Music in Childhood

From Preschool through the Elementary Grades

Patricia Shehan Campbell • Carol Scott-Kassner

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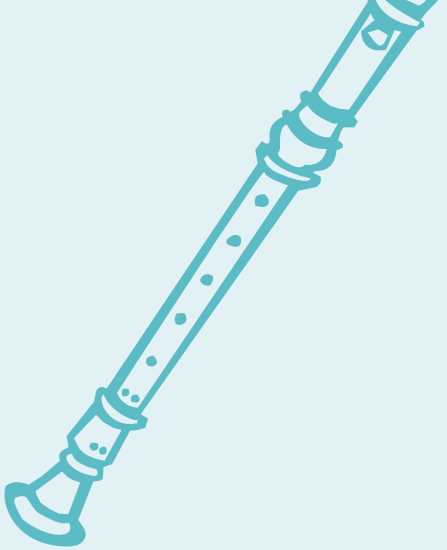

Music in Childhood

FROM PRESCHOOL THROUGH THE ELEMENTARY GRADES

Enhanced Fourth Edition

Patricia Shehan Campbell
Carol Scott-Kassner
University of Washington

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Carol Scott-Kassner

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PREFACE

OF ALL THE beautiful things in this world, few surpass the images of music in childhood. Our own earliest memories are rich with music: soft lullabies on a parent's lap; patty-cake rhymes in the nursery; parade music played by brass bands; seasonal songs at the dinner table, at the piano, or around the campfire; chants for jumping rope and clapping hands; and the music played with friends on homemade instruments. Music played a prominent role in our childhood then, as it still does for children today.

Music emerges magically from children, as they search for and find ways to represent their world. Intuitively and naturally, young children respond to music as they communicate through it. Music is part of their process of enculturation, of their acquisition of cultural values and behaviors. They develop as members of their family, their neighborhood community, and their religious and ethnic groups through music. Parents are the first music teachers, transmitting to children the songs they remember and filling their children's ears with the music they love. Children learn a musical system—its tuning, timbres, predominant pitch and rhythmic patterns, textures, and formal structures—as surely as they learn other aspects of their family and then their community cultures. They are socialized into these groups through music and are deeply rooted in this first musical system early in childhood.

As children begin their formal schooling, in preschool or in kindergarten, they are ready to begin their formal musical education as well. With their intuitive learning embedded, children can develop musical literacy and the conceptual understanding of music as one among many disciplines featured within a school curriculum. The musical competence to sing in tune and step in time, to listen perceptively, to perform from notation, and to create a personal music that is as musically logical as it is expressive are all skills taught in a music curriculum. Unlike intuitive musical responses, however, these competencies do not appear magically. They are the outcomes of a musical education, with an expert musician-teacher as guide. If children are to become competent and even masterful musicians, a formal musical education is necessary.

Music teachers continue the musical development that began with children's early enculturation. They are the principal players in the spiraling development of children's listening, performance, literacy, and creative expressive skills. Music teachers are the catalysts that stimulate children's musical intelligence and the guides to the pathways through which children can channel their ideas. Music teachers tap the beauty that is within children.

The benefits of a musical education are many. Musically trained children are able to add layer upon layer of musical knowledge to their earliest experiences. This early training can inspire children to continue musical activities into their adult years: singing a Bach chorale after supper; reading recorder music with friends on a Sunday afternoon; becoming wholly engaged while listening to the sounds of a Beethoven sonata or, Turkish makam, a jazz session; folk dancing in time and in a musical way to the tunes of a string band; creating spontaneous harmonies vocally or on an instrument; and composing music for personal expression or to share with others. These are the sophisticated behaviors of musically educated people who were brought beyond the playful musical experiences of their childhood by teachers who taught them repertoire and notational literacy and who developed the skills for performing, responding to, and creating music. When people mature musically, and when they maintain musical interactions that remain meaningful to them as adults, the benefits of a musical education are apparent. The beauty of music in childhood becomes more than mere memory: It is the seed that takes root and is nourished through training.

A commitment to raising more musical children requires information. We trust that the information we have provided within these pages can be translated from words to actions both by teachers who are musicians and by musicians who are teachers. With an accumulated one-hundred and twenty years of teaching music to children, teachers, and teachers-to-be between us, we offer ideas garnered from our experiences that have been evaluated, revised, and tested again, in many settings, with many students. The commitment we have to a substantive and meaningful musical education for all children is both the impetus and the desired outcome of the volume.

While we have made choices in the selection of materials and methods that fill the pages of this book, we also recognize that for information to be truly relevant, it will take the user's personal exploration and evaluation of suggested ideas to make them relevant and real. We open the chapters with a stream of questions as "Things to Think About," and we close chapters with recommendations for converting philosophical principles to action and shifting activities into points of reflection. While the book may at first appear as a daunting compilation of "everything one needs to know about music and children," it is only preparatory to the realities of children and classrooms (or perhaps interim reading for the more experienced teachers who may wish further resources and instructional advisories). We uphold and applaud the thoughtful and inventive ways of good teachers, and know full well that these pages will prove useful launches to the teachers' own selection of ideas on teaching music to children.

The following chapters delineate music and instructional approaches suited to the perceptual-cognitive, physical, and affective development of children in early and middle childhood. The various ways in which children manifest their musicality form the basis of a number of chapters: "Rhythm and the Child," "Pitch and the Child," "The Singing Child," "The Listening Child," "The Moving Child," "The Playing Child," and "The Creating Child." We have noted the natural and incipient musical behaviors associated with child development, and they become the backdrop to recommendations for teacher-informed musical experiences and educational sequences.

We have attempted to present music as a developmental process in the intellectual and affective lives of children, one that is accelerated, enriched, and deepened through the guidance of the expert musician-teacher. We offer a sampling of musical experiences that can be presented by teachers to children in graduated fashion and in increasingly complex matrices that continue to challenge preschool and school-age children through the sixth grade. We will discuss how to

- structure a classroom for maximum learning
- preserve children's natural motivation for experiencing and knowing music
- plan lessons and long-term goals
- measure, grade, and report musical competencies of children to them, their parents, and administrators

We present models, samples, and graphs to illustrate techniques and systematic methods for teaching musical concepts and for developing musical skills in children. Scenarios, Review questions, Critical Thinking questions, and Projects are found at the conclusion of each chapter, for purposes of reviewing, extending, and putting into practice the information given. References appear at the end of the book.

In addition to practical information, we provide the conceptual frameworks that initiate and stimulate thinking on issues of music, teaching, and children. We have not intended this as a collection of recipe-like lessons, although examples of partial and complete lessons can be found scattered throughout the book. Instead, we present a broad array of concept-associated musical experiences in each chapter as the best way for teachers to develop lessons for children. We believe that successful lessons can spring from either the selection of a concept, embedded in a song or musical piece, which is then reinforced and expanded through a variety of instructional strategies or from providing children with a challenge and a context to solve musical problems appropriate to their developmental stage. The full flowering of a lesson is best left to the perceptive and imaginative teacher, who can match the musical concept, repertoire, and teaching and learning strategies to the classroom context with a thorough knowledge of what children are capable of doing and understanding.

Chapter 3 addresses method—the classic techniques and systems of Dalcroze, Kodály, and Orff; the recently emerging pedagogies; and the personal methods that evolve through experience. We believe that teachers will combine techniques from various philosophies to develop a personal pedagogy that suits them, their students, and the instructional content.

At a time of cultural diversity informed by the need for social justice, we have attempted to thread its themes throughout the book, while concentrating on curricular trends and

issues in Chapter 15. Likewise, while we believe that each child is individual and special in his or her approach to the musical experience, and have maintained this position as central to the volume, Chapter 16 presents perspectives relevant to children who may have challenges in learning music and who require a teacher's sensitivity to meet special needs.

There is much that's new in this fourth edition. Every chapter is updated with contemporary ideas on musical content and method. There are new model lessons, illustrations of experiences in conceptual understanding, exercises for skill development. Featured in many of the chapters are suggestions for the integration of ideas for adapting instruction for children with various needs, and recommendations for the meeting of the national standards in music. Over one hundred songs, chants, and rhythms (including many new songs) have been integrated through the pages of the book, and for which recordings are available. Ideas on the use of technology in the classroom are available online at the text's Premium Website, with additional links to important technological resources that will enhance both teaching and learning. The text's Premium Website is a unique, password-protected website that provides material that will supplement your Music Education course, including video segments featuring students and teachers in classroom settings and audio tracks for many of the pieces discussed within the text.

Along with the developmental approach and contemporary issues we have emphasized, we hope that the reader senses the joy, the musical stimulation, and the intellectual challenge that come from teaching music to children. We have known these sensations often, and we are restored and invigorated by them. *Music in Childhood* provides a channel for teachers to develop musically and pedagogically in ways relevant to children's growth from musical intuition to musical mastery. The ultimate result of its reading—and application—may be a more musical world, through the bonding of children, music, and teachers.

Acknowledgments

We wish to thank our mentors and colleagues who have stimulated our thinking and encouraged our growth as musicians and teachers, our students who have helped to shape our ideas even as they work with them and who bring fresh perspectives to the realm of music for children, and the children themselves, who have given much more than they know to the sharpening of our understanding of human musical development and its nurturance through instruction. Thanks to Rita Klinger and Patti Casey for their tuneful suggestions (and many late-night talks on music, children, and schooling in general); Karen Howard and Matt Swanson for their very musical renditions of children's traditional songs; Dalcroze teachers Anne Farber, Herb Henke, Annabelle Joseph, Virginia Mead, Lisa Parker, Marta Sanchez, and Julia Schnebly-Black, whose ideas have "begotten" some of our ideas; Barbara Lundquist for her continuing influence on our thinking of music alongside culture; James Carlsen for his expertise in musical thinking and growth; and Shirley McRae, Jean Sinor, and Sandra Stauffer for their insightful comments along the way. We also thank Nadine Santo Pietro at Echo Lake Elementary in the Shoreline Schools. Thanks to Jerry Gay for his photographs as well as to Jo Daly and the teachers at the B. F. Day School in Seattle, and to Ann Palmason and teachers at the Bush School of Seattle—and their children—for helping us to fill our book with images of joyous music making. We also thank Kelly Foster Griffin, Bethel Santos, and the students at Moorlands Elementary School in Kenmore, WA; Christopher Roberts, Rick Boyle, and the students at St. Joseph School in Seattle; Deborah Stone, Bob Jones, and the students at Shelton View Elementary School in Bothell, WA; Patty Bourne and the students at Canyon Park Elementary School in Bothell, WA; Patti Casey and the students at Oak Heights Elementary School in Edmonds WA for helping us to provide our readers with video footage from elementary music classrooms for the MindTap. We are enormously grateful to Kirk Kassner for writing Chapter 11 ("Motivation and Management") and the various sections throughout the text and on the MindTap on integrating technology within the classroom. His varied experiences as a classroom music teacher offer a world of suggestions on motivating children to learn (and managing a classroom setting that is conducive to learning), and his wealth of knowledge of technology spans the continuum from the highly theoretical issues relevant to instruction to the details of technological systems and the most feasible and user-friendly classroom applications. Further, he has directed the production of the recordings that accompany this volume, and the children of Panther Lake Elementary on the recording, and arrangements of his own making contribute immeasurably to this fourth edition effort. Kirk's continuous stream of on-the-ground and in-the-field suggestions and his ever-present good humor have been invaluable. Thanks

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About the Authors

PATRICIA SHEHAN CAMPBELL is Donald E. Peterson Professor of Music at the University of Washington. She is a certified teacher of the Dalcroze eurhythmics and has lectured and published widely on music, children, and pedagogy. Author of *Songs in Their Heads*, *Teaching Music Globally*, *Musician and Teacher*, *Tunes and Grooves in Music Education*, and *Lessons from the World*, she is also coeditor of the *Global Music Series* and the *Oxford Handbook of Children's Musical Cultures*. Her work in world music pedagogy keeps her active in the curricular development of source recordings from the archives of Smithsonian Folkways and the Alan Lomax Association for Cultural Equity.

