-Voseles, Danyi, & Aurillo, 2003; Goldstein, 2007). Although some teachers strongly supported DAP, they might have faced with difficulties in teaching specific subjects in developmentally appropriate ways because their beliefs about DAP were focused on how to teach rather than what to teach.

The interviewees in this study described DIP by describing the utilization of too many worksheets, desk and chair settings, and an insufficient number of learning centers and free choice activities. The descriptions were not aimed at subjects and content. All of the participants
believed that literacy and math were the most important subjects. This implies an imbalance in the perception of subject importance. All of the teachers agreed that music and other creative subjects were important. However, when the teachers discussed the implementation of subjects, they stated that core subjects need to be taught before other non-core subjects are addressed. It appeared as though the preservice teachers were knowledgeable in pedagogical aspects of DAP, but they revealed disagreements and differences in their understandings of various subjects necessary for a developmentally appropriate classroom. For example, the participants did not have sufficient music content knowledge and did not have ideas about how music could be approached in DAP, although they all acknowledged the importance of music.

Implications for Future Research

The results of this study highlight a number of possible research extensions. First, this study was implemented only with preservice teachers, and similar research could be done to assess inservice teacher beliefs about music. Research supports the idea that beliefs are affected by teaching experiences, because inservice teachers encounter different situations than preservice teachers may expect when entering a classroom (Smith, 1997). Therefore, inservice teacher beliefs about music may be different than preservice teacher beliefs because of their greater exposure to practical teaching experience. There are several possible questions to ask for this research extension. What do inservice teachers believe about music? What do inservice teachers believe about their ability to implement and support music for young children? What do inservice teachers know about music content knowledge?

Second, it is important to examine the relationship between music beliefs and music practice in early childhood classrooms. A number of studies investigated the relationship between beliefs about DAP and actual teaching practices. Most of the results of these studies showed congruent relationships between beliefs and practices. However, there have not been
many investigations on the relationship between beliefs about specific domains of DAP and practice. Beliefs about DAP may also influence developmentally appropriate music practice. There are many possible research questions for this topic area. Are there positive or negative relationships between music beliefs and practice? What components may influence this relationship? What are the practices of early childhood teachers who have strong beliefs about music or who have weak beliefs about music? Do beliefs about DAP affect music practice?

Third, along with studies of the relationship between teacher beliefs and practice, music practice and the components that affect music practice needs to be studied. It is important to understand how teachers approach music in the classroom and what types of music activities they use for young children. In order to facilitate and encourage the more frequent use of music in the classroom, music practices of teachers needs to be shared. There are several questions that can be asked in this area. What do early childhood teachers use to implement music activities in the classroom, and what do they teach students about music? How do early childhood teachers integrate music into other subject areas? What are the factors that determine music planning and implementation?

Fourth, teacher beliefs, including beliefs about music and DAP, develop and change through experiences and learning. Specifically, once the teachers enter the teaching practice as novice teachers, they may encounter different beliefs, conflicts with their own beliefs, or difficulties implementing certain practices. As reported in this study, music is primarily considered a non-core subject. Although preservice teachers possess strong beliefs about music, they may have conflicts between their understanding of the importance implementing music activities and the pressure of academic achievement. How do early childhood teacher beliefs
about music change as time progresses? How might this change in beliefs occur? What are the factor that influence this change?

Fifth, research on teacher beliefs in early childhood education needs to be extended to address diverse domain areas and the relationships between specific domains. Many belief studies in early childhood education have been implemented with a focus on development. As demonstrated in this study, there is a dynamic relationship between beliefs about music and DAP. Examining domain specific beliefs may offer a better understanding of teachers’ belief systems. For example, what are the relationships in beliefs about different academic subjects? What is the subjects’ relation to each other? What is the relationship between the subjects and developmentally appropriate practice?

Limitations of the Study

There are limitations to this study. First, this study was conducted with a small group of preservice teachers at a university located in the northern region of Florida in the United States. Most of the participants were Caucasian, middle class females. Generalization of the results of this study is limited in terms of race, gender, socioeconomic status, teaching context, and early childhood teacher education programs.