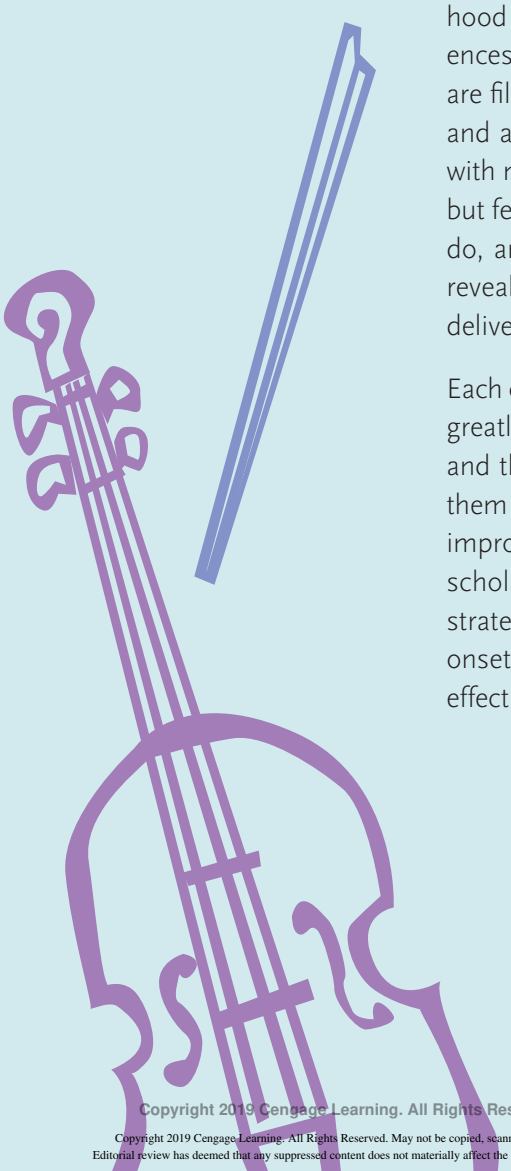
CAROL SCOTT-KASSNER is a writer and consultant in music education and former professor of music education. An expert in the musical growth of young children, she has written and spoken extensively on that topic. Carol was cofounder and chair of the Early Childhood Commission of the International Society of Music Education and chaired both the Society for Research in Music Education and the Society for General Music in MENC. She is coauthor of three textbook series by Silver Burdett Ginn and has contributed chapters in both editions of the *Handbook of Research in Music Teaching and Learning*. Carol currently works as a spiritual director and in the field of the spirituality of aging.

PART 1

The Musical Child

WELCOME TO THE MUSICAL world of children and to their various musically expressive ways of being. They are singers, players, dancers, listeners, and creators, developing from infancy and toddlerhood into their preschool and full-fledged elementary school experiences, all the while growing in their music-making capacities. They are filling out their musical potential alone, together, within families, and among friends, and under the careful watch of skilled teachers with musical knowledge and training. Children are naturally musical, but features of pitch and rhythm, of what their voices and bodies can do, and of how to think in more fully developed musical ways are revealed to them through a rich program of instruction designed and delivered to them on a regular basis.

Each of the chapters in Part One, The Musical Child, brings you more greatly in touch with children's music, their musically evolving selves, and the ways and means by which a musical education can stretch them to their maximal capacity as young performers, composers and improvisers, and musical thinkers. Both classic and contemporary scholarship direct the discourse on developmentally appropriate strategies for raising musical children from their earliest ages to the onset of adolescence and lead the way to recommendations for effective education in and through music.



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The Multiple Meanings of Music for Children

IN THIS CHAPTER

- Musical Learning to Engage Children
- Music's Many Functions
- Music at the Curricular Core
- Children's Musical Capacities
- Music's Historical Role in the Curriculum
- Music for Children in a Changing Society
- A Musical Future

"I like music. I can't explain it: Sometimes it makes me happy, sometimes sad, but all the times it's there like a friend, and I need it."

—FIRST-GRADE CHILD

"I want my child to know what I never was privileged to learn, and that includes learning how to sing, dance, and draw artistically."

—PARENT OF SECOND-GRADE CHILD

"I've found enjoyable ways to achieve the curricular goals of literacy and numeracy through music, from chanting rhymes and singing songs to counting rhythms and moving in geometric patterns across the floor."

—THIRD-GRADE TEACHER

"I enjoyed the winter concert, and am especially impressed with how, as they sang and played, music seemed to bring a coalescence to a crowd of what I know to be some pretty ornery and unsettled kids."

—PARENT OF FOURTH-GRADE CHILD

"You should see what's happened to kids' interests since we added music to our classes on American history and culture. Overnight success!"

—FIFTH-GRADE TEACHER

"I think I might be making as important an impact in the musical world teaching kids to sing and play and read music, maybe as much as I might have as a world-class concert pianist. Who knows what musical minds I may tap?"

—ELEMENTARY SCHOOL MUSIC TEACHER

"Schools are reconsidering earlier educational plans that underscored the basics: We now see that guiding children's holistic development, to include experiences in the expressive arts of language, music, and the visual arts, is basic to their more complete and evolving intellectual, emotional, and physical well-being."

—ELEMENTARY SCHOOL PRINCIPAL

"I don't know everything about music yet, but I guess it just grabs me the right way."

—SIXTH-GRADE CHILD

THINGS TO THINK ABOUT

- How do you use music in your life?
- What musical activities and interests did you have as a child?
- Have you observed children at musical play?
- Are there some musical skills that you feel you can teach more easily to children than others?
- What do you think all children should be able to do, musically, as a result of a musical education?

Musical Learning to Engage Children

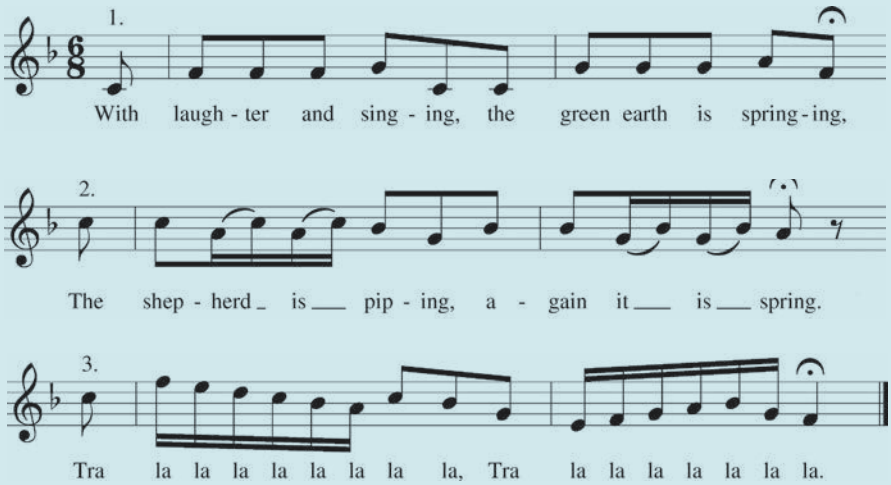
MUSIC IS IMPORTANT TO children. Some wish to listen to it alone through headphones, while others are inclined to sing, hum, whistle, or chant it. Some want to play it on a musical instrument—solo or with friends. Others enjoy dancing to it, and thus music gives rise to physical responses. Some wish to create "brand new music" and poems, plays, and dances to go with it. Whether listening, singing, playing, moving, or creating music, musical experiences are prominent in the lives of children. They, themselves, as well as their spokespersons—parents, guardians, and teachers—attest to this fact (Campbell, 2010).

Music's Many Functions

Music's powerful role offers compelling reasons for its inclusion in the schools. The numerous ways in which children engage in music underscore its appeal for them and highlight the many dimensions of their beings that can be met by the musical experiences they have. Given that music is embraced by people everywhere for its unique qualities, to deny it a solid place in curricular studies would be a terrible mistake. Music is too powerful to be excluded from children's lives, whether in school or out.

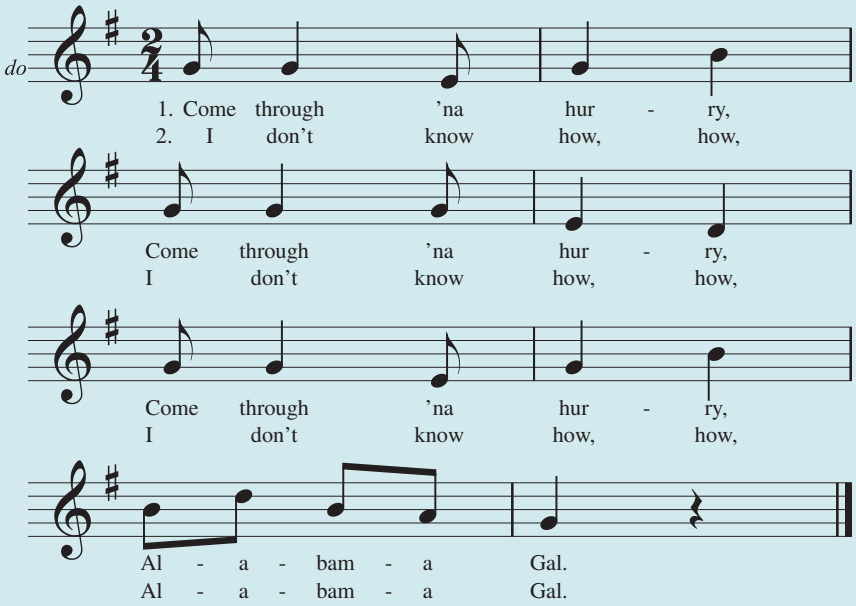
The uses of music by children (and adults) of all ages and cultures are evidence of its staying power. Music has maintained its prominence among people over time and distance. Anthropologist Alan P. Merriam (1964) presented what has become a classic outline of music's many functions across cultures. These functions are relevant to children's own musical involvement—within their culture, their world—for a number of reasons.

With Laughter and Singing (Germany)



1. Sing the song for the children, asking for responses to these questions:
   - Can you keep a steady pulse while listening to the song?
   - What is the song about? What makes it sound so cheerful?
   - Which phrase contains the highest pitches?
2. Sing the song through multiple times, inviting children to join in as they can.
3. "Draw" the rise and fall of the melody in the air, on the board, or on paper.
4. Sing the song on "loo," but sing the tonic home tone on "do."
5. Conduct the song in twos (down on "1," up on "2") while singing.
6. Sing the song while stepping the pulse. At a slower speed, pat (and then step) the rhythm of the melody.
7. Dance the song in a circle. Holding hands, step "1-2-3-4" to the right (phrase 1), step "1-2-3-4" to the left (phrase 2), step "1-2-3-4" to the middle (phase 3), arms raised.
8. Sing the song as a three-part round.
9. Create an instrumental accompaniment, with emphasis on the tonic and dominant pitches within bourdons and repeated ostinato patterns.
10. Sing, dance, and play the song in performance for others (another class, members of the staff, parents).

Alabama Gal (United States, African American)



3. I showed you how, how, *(3 times)*
Alabama Gal.

4. Ain't I rock candy, *(3 times)*
Alabama Gal.

1. Sing the song for the children, asking for responses to these questions:
   - Can you pat the strong beat and clap the weak beat? Pat (1) Clap (2)
   - Listen to this melody (m-s-m-r-d). What words are sung on this phrase?
   - What do you think this song is about?
2. Sing the song through multiple times, inviting children to join in as they can.
3. "Draw" the rise and fall of the melody in the air, on the board, or on paper.
4. Sing the song on "loo," but sing the tonic home tone on "do."
5. Conduct the song in twos (down on "1," up on "2") while singing.
6. Sing the song while stepping the pulse. At a slower speed, clap the rhythm of the melody while stepping the pulse.
7. Form a circle, face center, hold hands, and step the pulse to the right while singing the song. Play the singing game, in which a center-circle person is selected who tries to leave the circle through a '"weak link"—a window of possible passage formed by the held hands of two side-by-side players. If the center-circle person passes through, then both players join in the center-circle to try their skill in passing under a window. This continues until the circle becomes too small to accommodate center-circle players, and then the game starts over. (Note: there can only be one window-passing action per verse.)
8. Create a harmonic instrumental accompaniment on xylophones and metallophones, in which all pitches of the pentatonic scale are fair game. Rules may include these: "Play just on the strong beat (once every two beats)" or "Play on every strong and weak beat (every 1-2 beats, of every measure)" and "Choose two pitches of the pentaton and play them alternately (such as "g" and "b")" or "Choose to play any and all pitches of the pentaton in the same order (such as "d," "e," "g," "a," "b")."
9. Play the melody on recorders, keyboards, or other melody instruments. Add in the harmonic accompaniment. Then, switch between instruments and voices as melody-carriers to the instrumental harmonies.

1. *Emotional expression*: The releasing of emotions and the expression of feelings. Children may release sadness in their singing or joy in their dancing.
2. *Aesthetic enjoyment*: The use of music for deep emotional and intellectual enjoyment, for experiencing artistic and nonverbal expressions of life's beauty. The music that children listen to or perform touches them in profound ways that are not easily expressed through the words they know.
3. *Entertainment*: The use of music as diversion and amusement. Children enjoy the musical diversions presented by the media, from the current pop genres to the background music for videos, films, and television shows. Media music is effortless "easy listening" for them and greatly entertaining.
4. *Communication*: The conveying of feelings and emotions that are understood by people within a particular culture. Children receive and can be led to the musical expression of ideas and feelings in styles that are meaningful to them within their family, community, and societal cultures.
5. *Symbolic representation*: The expression of symbols exists in the texts of songs and in the cultural meaning of the musical sounds. Overlapping the communication function, children find the sounds of certain musical modes and meters more meaningful than others through their conditioning within the musical cultures of their families, communities, and society at large.
6. *Physical response*: The use of music for dancing and other physical activity. Children are greatly affected in physical ways by the music they hear or perform and may be drawn to dance, hop, skip, or sway to the sounds. They may also be soothed to sleep by the qualities of sedative music.
7. *Enforcement of conformity to social norms*: The use of music to provide instructions or warnings. Children, especially young children, are often taught the rules of social etiquette by adults (say "please" and "thank you," wash your hands before meals) through chanted rhymes and songs.
8. *Validation of social institutions and religious rituals*: The use of music in religious services and state occasions. Children frequently build music into the rituals of their play, including chants and songs to accompany games or to select team members ("eeny meeny miney mo"). They also validate their civic and religious affiliations through the patriotic, sacred, and seasonal songs they sing.
9. *Contribution to the continuity and stability of culture*: Music as an expression of cultural values. Few other cultural elements are such complete vehicles for the transmission of history, literature, and social mores as is music, offering children an understanding of the long life and stability of their culture.
10. *Contribution to the integration of society*: The use of music to bring people together. Children are socialized through music and recognize their membership within a group through music that is shared among its members. For example, singing games increase children's integration within a group, just as a school song offers children a common bond with other children.

Music is a human phenomenon, with its uses by children as widespread as they are for adults. Music is much more than an addendum in the lives of children. It is part and parcel of their development as individuals and as members of social groups of family, neighbors, and friends. While it exists "for its own sake" (as in the aesthetic principle of "art for art's sake"), music also functions as a vehicle for teaching children ways of living their lives according to the fundamental values of a culture. Countless communities of people hold music in high esteem for its functional life-guiding and

life-giving properties. If music is thus understood to be at the core of human thought and behavior in so many communities, then it logically follows that it must be placed at the core of learning provided for children in the schools. Musical training can supply components critical to children's holistic development, including their intellectual, emotional, physical, and spiritual selves.

"Music should be studied not for the sake of one, but of many benefits."

Aristotle

Music at the Curricular Core

In recent years, considerable attention has been given to identifying subjects as part of an "elite core" of "basic knowledge" to be mastered by all children. Music and the arts have been marginalized by many in American schools and society, and they are viewed as less central for development than linguistic and mathematical knowledge and skills. As articulated by Arne Duncan (2010), however, the arts play an important role in a basic and balanced education for children and youth: "The arts can help students become tenacious, team-oriented problem-solvers who are confident and able to think creatively." Moreover, a basic curriculum would seem to encompass a musical education, in which consequential ideas, experiences, and traditions common to all within a civil society could be studied and experienced. John Goodlad (2004) postulated that school programs be about the development of *civitas*, or human goodness, where a set of common human principles and values could be agreed upon by teachers and brought thoroughly into children's daily lives. Communities rely on schools as institutions that can inculcate desired moral and social behaviors, provide training in civility, and provide fundamental understanding as well as the capacity to reason, interpret, and transfer ideas and processes, thereby facilitating the independent acquisition of new knowledge (Gardner, 2000, 2007). Music is basic because it is a critical component of American and international societies as well as a repository of historical traditions and contemporary ideas.

Furthermore, music is a comprehensive subject for study. Music is a means of knowing, through perceptive listening, performance, and the creative processes of composition and improvisation, the "self" and the "other"—the world and its component parts. Samuel Hope, former director of the National Association of Schools of Music, observed that "the intellectual functions of art, science, history, and philosophy come together with the knowledge, skills, subject matters and purposes of dance, music, theatre and the visual arts" (2000, p. 83). The major modes of human thought and action are experienced through inquiry in these disciplines, including music.

Music deserves a rightful place at the core of a preschool through elementary school curriculum. All children have equal rights to knowledge of their cultural heritage, including music; to the development of their aural, artistic, expressive, and musical sensibilities; and to familiarity with music beyond the commercially available and currently popular. *What Every Young American Should Know and Be Able to Do in the Arts: National Standards for Arts Education* (MENC, 1994) stipulated that children should know and be able through training to communicate through the arts, develop and present basic analyses of works of art, and have an informed acquaintance with exemplary works of art from a variety of cultures and historical periods. These standards permeate the practices of music teachers, and curriculum has been carefully crafted to meet the challenges of these standards and benchmarks (Reimer, 2000; Lindeman, 2003). In considering what a curriculum should contain, music and the arts at large provide avenues of artistic, personal, and communal expression that all children deserve and which cannot be found in study of other curricular subjects.

"All children have equal rights to knowledge of their cultural heritage, including music. . . ."

Estelle Jorgensen called for an awareness of the persistent connection between education and culture, and of music as a means of socializing children into the sensibilities of the culture, of enculturating them into the social mores and values of a group of people (1997). Furthering this stance, she advocated that education at large and music education in particular be directed at preparing the young to grow into their roles as informed and compassionate citizens of the world (2003). Schools that seek to enrich children's lives through knowledge and skill development cannot afford to relegate music to the curricular periphery but should instead place music alongside language arts, mathematics, and other basic subjects.

Children's Musical Capacities

All children are musical. Anthropologist John Blacking observed the musical nature of children of the Venda people of South Africa and then developed his position on the musical capacities of all children. He observed that music is innately there for children in the body, waiting to be brought out and developed (1995) by those who can facilitate their musical development. Cognitive psychologist Howard Gardner (1983, 2004) suggested in his theory of multiple intelligences that, while children may demonstrate greater strength in one of the seven intelligences, all children possess musical abilities that can be nurtured through instruction. Christopher Small (1998), a sociologist concerned with the manner in which humans participate in the musical process, coined the term "musicking" to embrace children and adults in the acts of singing, playing, and moving to music, noting that all are capable of more than some societies allow.

In various forms and degrees, children possess the capacity to become more musical than they may currently demonstrate. Children quite naturally listen, sing, dance, play, and express themselves musically, with little or no previous training. When learning experiences are tailored to develop their musical abilities, the complete musicians inside them begin to emerge. Certainly, because differences exist in children's individual

One-year-old child in music class

Patricia Shehan Campbell

interests and aptitudes, some variance is evident among children regarding the extent to which a particular musical intelligence, or specific musical talent, can be developed. Some may prefer to sing rather than to play, and some may be driven toward creating original musical expressions.

Children are capable of careful and attentive listening, so they are able to perceive and understand the musical language they will create or re-create. Some children will need greater help in focusing their listening and may require the removal of aural and visual distracters so that they might tune in to the components of a song or musical work. Through directed listening, children will learn a vocabulary of recurring melodic and rhythmic phrases that represent a given musical style or culture and that may reappear in music they perform or in their original improvisations and compositions. Because most children possess the physical capability to hear sounds, they can then be led to listening intelligently to the manner in which these sounds are organized as music.

Nearly all children possess the ability to sing accurately in tune, although vocal qualities may vary slightly from lighter to darker, whispery-soft to fuller in tone, and with minor differences in range. Good singers develop through frequent listening and then by replicating the sound of the singing model. Even the more powerful and resonant young singers are likely to have developed their abilities through practice, singing regularly because they enjoy it. Adults who sing regularly, in tune, for and with children, make ideal models for emulation. The capacity to sing sweetly in tune is well within the reach of children, awaiting discovery and development.

Children can respond to music through movement in controlled and expressive ways. The following of the musical pulse is just one of the initial milestones in movement development; this skill is directly related to attentive listening. Movement can demonstrate the extent to which children are focused on rhythmic durations and patterns, the rising and falling contours of melodies, or the different phrases in a musical composition. While children may need to be taught gestures, steps, and sequences, nothing can replace their careful listening so that the movement—or the dance—will be musically rendered.

"There is never a single, culturally dominant conception of music; rather, we see a whole spectrum of conceptions."

Jean-Jacques Nattiez, 1990

Musical performance on an instrument is viewed by some as a more sophisticated musical activity than other modes of musical skills, and thus it may be deemed to suit only those who show great musical talent. However, all children who are good listeners, and who have the interest and discipline to take daily time to build both physical and musical skills, will make good players. Children may begin with musical toys in their earliest years, progress to nonpitched percussion instruments, and then to xylophones, recorders, and keyboards. String, wind, and brass instruments of the orchestral and band variety are likely to be introduced to children in the intermediate grades. Given strong musical experiences in their early years, all children are thus capable of further musical growth through instrumental study.

Children are refreshingly creative when given the chance. With guidance, they can project both logic and expressiveness in their musical inventions, improvisations, and compositions. Their musical expressions are influenced by the music they know, and the choices they make as musical creators are greatly expanded through their listening experiences. Given opportunities to create, some children may require frameworks. Pitch, rhythm, and even the length of the work are some of the "game rules" they may need to guide their musical inventions. Children may also look to adults for inspiration, as well as to stories, poems, photographs, or illustrations. However, children primarily come to realize their musical creativity through an understanding of musical structure and how the components of music have been manipulated by other composers or performers before them. This understanding is attained best through instruction.

"Children are born with the sensory means for dancing and drumming, for singing and deep-listening potential, and they need only to be nurtured to develop their sensibilities to their maximal capacity."

Keil and Campbell, 2017

Clearly, if all children are inherently musical, then musical training should not be reserved for the hypothetical talented few. The myth that few children are musically endowed is a dangerous one that threatens the right of all to a musical education, and it may even endanger a musical culture. The work of Charles Keil and Steven Feld (1994) cries out for recognition of the human attraction to involvement in music as an integrative mind-body experience and as a means for communicating in ways that only the human species can. "Children are born with the sensory means for dancing and drumming, for singing and deep-listening potential, and they need only be nurtured to develop their sensibilities to their maximal capacity." (Keil and Campbell, 2017.)

Music's Historical Role in the Curriculum

Since the earliest conceptions of schools and schooling in the Western world, music has been considered a basic subject. The ancient Greek philosophers, and later the Romans, claimed music and the arts to be key to children's moral development. Through the centuries, Europeans regarded the study of music as part science, in its theoretical analysis, and part art, in its performance practice. Musical training was considered one of the high marks of refinement in the Middle Ages, from the twelfth through the fifteenth centuries. A musical education was central to those seeking to fulfill humanistic goals or striving to become "Renaissance men" (and women). Journal accounts document the significance of vocal and instrumental instruction for children not only of the nobility but also of the rising middle class. By the time of the Enlightenment in the eighteenth century, the artistic-expressive needs of children were as likely to be addressed through schooling as their intellectual-logical needs were. Music instruction was more than window dressing in European schools; it was viewed as basic to the education of all children.

Formalized musical training in the United States began with the establishment of singing schools in the late seventeenth and eighteenth centuries. People in towns and rural or frontier settlements were visited for a week or two at a time by singing masters who offered instruction in singing and note-reading. At the close of the day's labors, adults and children would gather to be instructed in the use of tunebooks, which featured notational exercises and hymns. Communities were well served by singing schools, and the congregational singing at church services greatly improved as a result.

Music was included in the curricular programs of private academies in colonial America, and music of the Baroque (ca. 1600–1750) and then of the Viennese Classical (ca. 1750–1820) periods was spread through the efforts of European-trained masters. While European arts and culture were a class privilege for the Southern gentry, New England progressively looked toward providing all children with cultural knowledge through education in common schools (Mark and Gary, 2007). Growing support for public education, along with the expansion of cultural societies dedicated to choral (and less frequently, instrumental) music, set the scene for the introduction of music into the curriculum of the elementary school by Lowell Mason in Boston in 1838.