Another limitation is related to instruments. It is debatable how to measure beliefs about DAP supporting construct validity and reliability of DAP (Horn & Ramey, 2004). Since the statements in the Teachers Beliefs Scale were partially drawn from DAP guidelines, the extent and range of the DAP construct might be limited in the measurement. Confusion regarding definitions of beliefs may also affect participants’ responses. This is related to the poor and unspecific measurements of beliefs (Wilcox-Herzog, 2002; Vartuli, 2005). The TBS asks respondents to rate the importance of specific practice examples. However, the DAP construct refers to the extent that age, individual and cultural appropriateness are reflected. To address this
weakness, in this study the follow-up interviews on beliefs about DAP were implemented; however, only three teachers who showed different types of beliefs in relationship between music and DAP were selected for interviews among the participants. Therefore, the description of beliefs about DAP is limited in generalization of the outcomes.

The Music Beliefs Questionnaire was developed in the music teacher education research. Although validity and reliability have been proven strong and valid, the contents and explanations of the questionnaire were more related to general music education rather than specified music implementation in early childhood education. Although the researcher emphasized that music education in the questionnaire means music implementation for young children in early childhood classrooms, when the participants completed the questionnaire, their perceived understanding of music education may have affected their interpretation the statements in the questionnaire.

Then, the researcher had previous professional experience with two of the interviewees. In 2006, the researcher was a practicum supervisor for the two interviewees. During the supervision, there were weekly meetings, two lesson observations, and evaluations. Therefore, the researcher had a previously influential relationship with the interviewees, and possibly had influence on their beliefs of classroom issues. This relationship could have affected the interview process and the participant interactions with the researcher. This may, however, have also been a strength. Because of a previously established relationship with rapport, the interviews were implemented in a positive atmosphere. However, the participants may have been preoccupied with thoughts about the previous relationship, and this could have limited the interactions between the interviewees and the research, or affected their reflections during the conversation.
The researcher’s personal beliefs and biases cannot be separated from the data. These perspectives have been influenced by experience as a former preschool/kindergarten classroom teacher, college instructor teaching music, a music enthusiast who plays piano, a doctoral student, and a researcher in the area of early childhood education. Based on the researcher’s personal background, the researcher held strong beliefs that music should be a part of early childhood education curriculum. The researcher also strongly supports the idea that music is a tool for child development and that music should be actively integrated into other subjects in terms of DAP. Therefore, the researcher believes music could not be separated from DAP. These strong beliefs of the researcher about the importance of music may have had an effect on the interview atmosphere, and she may have provided non-verbal cues during interviews.

Additionally, the researcher’s ethnic and racial identity as an international, Asian, middle-class female may have influenced the interpretation, description, and analysis of the beliefs and dynamics related to the preservice teachers’ responses in the interviews. For example, the researcher’s interpretations of DAP may be different from American teachers’ interpretations of DAP because DAP can be interpreted differently depending on cultures. Also, the researcher received a different elementary and secondary music curriculum in South Korea compared to the elementary and secondary music curriculum that the participants had received in the United States. This culturally different perspective may have had an effect on the interpretation of data.
Figure 5-1. The relationship among knowledge, beliefs, confidence, and implementation of music.
APPENDIX A
LETTERS OF CONSENT FORM

Hae Kyoung Kim                                                                                        Phone: 352-392-9191 ext. 241
School of Teaching and Learning                                                                  Email: haekyoung@gmail.com
PO Box 117048, University of Florida
Gainesville, FL 32611

Informed Consent Form

Dear early childhood preservice teacher,

I am Hae Kyoung Kim, a doctoral candidate in the School of Teaching and Learning at the University of Florida. As part of my dissertation conducting research, I am conducting interviews to examine teachers’ beliefs about music, developmentally appropriate practice (DAP) and the relationship between music and DAP under the supervision of Dr. Kemple. The purpose of this study is to investigate how early childhood preservice teachers understand and perceive music, DAP, and the relationship between music and DAP.

You will be asked to participate in two interviews lasting no longer than one hour at each time. The interviews will take place during the month of February in the Norman Hall at the University of Florida. With your permission, your interview will be audio taped during the interviews. You will not have to answer any question you do not wish to answer. The audio will be accessible only to the researcher for the research purposes, which I will personally transcribe, removing any identifiers during transcription. Your identity will be kept confidential to the extent provided by law and your identity will not be revealed in the final manuscript.