The Boston schools, persuaded by Mason to test the inclusion of music in the curriculum, stipulated that children be given vocal training and music reading lessons twice weekly. Soon, children presented public concerts that demonstrated their

considerable musical progress, much to the delight (and surprise) of school officials, parents, and community members. Mason's method of instruction emphasized pragmatic learning-by-doing techniques, beginning with focused listening and rote repetition of vocal music that advanced children toward music literacy. Swiss educator Heinrich Pestalozzi (1746–1827) was undeniably influential in Mason's approach, particularly as evidenced by the application of the principles of Anschauung (literally, "sense intuition"), or learning through the senses. The earliest methods used in public school music instruction thus were based on the logic of "sound before sight" and "practice before theory"; listening and singing experiences led to an understanding of notation and theory.

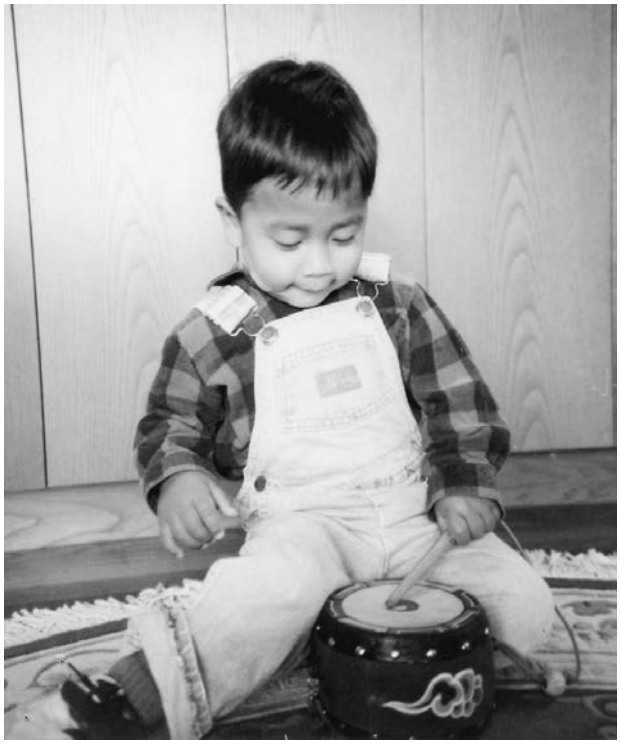
The emergence of music as a curricular subject in the elementary schools unfolded gradually through the nineteenth and twentieth centuries. Vocal music was praised for its contribution to children's moral culture and for its functional means of cultivating the speaking voice, of developing correct expression and diction, and of providing concentration at the start and close of the day. Music listening and note-reading developed in tandem, as children were directed by the music masters to attend to the intervals between pitches, to associate solfège syllables with the melodies they sang, and to sight-read songs and exercises.

Not until schools had access to recordings and radio, however, did a more global form of music listening begin to emerge. Music appreciation classes for children were developed as early as the 1920s. The infusion of rhythmic movement and dance into children's music classes began to flourish in the opening decades of the twentieth century, when movement was recognized as offering an avenue for musical expression as well as for physical, social, and cultural growth. The eurhythmics of Émile Jaques-Dalcroze (1865–1950) first intrigued and then guided teachers toward the development of children's greater musical sensitivity through whole-body movement. John Dewey's (1859–1952) advocacy for music, movement, and the arts in a child-centered curriculum helped to stabilize music as a part of school instruction, even through the troubled economic and political times of the Great Depression of the 1930s and World War II.

Music for children was sparked by numerous innovations in the second half of the twentieth century. From Hungary came the philosophy and practices of Zoltán Kodály (1882–1967) and his associates, with their emphasis on music literacy through rigorous ear-training and vocal exercises. The early experiments in music for children by German composer Carl Orff (1895–1982), first with dancer Dorothee Gunther and then with colleague Gunild Keetman, evolved into practices that merge music with children's play and with dance and the dramatic arts. Over several decades, both Kodály's and Orff's approaches have been embraced by music educators and given American perspectives.

Various professional gatherings of teachers at conferences and in projects have had a further impact on music instruction for children. In the 1960s, the Yale Seminar, the Manhattanville Music Curriculum Project, and the Tanglewood Symposium made recommendations for (1) a broader and more representative music repertoire for listening and performance, including music of all Western historical periods; world cultures; and popular, avant-garde, and American styles; (2) greater opportunities for musical expression and creativity, through composition and improvisation experiences; and (3) more extensive use of technology and the media to aid instruction. The challenges have continued into the twenty-first century, as teachers confront ways to balance experiences in European art music with the musical interests and learning styles of

Andrew playing drum



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"Musical training is a more potent instrument than any other, because rhythm and harmony find their way into the inward places of the soul, on which they mightily fasten, imparting grace. . . ."

Plato

an increasingly diverse population of children and as they consider computers, interactive videos, and multitasking iPhones as user-friendly enhancements—not threats—to children's musical education.

Music takes its rightful place in the school curriculum today, resting on the long history of its acceptance in children's education. Through the ages, music instruction has provided children with skills for their musical expressions and knowledge of their cultural heritage(s). Despite societal changes, the need for a musical education continues. Through a musical education, children may learn the many facets of the uniquely aural art that allows them an opening through which to channel their many personal expressions.

Music for Children in a Changing Society

How quickly the world has changed and is changing still. Could grandparents have envisioned a world of slim-line wallet-size phones that text, email, take photographs, and provide an "amusement library" of listening, video, and gaming possibilities? Could parents have imagined the rise of popular music from its cultlike appeal to teenagers (only) to its pervasive presence, streaming through laptops and even, occasionally, embedded in the music of serious composers? Could they have fathomed that a world of knowledge could be had via website infobytes that flow across small screens at the flickering of fingers on tiny computer keyboards? Could we ourselves have guessed when we were children that a global village would emerge and that the world's peoples and their cultural expressions could become so present (and so vital)

in today's schools? The changes are riveting, their pace rapid and relentless, and their impact on musical culture profound.

Children of the twenty-first century face challenges very different from those just a generation ago. They grow up within family units of various sorts, including single-parent families, working-parent families, and extended families of aunts, uncles, and cousins. They know about substance abuse and sexual abuse, some from firsthand experience. They are bombarded with media images offering examples of deviant behavior and hear dialogue on television and radio that was considered inappropriate for previous generations. They worry about the environment, about people living in poverty both at home and abroad, about wars, and about the spread of diseases that threaten lives, with no certain remedies in sight. Today's world can overwhelm children with challenges.

"Music is too important to be left to the musicians [alone]. . . ."

Christopher Small, 1998

Enter music into this world of changes and challenges. Music is, for children, a port in the storm, a resting spot, a retreat from the madding crowd and their hectic lives. It is their safety valve, an appropriate release of energy at those times when no other channel seems possible. As music is transformed by technology and by the blending of cultural traditions from near and far, children are offered a wide array of expressions from which to choose for listening and performing. Their out-of-school musical experiences are greatly enriched by in-school instruction, so that the meaning of multiple musical expressions is deepened for them by music teacher specialists with the support of classroom teachers, parents, and other responsible adults.

"You wouldn't starve without music. But it makes my life worth more?"

Tuyen, 11-year-old girl; (Patricia Shehan Campbell, 2010)

A Musical Future

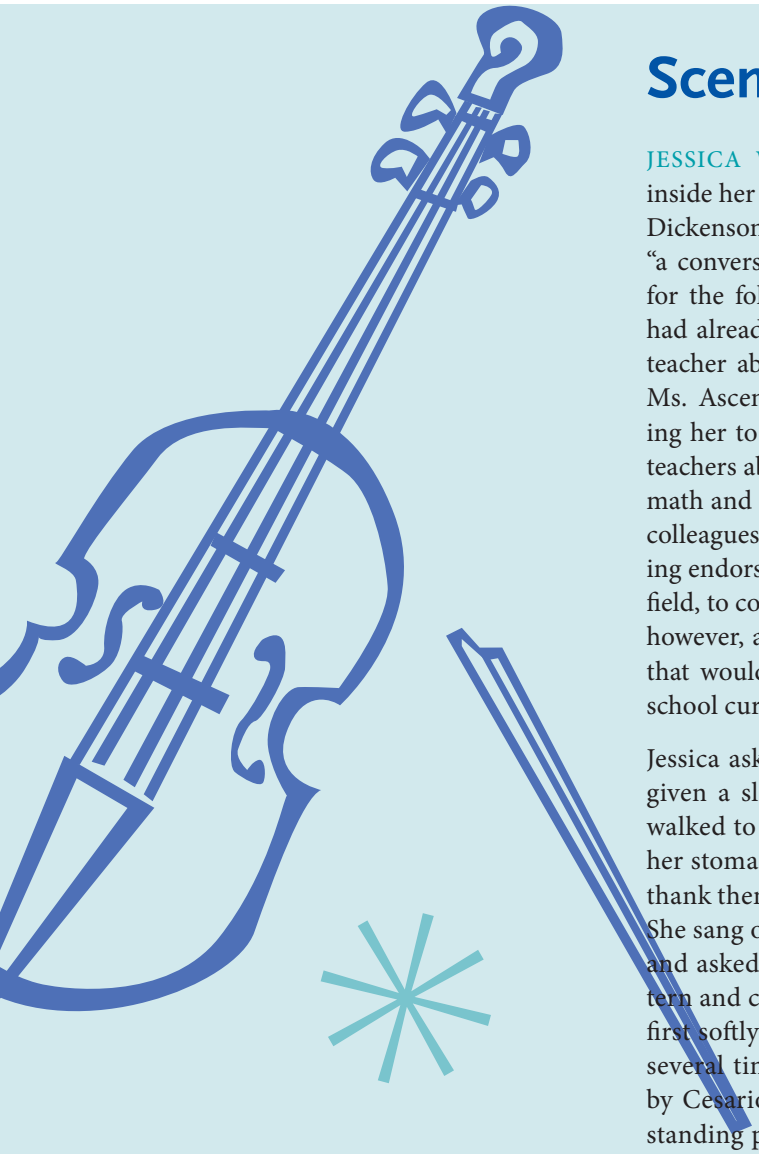
With an understanding of the functions and meanings of music, along with sensitivity to children's musical capacities and modes of musical experiences, teachers can develop their own personal method for stimulating the musical development of their students. Children will be guaranteed a musical future when the design of a curriculum takes into account the comprehensive goals of a musical education and the sequence for its attainment. Children have their first musical experiences in the home, under the tutelage of their mothers and fathers, but teachers are entrusted with the responsibility for building on these experiences. The transmission of musical culture is in their hands.

Music transmission cannot be haphazard if it is to be especially meaningful. Throughout their schooling, children need musical nurturing by trained music specialists, so that the experiences they know are musical as well as thoughtfully presented. The music teacher possesses knowledge and skills honed through many years of solo and ensemble performance experience and the study of music history, theory, and cultures. The music teacher also brings a sense of sequence, and a delivery style that appeals to children, based on an understanding of child development and pedagogical methods. Through long and specialized training, the music teacher can ensure that quality music instruction is provided.

The musical future of children rests on careful selection of music and instructional techniques to maximize the sometimes minimal curricular time explicitly assigned to music. It rests on the imaginative ways in which creative teachers infuse music into the school days, weaving music into lessons in the language arts, social studies, mathematics, and the sciences. It rests on the belief that today's tremendous cultural

diversity and technological advances will enhance, embellish, enlighten, and expand the musical experiences of children.

Most important, the musical future of children rests on the teacher's confidence that he or she is first and foremost a musician, one with a lifetime of music to share. Live music making led by the teacher's own performance, along with opportunities for guided listening to performances and recordings of other professional musicians, makes music meaningful to children. While there are many effective instructional techniques, probably no certain method exists for teaching music to children, any more than there is just one way to climb a mountain or to fall in love. The comprehensive and most effective method through which children become musically educated is to be found within the teacher's own training and interests. The possession of musical knowledge and skills, coupled with a love and understanding of children, will pave the way for a combination of techniques from various philosophical approaches into a personal pedagogy that suits the teacher, the children, and the music.

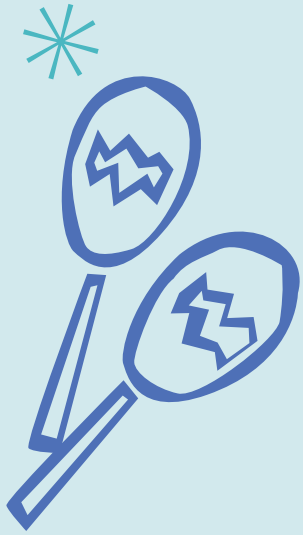


Scenario

JESSICA WHITEMAN WAS FEELING a nervous energy simmering inside her as she arrived to the Monday afternoon staff meeting at Emily Dickenson Elementary School. She knew that the agenda would include "a conversation" about possible cuts to music and the other "specials" for the following year. It was March, and the principal, Ms. Ascenzi, had already met with Jessica, the art teacher, the librarian, and the PE teacher about possible reductions of their schedules come September. Ms. Ascenzi had noted that budget cuts looming ahead were requiring her to make "some hard decisions," and that she was meeting with teachers about their needs for additional resources and materials for the math and language arts curriculum. Jessica had spoken to her specialist colleagues, and they were responding variously to the news, from seeking endorsement in general classroom teaching, to retraining in another field, to considering (very) early retirement. Jessica was not defeated yet, however, and had been working out the details of a personal campaign that would clarify why music needed to remain a regular part of the school curriculum.

Jessica asked Ms. Acsenzi for some time at the staff meeting and was given a slot of ten minutes to present her points. As she stood and walked to the front to face her colleagues, Jessica felt the butterflies in her stomach. She heard herself, in a weak and almost apologetic voice, thank them in advance for listening to her, and then took a deep breath. She sang out "Sorida," the Shona-language greeting song of Zimbabwe, and asked her colleagues to join in while she gestured a clapping pattern and circular motions with her hands. They began to sing and clap, first softly but with increasing enthusiasm as Jessica repeated the song several times. She moved to her laptop and flicked on a rousing tune by Cesario Evora, Cape Verdean musician, called her colleagues to a standing position, and modeled a few steps—first to the right, then to

the left, out to the front, down to the back. They were with her, she was adding her arms in an ascending clap-and-wave gesture, and she heard hoots, laughter, and "You go, girl."



Immediately, in the midst of the phrase, she pressed stop, gestured that they sit down, and began her pitch. "Stop the music?" she asked. "Why stop the music? Why deny our children the chance to express themselves in song and dance, and on instruments? Why deny them opportunities to know the artistic and cultural expressions of others in the world? Is school all about the intellectual and academic? What about the social-emotional well-being of our children? What about the ways in which music is an intellectual and academic pursuit, and then some? It's deep, rich, historic, contemporary, cultural, multicultural, private, collective, and vital to the holistic education of our children. We need to find a way to prevent ourselves from stripping the expressive needs of children right out of the curriculum." And on she went, now in a strong and dynamic voice, and her butterflies were gone. When Ms. Ascenzi rose, her teacher-friends were clapping for Jessica. One colleague, a second-grade teacher, spoke up: "Move over, math, we need some music time." The principal thanked Jessica, and before moving to the next agenda item, remarked, "Let's talk, Jessica. I've got some time on Friday morning." Before the end of the academic year, Ms. Ascenzi had made a decision to preserve music (and Jessica's job), although the other "specials" were reduced, and the decision had been made to cut visual art and turn it over to the classroom teachers. Jessica's campaign was short yet very sweet, and Ms. Ascenzi had found her pitch to be persuasive enough to seek out support for music in exchange for Jessica's record-keeping reports of explicit ways in which the children at Emily Dickenson Elementary School were benefiting from music.

Questions

1. What appeared to work in Jessica's pitch to her colleagues on music's place in the elementary school curriculum at Emily Dickenson?
2. What other techniques or strategies might Jessica have added or substituted to persuade colleagues outside of music and the arts of the importance of music for children?
3. What might be developed further (daily, weekly, or otherwise regularly) as means of following up as reminders to the Emily Dickenson Elementary School teachers of the important role that music plays in the school?

REVIEW

1. List the ten functions and uses of music. Are some more prominent in your life, and in the lives of children, than others?
2. How do children demonstrate their musical capacities?
3. How has music been placed historically within the curriculum?
4. What recommendations for changes in the music curriculum emerged (and are emerging still) from various sociopolitical events, both historic and recent?

CRITICAL THINKING

1. Nature or nurture? Discuss your stance on children's musical abilities as natural or learned, biological or entrained. Find support for either stance.
2. In the age of iPhones, and technologically wired classrooms, is the Pestalozzian concept of Anschauung relevant? Explain.

PROJECTS

1. Conduct a series of interviews to determine the meaning of music to people, both currently and from their memories. Ask open-ended questions not only of children but also of friends, family members, colleagues, and teachers. Analyze the responses according to the Merriam chart of musical uses and functions. Compare the current musical involvement of adults with their childhood memories of musical experiences.
2. Prepare a three-minute speech to be given to the board of education elucidating the benefits of music instruction for children. Present it to the class, and be prepared to respond to questions regarding your position.
3. Stage a scenario: a music teacher's consultation with a concerned parent who wonders whether her child is musical or musically talented.
4. How can in-school instruction in music expand on the musical interests and experiences that children have outside the classroom? Suggest three outside musical experiences that merit deeper exploration through the guidance of a music teacher.

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2

From Theory to Practice in Teaching Music to Children

IN THIS CHAPTER

- Stage and Phase Theories
- Social Systems and Scapes
- Theories of Musical Play and Socialization
- A Constructivist Theory of Meaning Making
- Social Learning and Reinforcement Theories
- Neuroscience and Music Learning
- Learning Style Theories
- Theories of Instruction
- Relating Theory to Practice
  - The Classroom Environment
  - A Child-Centered Curriculum
  - The Teacher as Transmitter
  - Instructional Strategies
- Informed Teaching

THEORIES OF LEARNING, TEACHING, and instruction are embedded in nearly every musical experience. Jeremy and Bryan playfully explore the music-making possibilities of spoons, cups, pots, and pans; Bruner (1966, 1996), Vygotsky (1978; Daniels, Cole, and Wertsch, 2007), and Jonassen (2011) have developed theories to explain this behavior. Annmarie works best alone at a listening station, while Rosa grows musically when in a socially interactive group; theories on field dependence and independence explain some of the differences. Inga follows the teacher's modeling of a musical phrase and imitates it a bit better with each successive trial; both Skinner (1953; Chiesa, 2004) and Bandura (1977, 1997) offer theoretical explanations. Rob acquires and retains music aurally; Tony through symbols, graphs, and notes on staffs; and Charissa through associated movements and gestures; these learning modalities are theorized, analyzed, and classified in the literature on learning styles. When Donny does not attend to a listening lesson, Ausubel (1968, 2000) suggests "advance organizers" (or building a foundation of familiar ideas for the new learning situation), Gagné (1993, 2004) recommends ways of gaining attention, and Skinner offers behavioral techniques for bringing him to task.

Theories about how children learn and how teachers can help maximize this learning are at the heart of every practical musical experience that teachers provide for children. Instead of being dull, dry, and remotely related to the real-life challenges of teaching music to children, theories can illuminate for the teacher how children gain musical knowledge, skills, and values. Theories of instruction are based on effective techniques used by teachers and on scientific observation of and experimentation in how children learn. By understanding theory as the fruit of multiple lifetimes spent explaining how children acquire, retain, and then

THINGS TO THINK ABOUT

- What theories of music learning and instruction do you know through study and actual experience?
- Describe your preferred way of learning. How has it changed since your childhood?
- What did you musically know, and what could you musically do, as a result of home enculturation experiences? How were these experiences enriched and deepened through training?
- What sorts of teacher-directed and child-centered learning have you observed?
- Recall what your music classroom looked and felt like as a child. How was it conducive to learning and what would have made it more so?
- How do effective teachers you have known start and end music classes?

rework musical knowledge into their personal expressions, teachers can become more efficient at guiding this musical development. Theory is wedded to practice, in that it emanates from practical teaching and learning experiences as it also informs these practices. Teachers who think about what they do, and are informed by theory, are deeply committed to leading children to their maximal musical development.

A theory of music instruction can describe factors related to the teacher, the children, their family, social and cultural influences, and the classroom environment. A theory of music instruction comprises three components: (1) instruction, a set of events provided by the teacher; (2) learning processes of the child learner, including attention, perception, memory, rehearsal, and recognition and recall; and (3) learning outcomes in the form of a child's demonstration of verbal information, intellectual skills, motor skills, cognitive strategies, and attitudes. Thus, theory directs the teacher in providing sequential experiences for understanding a rhythmic pattern or for gaining techniques necessary for playing a musical instrument. It describes the child's need for initial attention to the learning task and the progression through which the child learns and remembers that task, and it suggests the means by which the child demonstrates such learning.

Teachers—and parents—concerned with enhancing the musical development of children will be well served by the brief introduction to theories of instruction and learning that follows. Selected research and recommendations by theorists in psychology, sociology, anthropology, and education are noted, as well as the ways in which these theories can inform the practice of music instruction. Table 2.1 sketches selected theories that are relevant to teaching music to children.

Stage and Phase Theories

A number of theories refer to stages, phases, or levels through which children or adult learners proceed in gaining knowledge. Some of these multileveled theories stem from developmental psychology and are called "stage dependent," referring to the intellectual stages that children pass through as they mature. Others are not governed by maturation but nonetheless feature earlier stages of learning that provide the foundation for later, more complex learning. Whatever the emphasis, multileveled theories establish that children do not learn all at once, but bit by bit, and in increasingly complex ways over time.

"Theory links the teacher to the child learner, as it relates teaching events to learning processes and demonstrated learning outcomes."

The stage-dependent theory of Swiss biologist Jean Piaget (1952), a key twentieth-century conceptualization of childhood, still provides an important model of cognitive development in its combination of the child's biological growth with an increasingly mature intellectual grasp of concepts. Through longitudinal observations of children from birth through late adolescence, Piaget evolved a theory that has greatly influenced views on child development. He observed that children progress through four stages of thinking: (1) sensorimotor (ages zero to two), learning through direct sensory experience; (2) preoperational (ages two to seven), learning through the manipulation of objects—noting the consequences and internalizing them for the future, thus transforming stimuli to symbols; (3) concrete operations (ages seven to eleven), viewing objects in concrete, tangible, and systematic ways but not abstractly; and (4) formal operations (ages eleven through adulthood), learning abstractly using logic and deductive reasoning.

TABLE 2.1 Summary of Selected Theories Informing Music

THEORIST	THEORY	PRINCIPAL FEATURES
STAGE AND PHASE THEORIES		
Jean Piaget	Stage-dependent theory	Children progress through four stages of intellectual development: sensorimotor, preoperational, concrete operations, and formal operations
Jerome Bruner	Modes of representation	Learners progress through three ways of representing meaning or understanding, related to, but not dependent on, maturation: enactive, iconic, and symbolic
Lauren Sosniak	Developmental stages of the pianist or performer	Student musicians progress through three phases: tinkering, technical, and masterful music making
Gregory Bateson; Catherine Ellis	Learning I, II, III	Learners progress through three phases: enculturation, acquisition of skills or competence, and personal and aesthetic expression
SOCIAL SYSTEMS AND SCAPES		
Uri Bronfenbrenner	Ecological systems	Nested systems that contribute to learning and education: microsystem (family or classroom), exosystem (external environments), mesosystem (microsystem-exosystem interactions), macrosystem (sociocultural context)
Arjun Appadurai	Global cultural flow	A realization of cultural activity as globally shaped by the flow and influence of immigrants and travelers (ethnoscape), media (mediascape), technology (technoscape), trade and finance (finanscapes), and ideas (ideascape).
MUSICAL PLAY AND SOCIALIZATION THEORIES		
G. Stanley Hall	Musical play	Children train for adulthood through games; musical play leads to musical understanding
Lev Vygotsky	Socialization	Children are socialized through adult intervention and guidance; socialization leads to acquisition of cultural knowledge
CONSTRUCTIVIST THEORY		
David Jonassen	Constructivism	Children develop their understanding through the meaning they make from their experiences
REINFORCEMENT AND SOCIAL LEARNING THEORIES		
B. F. Skinner; Robert Thorndike	Reinforcement	Learning can be shaped through the process of positive or negative reinforcement; appropriate behaviors are shaped through successive approximation techniques
Albert Bandura	Social learning	Children observe and emulate their adult models
NEUROSCIENCE AND MUSIC LEARNING		
Richard Restak	Cerebral dominance	Learners are dominated by left-hemispheric (linear) or right-hemispheric (holistic) processing
Gordon Shaw	General and spatial intelligence	Neural firing patterns triggered by singing and playing music lead to higher brain function, some of which transfers to academic subjects like math
Anders Ericsson	Deliberate practice	Expertise in music and other realms requires 10,000 hours of deliberate and thoughtful practice
Daniel Levitin	Neuromusical matrix	Network of brain regions engaged in emotion, timing, perception, and production of sequences in music performance and listening

(Continued)