You have the right to withdraw consent for participation at any time without consequence. There are no known risks or immediate benefits to the participants. There are no penalties for nonparticipation and $20 will be offered for participation. The results of this study will be available in May upon request. If you have any questions about this research protocol, please contact me at (352)392-9191 ext.241, haekyoung@gmail.com or my dissertation advisor, Dr. Kemple, at (352) 392-9191 ext.250, kkemple@coe.ufl.edu. Questions or concerns about your rights as a research participant may be directed to the UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611, (352) 392-0433. A second copy is provided for your records. By signing this letter, you give me permission to report your responses anonymously in the final manuscript to be submitted to University of Florida as part of dissertation.

Sincerely,
Hae Kyoung Kim

I have read the procedure described above. I voluntarily agree to participate in Hae Kyoung Kim’s study. I have received a copy of this description.

____________________________  ___________
Signature of participant                Date
Informed Consent Form

Dear early childhood preservice teacher,

I am Hae Kyoung Kim, a doctoral candidate in the School of Teaching and Learning at the University of Florida. As part of my dissertation, I am conducting a study of teachers’ beliefs about music, developmentally appropriate practice (DAP) and the relationship between music and DAP under the supervision of Dr. Kemple. The purpose of this study is to investigate early childhood preservice teachers’ beliefs about music and DAP.

You will be asked to complete Music Belief Questionnaire and Teacher Belief Scale lasting no longer than forty minutes. Completion of questionnaires will take place during the month of late January at the classroom in Norman Hall. The surveys that you will complete will be accessible only to the researcher for the research purposes, which I will personally analyze, removing any identifiers during coding data. Your identity will be kept confidential to the extent provided by law and your identity will not be revealed in the final manuscript.

There are no anticipated risks, compensation or other direct benefits to you as a participant in this interview. There are no penalties for nonparticipation. You are free to withdraw your consent to participate and may discontinue your participation in the interview at any time without consequence. The results of this study will be available in May upon request. If you have any questions about this research protocol, please contact me at (352)392-9191 ext.241, haekyoung@gmail.com or my dissertation advisor, Dr. Kemple, at (352) 392-9191 ext.250, kkemple@coe.ufl.edu. Questions or concerns about your rights as a research participant may be directed to the UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611, (352) 392-0433. A second copy is provided for your records. By signing this letter, you give me permission to report your responses anonymously in the final manuscript to be submitted to University of Florida as part of dissertation.

Sincerely

Hae Kyoung Kim

I have read the procedure described above. I voluntarily agree to participate in Haekyoung Kim’s study. I have received a copy of this description.

____________________________        ___________
Signature of participant                     Date
APPENDIX B
TEACHER INFORMATION QUESTIONNAIRE

All information will remain completely anonymous and will be used for research only.

Gender  Female___Male ____.

Age _______.

Ethnicity
Caucasian ___ African-American ___ Hispanic ____.
Asian ___ Other

Your current status or class standing is
Junior ____ Senior _____ Other ____.

Field Experience
Have you had field experience (i.e. pre-internship, practicum)?
YES ____ NO ____.
How many placements have you had?
How long have these placements lasted? ____ Months total _____.

Teaching Experience
Full time teaching ___ year ___ month (preschool  kindergarten  daycare)
Part time teaching ___ year ___ month (preschool  kindergarten  daycare)
Babysitting  ___ year ___ month
Other

Your Name  _____________ Email Address  ________________.
APPENDIX C
MUSIC BASIC QUESTIONNAIRE

1. Have you had formal or informal music education before? Yes ___ No ___
What kinds of music education have you had (i.e. instruments, singing, dance, marching band, etc)?

2. How confident do you feel about the ability to implement music activities (singing songs, dance, movement, etc)? Mark an ‘X’ in the appropriate box below.

   Not confident  Somewhat confident  Moderately confident  Very confident  Extremely confident

3. How confident do you feel about the ability to support children’s musical development? Mark an ‘X’ in the appropriate box below.