TABLE 2.1 *(Continued)*

THEORIST	THEORY	PRINCIPAL FEATURES
LEARNING STYLE THEORIES		
Howard Gardner	Multiple intelligences	Learners possess one or more types of intelligence or ways of being intelligent
Walter Barbe; Raymond Swassing	Learning modalities	Learners process information through a preferred sensory channel: visual, auditory, or kinesthetic
Rita Dunn and Kenneth Dunn	Learning style model	A variety of factors influence learning: environmental, emotional, social, and physical
Harold Witkin	Field dependence and field independence	Learners may be content bound, experiencing concepts as embedded within their environment; or content independent, experiencing concepts as discrete entities removed from their background
Isabel Myers; Peter B. Briggs	Myers Briggs Type indicator	Learners may demonstrate one or several of eight Myers-Briggs personality types that influence the way they approach the learning task: extroversion/introversion, sensing/intuitive, thinking/feeling, and judging/perceiving
INSTRUCTIONAL THEORIES		
David Ausubel	Meaningful reception	Students acquire information most effectively when teachers package lessons well and prepare students through "advance organizers"
Jerome Bruner	Discovery learning; spiral curriculum	Students learn through exploration and problem solving; subject matter can be taught to children through age-appropriate experiences and can be embellished through repeated exposure
Robert Gagné	Events of instruction	Learners progress through eight instructional events, from awareness and attention through concept formation and transfer
Edwin Gordon	Music learning theory	Students progress through an eight-stage process that begins with aural and oral experiences with music and ends with theoretical understanding; audiation is the goal

These four classic stages suggest that younger children in particular be given many opportunities to listen, sing, play, and move to music (Piaget and Inhelder, 1969). The introduction of staff notation should occur only after preliminary experiences. Piagetian theory implies that music instruction follows a sound-before-symbol approach. Other notable applications of Piaget's principles to music learning indicate that age eight is a watershed year in a child's cognitive development. At this time, children are capable of identifying timbres, discriminating among random melodies, and perceiving structure in simple melodies, although they are less successful in perceiving the sound of more than one simultaneous musical line (or harmony). As they progress into the stage of concrete operations, children also begin to conserve, or to realize the invariance of one musical element when another is altered. In other words, they begin to recognize a melody when it has been sung in a minor instead of a major modality or in triple instead of duple time. By the time they complete fifth grade, many children are capable of thinking in the abstract about music and are able to manipulate musical structures through improvisation and composition experiences.

In his modes of representation, Jerome Bruner (1966, 1996) suggests a type of stage progression that is somewhat dependent on maturation but can be applied to all ages and intellectual stages. He proposed three teaching and learning strategies: enactive, learning through a set of actions; iconic, learning through images and graphs; and

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Children's concentrated performance on instruments

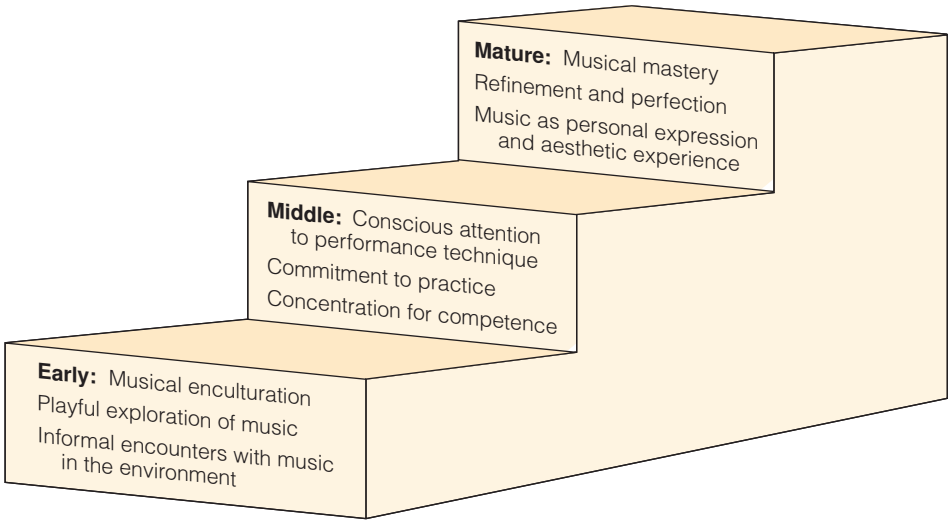
symbolic, learning by going beyond what is immediately perceptible in the environment. For example, learning to read notation can be broken into three stages corresponding to Bruner's model. Instruction may begin with arm and body movement to represent melodic contours (enactive), followed by line graphs that trace these contours (iconic), and ending with the reading and writing of notation itself on the staff (symbolic). These modes of representation are useful in providing increasingly sophisticated instructional sequences for any concept.

In a longitudinal study of concert pianists, Lauren Sosniak (1985) developed a theory also involving three phases of learning. During the initial phase, the young musician tinkers at the piano in playful exploration and is encouraged and supported by her or his parents to do so. The teacher is positive, gentle, and thus motivating for the learner. The second phase emphasizes a more systematic and technical approach to instruction. The development of playing technique brings a need for greater repetition and more careful listening to and emulating of the model, the teacher. The playfulness of the first phase is replaced by a more concentrated and serious attention to detail. In the third phase, mastery emerges in the young pianist's performance of targeted pieces. Gone is the positive and playful instructional approach as the teacher becomes more critical of smaller flaws in an attempt to develop a near-perfect performance. The instructional mission changes, as do the student's goals, over the three phases. While the theory is hardly one of cognitive development in the Piagetian sense, progressive maturation nonetheless occurs over the time of five or ten years (or more) of lessons. A parallel can be drawn for children's study of any instrument or voice.

Anthropologist Gregory Bateson (1978; Bateson and Donaldson, 1991) defined three broad dimensions of learning similar to Sosniak's three-phase model. These types were related to music learning by Catherine Ellis (1986). Learning I occurs without effort, as music within the environment is absorbed by the learner. Such informal encounters with music are part of the enculturation process by which children come to know the components of their society. In Learning II, thinking is combined with experience when the child learner strives to become a competent performer through lessons or classroom instruction. In this phase, the child becomes more seriously interested in music and engages in practice that develops coordination, strength, agility, and speed

FIGURE 2.1

Three Phases of Musical Learning



"To instruct someone . . . is not a matter of getting him to commit results to mind. Rather, it is to teach him to participate in the process that makes possible the establishment of this knowledge."

Jerome Bruner, 1960

on a given instrument or voice. The final phase, which Ellis contends is attained only rarely, takes the performer past technical skills to music as a personal expression of joy and even religious faith.

Children who study instruments may make their way through the phases proposed by Sosniak and by Bateson and Ellis (see Figure 2.1). Certainly, children everywhere have an initial enculturation experience. Musically, this may manifest in their development as perceivers and performers of simple songs and instrumental pieces in their musical "mother tongue." The second phase in both theories indicates a commitment to practice in order to develop technique and build a performance repertoire. The ultimate phase is reached when performance skills are refined and the goal of music as an aesthetic expression can be attained. Few children realize this goal, although many are well on their way. The greatest focus of music instruction for children through the sixth grade is on the second phase, the skill-building stage.

Social Systems and Scapes

Children's learning happens in schools and on the far outside of schools, in formal and informal experiences that they know. While teachers, parents, and caregivers provide them with content and circumstances for learning academic and everyday knowledge and skills, they are also influenced by social systems that surround them in their lives at home, in school, and in every nook and cranny of their experience. These influences are local, national, and international, and may be more indirect than direct. They are multiple rather than singular influences, and they function in a webbed, nested, and interactive social system. They shape the environment in which children learn music, and all other knowledge and skills valued by the society in which they live.

As a scholar of child development, Uri Bronfenbrenner (1979, 2004) posed an ecological systems theory that has been widely welcomed as a means of understanding the social network of children's learning. He described a nested system that consists of four types of influences: the microsystem of the family or individual classroom; the exosystem of indirect, external influence such as parental occupations that include the workplace; the mesosystem of interactions between microsystems and exosystems (as in the case of family and parental occupations); and the macrosystem of the larger

sociocultural system of society as it interacts with government policy and civic institutions. Recognition of an ecological complex of influences is helpful in understanding how children are nurtured by the roles and rules of each nested environment, from the most intimate to the broadest-reaching. This social system thus helps to explain the music that children grow to know, and which encompasses various facets of their environmental experiences.

In a time of increasing globalization, in which nations and cultures are connecting through continuous exposure to (and interactions with) one another on various levels, a steady stream of influences is crossing communities and shaping children's experience in powerful ways. The cultural anthropologist Arjun Appadurai (1996, 2001) described contemporary society as rapidly evolving by means of a global cultural flow of ideas that moves from one place to the next, creating imagined and virtual communities while also reorienting people in the real communities in which they live. Children, as well as adults, are affected by global cultural flow consisting of the impact of immigrants and travelers (ethnoscape), the media (mediascape), technology (technoscape), trade and finance (finanscape), and ideas (ideoscape) from everywhere in the world. Their cultural knowledge, including artistic practices and musical expressions, is influenced by who and what enters into their surroundings. The social system that envelops them is a result of the processes and products of a global cultural flow. And the media, technology, and changing demographics of neighborhoods are important components of the music that children enjoy and value.

Theories of Musical Play and Socialization

When children play with other children and socialize with adults, they are learning as well. Contrary to the word's connotation, "play" can thus be serious business for children. Socialization, a type of play in which children engage in social interactions with adult guides, can be a weighty endeavor for children, with serious implications for their cognitive development. Musical play and socialization through music (and for the sake of music learning) can be bona fide means for children to gain information about the world around them.

Various schools of child psychology have supported play as a natural process and a part of child development. Historic figures in the field, G. Stanley Hall and Sigmund Freud were in agreement that young children are in training for adulthood through the games they play. Musical play should be nurtured in nursery school and continued through the primary grades, according to the pedagogies of Zoltán Kodály, Émile Jaques-Dalcroze, and Carl Orff. Singing games, newly invented songs by children, musical improvisations, and compositions that are practiced, preserved, and performed repeatedly are examples of musical play at its best.

Musical play deserves a prominent place in the education of children—at least through the primary grades—with improvisation occurring throughout the elementary grades. The key to successful music learning may be at least partly linked to the songs children know, invent, and transmit to each other while at play and to the music they create on instruments during free-play time. Certainly, a teacher's goals and well-planned lessons are necessary in the educational process, as is an open mind to the music that children know and spontaneously create. Children's musical play can be the means by which a conceptual understanding of music is more fully developed in the classroom.

"Every function in the child's cultural development appears twice: first, between people (interpsychological) and then inside the child (intrapsychological)."

Lev Vygotsky, 1978

The teacher's role as guide, not solely as leader, can foster learning and the development of favorable attitudes toward music that will long endure.

The Russian social psychologist Lev Vygotsky (1978; Daniels, Cole, and Wertsch, 2007) established that the adult, primarily the parent and teacher, is the primary influence on a child's socialization process. The adult not only transmits music to a child, but also participates in the child's discovery and manipulation of the music to be acquired. During musical play, the teacher or parent delivers to the child cultural signs—such as verbal comments, facial expressions, or indicatory gestures—that direct the child's attention to specific elements of an experience and that activate appropriate learning behaviors. According to Vygotsky, these signs provide the means for drawing children into knowing their culture (in this case, musical culture) while also shaping and coloring their perceptions and eventual understanding of the cultural object (the music). As the teacher interacts musically with children, for example, while singing, the children come to know the song and to progress toward singing it independently. They grow in ownership of the song and become more familiar as well with elements of that musical tradition. Their musical interactions with the adult while singing, moving, listening, and playing musical instruments are vital to their musical independence and to their coming into the musical culture itself.

A Constructivist Theory of Meaning Making

Every child has real-world experiences, and ideas become meaningful as a result of the events that happen in particular ways to each individual. Consistent with a belief in the child as an active player in the shaping of knowledge, the constructivist theory of learning explains knowledge as a result of the process by which the child creates meaning from his or her experiences. Like a carpenter or a builder of houses, learning proceeds in active instead of passive ways as the child builds up knowledge piece by experiential piece until a meaningful whole forms—and then some, for every experience to follow has also the potential of broadening as well as deepening his or her understanding. The child is the key player in this constructivist process, building a conceptualization of self, other, and outer world through each progressive experience, encounter, and interaction that comes along. Reflecting an earlier humanistic perspective, constructivism holds to the premise that children who initiate and direct their learning will find that learning lasts longer and is relevant to their lives (Rogers, 1969).

"Constructivist Learning Environments provide a question or issue, a case, a problem or a project that learners will attempt to solve. Ownership of the problem or learning goal is the key to meaningful learning. Students must be provided with interesting, relevant, and engaging problems to solve."

David Jonassen, 1991

David Jonassen's constructivism is associated with mental constructs or principles—the germinal units that comprise knowledge—and how they are developed (Jonassen, 1991, 2011). The reconstruction of principles by new learners of a subject is of key interest, and the shaping of experiences into new information and new interpretations is integral to the learning process. Within the instructional process, the accent shifts from the teacher to the child, from the view of teacher-as-absolute and the font of all knowledge to the child as active seeker of ideas from multiple sources. Those teachers who profess a constructivist approach to instruction become facilitators, instead of dictatorial leaders, of children. Their responsibilities are to set up an environment that is conducive to learning and to allow the setting to support the engagement of children in experiences that lead to the acquisition of principles, skills, and understandings.

Within the realm of music in a child's life, constructivism brings with it certain images; for example, a child playing at the keyboard, trying this key and then that key

while creating her own tune, and figuring out a motif or gesture that is followed by its repetition and development. In such a case, the teacher is there to provide the instrument, the space (in terms of both time and physical distance from the child's need for experimentation), and occasional prompts, feedback, and encouraging and motivating remarks. Another image of the constructivist approach is the gathering of children who are working collaboratively on a project—a collective composition in which all are contributing members to the final product, a listening analysis in which children together discuss (according to preset guidelines) the presence and meaning of certain sonic events, or a sectional rehearsal in which children take responsibility for learning (by way of teaching, reviewing, and revising component parts) an assigned piece. In all cases, the teacher's work is in the advance planning and design of circumstances in which children can explore, experiment, accomplish general goals, and acquire understanding.

The quality of construction depends on the range of information available to the child-constructor, and while all constructions must be considered meaningful, some are incomplete or simplistic. Learning is not a complete free-for-all in which anything goes, all outcomes are equal, and no one is in danger of misinterpreting. Instead, mental constructs have been held as accurate and appropriate within societies and cultures for millenia, and they form the basis of fundamental human understanding. This then becomes the challenge of constructivism to teachers: determining how to balance personal, flexible, or even free processes of knowledge acquisition by children with the initial setup of the learning environment and guideposts along the way by teachers, so that the result is the acquisition of shared knowledge that can also be individually interpreted. Those professed constructivist teachers swear by the theory, and their children revel in what appears to be a less restrictive and more personally meaningful means of learning than that espoused by other theories (see Lesson 2.1).

LESSON 2.1 Constructivist-Styled Learning

1. *Children listen and find pulse, meter, melodic and rhythmic patterns, "expressive dimensions," and general impressions in repeated listenings to a recorded Trinidadian soca song.*
   Teacher has selected a recording that illustrates musical components, accepts all children's discussion points by listing them on the board, suggests some possibilities when children struggle with descriptive words, plays the recording again so that children might review their thoughts and impressions, and prompts for ideas about song words and their musical setting.

2. *Children learn to sing "Viva la musica" in canon.*
   Teacher leads children in singing the song in unison, provides for children to conduct the group with their choices of tempo and dynamic level, allows for children's evaluation of their singing, sets children into practice teams of three—each with rotating conductors—and then brings them back together to sing in canon.

3. *Children create percussion piece on season theme.*
   Teacher has set up five groupings of two xylophones, two metallophones, a drum, and a woodblock in the center and corners of the room; plays several examples of composed "seasonal music" pieces on recordings; notes parameters of "fifteen minutes to create 'seasonal music' (winter, spring, summer, autumn)"; circulates to answer questions of children; and organizes the groups for class performances, discussion, and evaluation.

Social Learning and Reinforcement Theories

Two theories from the fields of sociology and psychology, both highly relevant to teaching and learning, are linked by their examination of environmental agents that promote and influence learning. Neither is technically an instructional theory, although each targets behaviors that frequently appear in classrooms. Social learning theory explains the significance of environmental models for learning, while reinforcement theory describes the manner in which persons in the environment shape and increase learning behaviors.

Albert Bandura's (1977, 1997) social learning theory is a provocative view of the power of persons within an environment to serve as models of behavior that are later replicated by the observer. Children choose to watch and listen to their parents and teachers, whose behaviors they later emulate. Their observations of these models are mentally organized, memorized, and recalled when similar situations for thinking and acting arise in their lives. The process of environmental influences and social learning are played out as the student recalls the visual or aural codes of earlier observations and practices the behaviors first demonstrated by the models. Social learning theory is prominent in musical settings, because modeling is critical to the student's watching, listening, and then performing the music in the manner and style of the teacher. Children learn to sing and play instruments, as well as how to listen, by doing as their models do.

Table 2.2 shows how social learning theory can be adapted to a learning sequence that integrates the act of listening in the development of performance skills, in this case, singing. A song is learned in three stages. First, it is introduced by the teacher; second, an intermediate stage is reached after several run-throughs or even weeks later; and third, a final stage of refinement is achieved some time after that. The teacher as model is central to the development of listening and performance skills. The children imitate the model and evaluate their attempts to re-create it, showing increasing ability to match the model's performance, even as they offer personal expression in their rendering of

Teacher-as-model singing with children

© Jerry Gay

TABLE 2.2

Applications of Social Learning Theory to Music Instruction

EARLY	The model (teacher) sings/children listen Can you sing the final tone? What is the meter? How many phrases are there? Are there any repeated patterns?
MIDDLE	The model sings/children listen; children sing What pitches are to be accented? Have you lowered/raised the pitch? Are you sustaining for the complete duration? Can you achieve the rhythmic swing or flow?
LATE	Children sing; the model sings/children listen; children sing How closely can you approximate the model? How might you vary the model's rendering? Where are the peak expressive points? What are the overlaps and distinctions between you and the model?

the song. Questions by the teacher direct children to listen carefully in order to develop their ability to sing accurately and expressively. This sequence could also be contained within a single lesson; thus, it becomes a lesson plan for teaching a song.

The reinforcement theory of the behavioral school of psychology has been embraced by teachers and parents, having long provided suggestions for effective means of shaping children's behaviors toward those considered acceptable and appropriate. B. F. Skinner's (1953, 1987; Chiesa, 2004) classic theory of operant conditioning is at the heart of behavioral change, including learning. Operant conditioning is a three-part instructional "kernel," or process, comprised of a stimulus that is presented to the learner, a response that is elicited by the learner as a consequence of the stimulus, followed by the presentation of another stimulus that reinforces the response. Stimuli operating in the environment, including the verbal and nonverbal approval of a teacher, have an impact on children's learning behaviors. Skinner's reinforcement theory holds that when a child's behavior—singing in tune or playing rhythms accurately—is positively reinforced by the teacher's smile, nod, or positive comment, that behavior will be maintained or increased.

The Skinnerian technique of successive approximation, or the shaping of behavior by reinforcing each progressive step toward an ideal, is one of the most common used by teachers. Shaping requires teachers to break songs, pieces, or musical passages into small parts; to offer approving remarks for musical behaviors that are similar to, or that approximate, the desired performance behaviors ("Yes, now you've got the right rhythm!"); and to use clear feedback to state what needs to change in moving learners toward the ideal ("No, you need to sing it a half-step higher."). The teacher reinforces less perfect musical behaviors in the hopes of directing children to more perfect ones. The teacher's reinforcing comments are eventually diminished as children begin to evaluate their own musical behaviors as approximating the model or ideal sound. Reinforcement theory is recognized by behaviorists as a premier influence on learning, with the teacher acting as environmental agent, dispenser of feedback, and model of appropriate behavior.

Reinforcement theory is also the basis of the system of classroom management called behavior modification, in which children are given external reinforcement for appropriate social or academic behaviors. In its classic form, children receive rewards contingent on or following good behavior; these rewards have included M&M candies, tokens to be applied to prizes, free time, and field trips. This system is well known for keeping children on task, or focused on goals of cooperative and nondisruptive behavior and on the completion of projects and assignments.

"Of the many cues that influence behavior, at any point in time, none is more common than the actions of others."

Albert Bandura, 1986

The work of Clifford K. Madsen and his associates (C. H. Madsen and Madsen, 1981; C. K. Madsen and Kuhn, 1994) on the application of reinforcement theory to musical settings has inspired a host of music research studies and teaching practices. Madsen and colleagues have developed four observational research principles: pinpointing a trouble behavior, observing and recording the frequency of the behavior, applying a teaching strategy to reduce the behavior, and evaluating the effect of the strategy by observing the frequency of the behavior. In countless studies, inappropriate behaviors are reduced while appropriate behaviors emerge. The key appears to be viewing the trouble behaviors one at a time and applying teaching strategies that work.

Neuroscience and Music Learning

In recent decades, neuroscientists have been instrumental in piecing together explanations of how the mind works, and studies of human cognition are revealing thinking processes and ways in which information is perceived, learned, and retained. Brain research reveal developmental processes that are linked to the growth of children's skills and understandings, and to their moods and social dispositions. Relative to their musical development, children's active involvement in music-making activity appears to be associated with not only skill-building but also the evolution of their language discrimination, mathematical ability, and problem-solving skills. A consensus is emerging that not only is music a biological fact of human life, but that children who participate in music can enhance the rapid physical development of their brains. Further, brain research has provided data that clarifies music's role in enhancing how children think, reason, and create.

Research has shed considerable light on the different but complementary tasks of the brain's right and left hemispheres. When the corpus callosum, the bundle of nerves connecting the two hemispheres, is severed, the left hemisphere responds better to verbal, sequential, and linear processing, while the right hemisphere is inclined toward nonverbal, spatial-visual, and simultaneous processing. This has led cognitive psychologists to develop a theory of cerebral dominance, which suggests that some individuals are "left-brain convergent" thinkers while others are "right-brain divergent" thinkers (Restak, 1979; Geschwind and Galaburda, 1988). Depending on the task and on the level of learning already attained, people use both sides of the brain with facility, and communication between the hemispheres is rapid and complex. Some educators have taken steps past the conceptual theory to the design of instructional strategies that reach both "brains." The notions of left-brain/right-brain processing continues as common parlance in educational circles to describe students' propensities for sequential and simultaneous thinking.

Neuroscientists have found neural firing patterns that suggest that music may be a pathway to higher brain function (Shaw, 2000). Young children who take music lessons score higher on tests of "general and spatial intelligence," the same cognitive abilities

that are foundational for competence in math and engineering. Children who play a musical instrument are strengthening their eye-hand coordination and fine motor skills, as they also develop discipline through regular practice that focuses their attention on required discrete tasks. Their practice leads to musical accomplishment, too, as they learn that there are rewards for hard work, that 10,000 hours of attentive "deliberate practice" lead to high-level performance skills (Ericsson, Charness, Feltovich, and Hoffman, 2006). Further, there appears to be a relationship between making music and getting along with others, such that children who make music together—working to make something beautiful in the company of others learn to regulate their emotions and to become aware of other people's feelings. Music plays an important role in childhood, undergirding the growth of children's thought processes and social interactions.

Research on music and the brain has indicated that both music-making and music listening are sophisticated neural processes, and that specific areas of the brain are involved in emotion, timing, perception, and the production of sequences (Levitin, 2006)—all components of the complex "neuromusical matrix" that comprises a musician's skill-set. Musical ability is more likely a set of abilities, rather than just a singular component, that include aural acuity, tonal and rhythmic memory, the capacity to detect patterns, eye-hand coordination, and the intelligence to integrate sensory information into the individual's web of knowledge and to imbue meaning to it. Studies of human evolution have contributed theories as to why humans developed music, including music as an evolutionary accident, with humans exploiting and extending language to invent music as sonic pleasure, and a Darwinian theory that suggests that music was selected early in human evolution because it signals certain kinds of intellectual, physical, and sexual fitness to a potential mate. Still another theory of music's evolution in human life is that it supported cognitive development: Because of music's complex activity, music has assisted our early ancestors in the development of speech communication.

Learning Style Theories

Several learning style theories have been inspired by research on the functioning of the human brain and on the complexities of the human personality. While these are not instructional theories per se, they underscore the individual differences among children's learning styles, for which an array of instructional strategies may be necessary.