   Not confident  Somewhat confident  Moderately confident  Very confident  Extremely confident

4-1. How important do you think about the role of early childhood regular classroom teachers to support music development of young children? Mark an ‘X’ in the appropriate box below.

   Not important  Somewhat important  Moderately important  Very important  Extremely important

4-2. How important do you think about the role of music teachers to support music development of young children? Mark an ‘X’ in the appropriate box below.

   Not important  Somewhat important  Moderately important  Very important  Extremely important

5. Can you read musical notation? Yes ___ No ___

6. Explain the meaning of ‘using music’

7. Explain the meaning of ‘teaching music’
8. Briefly define the following musical terms.
   Tempo
   Beat
   Melody
   Rhythm
   Articulation

9. Please consider the following six subject areas and indicate their importance using the chart below. Place ONLY one subject in each blank space. Be sure to fill every blank!

<table>
<thead>
<tr>
<th>Importance</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Most important subject for children’s development in early childhood education)</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>(Least important)</td>
</tr>
</tbody>
</table>
APPENDIX D
INSTRUMENT INFORMATION

1. The Teacher Beliefs Scale (TBS) can be obtained by request through one of its authors.

**Rosalind Charlesworth, Ph.D.**
Professor
Department Chair
Child and Family Studies
Weber State University
Ogden, Utah 84408
Phone: 801-626-7386
Email: rcharleswort@weber.edu

**Craig H. Hart, Ph.D.**
Professor
Department: School of Family Life
Brigham Young University
Provo, UT 84602
Phone: 801-422-5939
Email: Craig_Hart@byu.edu

2. The Music Belief questionnaire can be obtained by request through its author.

**James R. Austin, Ph.D.**
Associate Professor of Music
Music Education Chair
Associate Dean for Undergraduate Studies
College of Music, 301 UCB
University of Colorado at Boulder
Boulder, CO 80309-0301
Phone: 303-492-1782; 303-492-6353
Fax: 303-492-5619
Email: James.Austin@colorado.edu
APPENDIX E
INTERVIEW QUESTIONS

DAP
1) How would you define DAP?
2) If a teacher wants to provide developmentally appropriate practice for young children, what are important things that she/he should keep in mind?
   - Are there general principles the teacher should keep in mind?
3) What would you see in a developmentally appropriate early childhood classroom?
   - What are children doing?
   - What is the teacher doing?
   - Would you describe the physical environment?
4) What would you see in a developmentally inappropriate early childhood classroom?
   - What are children doing?
   - What is the teacher doing?
   - Would you describe the physical environment?
5) Have you been in a developmentally appropriate early childhood classroom?
   How you know it was a developmentally appropriate practice?
   (If a participant says no.) What changes would need to be made to make it more developmentally appropriate practice?

Music
1) What is the role of music in early childhood education?
2) In your survey, you ranked music as the ******** most important subject for young children. Tell me more about why you ranked music this way in the survey.
3) Are there particular events or people that have affected your attitude toward music and knowledge of music? Please explain.
4) Do you think you are confident and comfortable in using music and teaching about music? Why or Why not?
5) Think about your future classroom. If you are a kindergarten teacher, how would you plan for and implement music in your curriculum?

Relationship between Music and DAP
1) Is there a relationship between music and DAP? Can you explain more about the relationship between them?
2) Think of DAP as a circle, think of music as a circle, show me how the DAP circle and the music circle relate to each other?
3) How would you see music used in a developmentally appropriate practice?
4) How is music related to children’s other developmental areas? (e.g. cognitive, social, emotional, or physical)


BIOGRAPHICAL SKETCH

Hae Kyoung Kim was born in Seoul, South Korea. She graduated from Ewha Women’s University with a bachelor degree in early childhood education. She was a preschool and kindergarten teacher for five years. She returned to the graduate school at Ewha Women’s University and she received her master’s degree in early childhood education.

After completing master degree, she worked as a professor at the Education and Training Center of the Korean Association for the Fostering and Education of the New Generation. Also she was an instructor at colleges in South Korea. She began her doctoral program at University of Florida in 2003. She worked as a research assistant and a teaching assistant. She was also an instructor of creativity in early childhood curriculum course in spring 2007. She is going to be an assistant professor at University of Texas at Brownsville in August 2007.