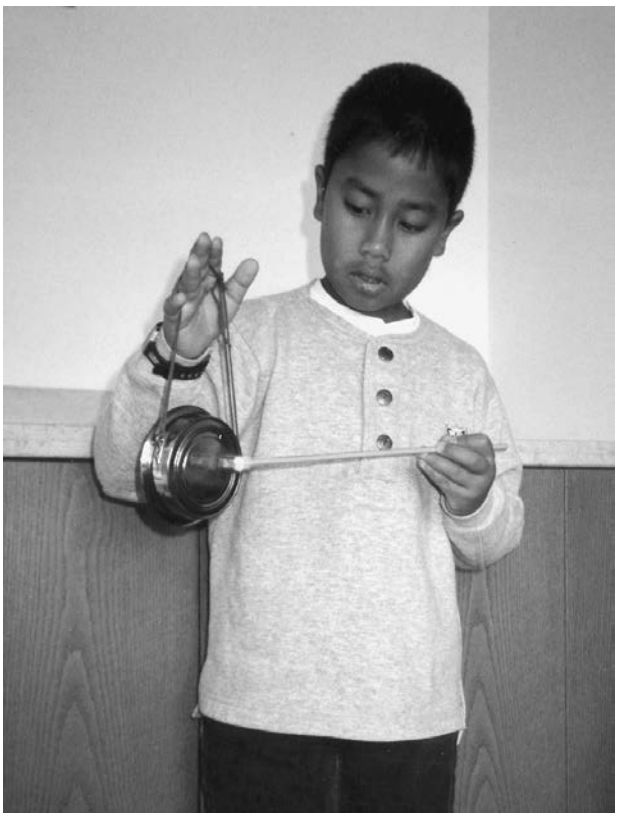
Stemming partly from his observations of brain-damaged individuals who demonstrated specific types of intelligence even though they showed an intellectual deficiency, Howard Gardner (1983/2004) proposed a theory of multiple intelligences. He suggested that there may be eight intelligences, one or several of which are dominant in the learner's processing of the world. Gardner was concerned that the definition of intelligence was too limited and that a person may be intelligent in more than one domain or especially strong in one area while only moderately so in another. The eight intelligences of Gardner's theory are linguistic, logical-mathematical, spatial, interpersonal, intrapersonal, musical, bodily-kinesthetic, and naturalistic; he has also considered two additional domains, that of moral and existential intelligence. His recent work has probed the nature of a teacher's illumination for students of the nature of truth, beauty, and morality through carefully crafted lessons on a theory of evolution, the Holocaust, and the music of Mozart (Gardner, 2000, 2007). While seemingly emerging from his earlier theory, the many dimensions of intelligence emerge in his description of the teacher's craft.

Clearly, Gardner's theory stands on its own, but if each intelligence is more centered in one hemisphere or the other, then his theory can be related to research in cerebral dominance. Left-hemisphere processes are emphasized in linguistic and logical-mathematical intelligences, while spatial intelligence reflects right-hemisphere excellence. Interpersonal and intrapersonal intelligences emanate from right-hemisphere functions. Musical intelligence is balanced by processes of both hemispheres, for it allows sequential (left-brain) processing through its perception of durational and pitch patterns and phrases, and simultaneous (right-brain) processing through its perception of various polyphonic textures, including harmony. The bodily-kinesthetic intelligence is the only emphasis that appears to stem more from the motor and sensory parts of the cortex than from either hemisphere in particular. Each intelligence is like a learning style that calls for specific instructional strategies.

Along with its reference to brain-based research, Gardner's theory of multiple intelligences suggests that there is more than one intellect and that nonverbal forms of learning merit greater attention than is currently given to them by educators. If it can be accepted that the two hemispheres have specialized yet complementary functions, then it would seem critical to pay greater attention to teaching to the somewhat neglected right hemisphere. The exercise of children's subjective, affective, and divergent qualities can be greatly served through lessons in music and the arts. While music can be analyzed linearly by the left hemisphere, it can also be nonverbally experienced and creatively expressed by the right hemisphere. The nature of music instruction allows children occasions for activating the best of both brains.

A theory of learning modalities first proposed by Walter Barbe and Raymond S. Swassing (1979) has remained relevant in contemporary educational practice, as it submits that a learner processes information most efficiently through one of three

Listening, looking, doing: The multiple modalities at play



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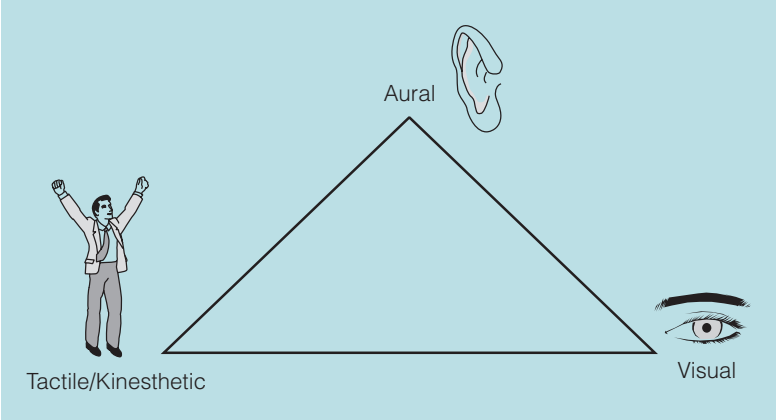


FIGURE 2.2

Learning Modalities: Independent Yet Able to Be Integrated

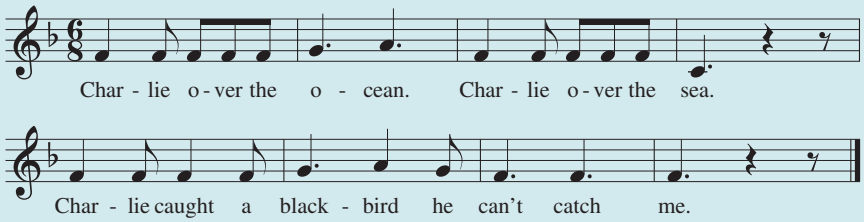
sensory channels: visual, auditory, or tactile/kinesthetic. The visual learner absorbs information by seeing, reading, and observing demonstrations by others. The auditory learner benefits from verbal instructions and from oral examples presented by the teacher, another student, or recordings. The kinesthetic learner develops knowledge and skills by touching, moving, and physically acting on his or her environment. Learning modalities are thought to be relatively stable over time, but evidence also shows that very young children tend to be kinesthetically oriented, primary-grade children more inclined toward auditory learning, with adolescents shifting toward the visual modality. Figure 2.2 illustrates the modalities; their configuration within a single closed shape suggests the three modalities should all be included in lessons.

Learning modalities can be applied to music instructional approaches. While music classroom environments must be rich in stimulation for all the senses, knowing the modality strengths of individual students would be helpful. The best teaching involves the stimulation of all modalities. This is particularly easy to do in music, which is multimodal by nature. Lesson 2.2 offers a sample lesson that utilizes the three modalities in developing an understanding of pitch and duration within the traditional song "Charlie over the Ocean."

Environmental, emotional, sociological, physical, and psychological issues affecting learning are addressed by Rita Dunn and Kenneth Dunn's (1992) learning style model. Not to be confused with the social systems and surrounds theories, the Dunns' model is directly concerned with the conditions in the classroom and among the students who are found within it. The environmental set of factors is perhaps the most unique aspect of the model, because it includes sound, light, temperature, and classroom design—all of which can be adjusted by the teacher. Some children are negatively affected by loud and noisy environments, while others require some ambient sound to think. Some children's quality of thinking is diminished by learning spaces that are too bright or too dull (dim). If children are too hot or too cold, they may not attain their learning potential. A fourth environmental factor involves the design of a room, which may appear too crowded, overstimulating, and distracting for some.

Field dependence or field independence is postulated by numerous psychologists, including Harold Witkin (1977; Kirton, 2003). Field dependence is defined as content bound, experiencing concepts as embedded within their environment, whereas field independence is content independent, experiencing concepts as discrete entities removed from their background. The field-dependent learner learns best from other people in a social setting and through class discussions and teacher-directed activities. The field-independent learner prefers learning alone and in an autonomous manner and is most comfortable setting his or her own goals and working at his or her own

Charlie over the Ocean (United States, African-American)



Grade Level One–two

Focus d–r–m, m–r–d, d–s

$\frac{6}{8}$ rhythm: ♩♪; ♫; ♩.

Objectives Children will be able to:

1. Sing and chant pitch and rhythm patterns noted above, in isolation and in the context of the song "Charlie over the Ocean" (a).
2. Map the pitch and rhythm patterns as they are sounded in the song, in the air, on paper, and on the blackboard (v, k).
3. Identify pitch and rhythm patterns as they are sounded vocally or on instruments (a).
4. Walk the pulse while patting rhythm patterns (k).
5. Show pitch levels of patterns through gestures while singing (k, v).
6. Notate the song on music staff (v).

Sequence

1. Children pat the pulse, while teacher chants $\frac{6}{8}$ rhythms in various patterns:

   ♩♪ (ta-ti); ♫ (ti-ti-ti); ♩. (ta-i) (a).

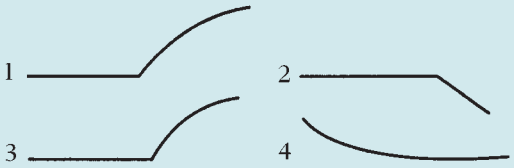
2. Teacher chants $\frac{6}{8}$ rhythms of song in one- and two-measure phrases. Children pat the pulse while listening and then chanting in imitation (a).
3. Children pat the pulse, while teacher sings pitch patterns:

   d–r–m, m–r–d, d–s (a).

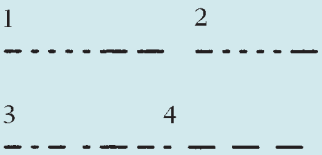
4. Teacher sings song in one- and two-measure phrases, using tonic solfa (solfège) patterns. Children pat the pulse while listening and singing in imitation (a).
5. Teacher sings song with words in full, and then in two-measure phrases, to be imitated by children (a).

6. Children sing the song, mapping in the air, on paper, and on the blackboard the pitch levels of the melody and their durations (v, k).

Melody:



Rhythm:



7. When the song is learned, teacher isolates several rhythm patterns to clap or play on drum. Children chant back using rhythm syllables (see No. 1). Example:

   T (claps): ♩ ♪♫♫

   C (chant): ta ti ti ti ti

   T (claps): ♪♩. ♩. ♩.

   C (chant): ti ta-i ta-i ta-i

8. Teacher isolates several pitch patterns to sing on "loo" or to play on the recorder. Children sing back using tonic solfa or words. Example:

   T (sings or plays): ♩ ♪ ♫♫ ♩.

   C (sings with solfa): d d d d d s_1

   C (sings words) Char-lie o-ver the sea

9. Teacher plays the pulse on drum. Children walk the pulse. On cue, they pat the rhythms of the song (on their tummies, shoulders, and head) while walking (k).

10. While singing the song, children use hand levels to show pitch. Then they use Curwen-Kodály hand signs associated with individual pitches (k, v).

11. Measure by measure, children chant the rhythm as teacher notates it above the staff (v, a).

12. Measure by measure, children sing the pitches (with solfa or words) as teacher notates it on the staff (v, a).

13. Teacher adjusts pitches for appropriate rhythms (v).

Note: a = aural; v = visual; k = kinesthetic.

pace. In a musical setting, field-dependent learners may thrive on singing games, group improvisation, and ensemble performance. Field-independent learners may more easily gain knowledge through computer-assisted programs of instruction, solo practice, and individual composition. The astute observer, teacher, or parent soon distinguishes among these learners and makes allowances for them.

A related theory by Isabel Myers, Peter B. Briggs, M. H. McCaulley, and R. Most (1985) postulates that four types of personality factors inform learning: (1) extroversion/introversion, (2) sensing/intuitive, (3) thinking/feeling, and (4) judging/perceiving. They are measured through the Myers-Briggs Type indicator. Extroverted learners are more socially directed to the external world, thinking aloud to process ideas, while introverted learners require silent internal processing time to figure out what they have observed or experienced. Sensing learners rely heavily on their sensory channels to give them information, while intuitive types invent and reason new information from previous experiences. Thinking learners make decisions based on objective rational analyses, and feeling learners rely on subjective personal values as the basis of decisions. Finally, judging learners make decisions easily and promptly, while perceivers are tentative, choosing to delay decisions while gathering further information. These varied personalities challenge the teacher to carefully gauge the personalities of their students and to creatively develop ways to enhance their learning.

Theories of Instruction

Over the past several decades, instructional psychologists have developed many theories about the effects of interactions between teachers and learners. Only a small selection of the more significant theories to music instruction for children is described here.

David Ausubel (1968, 2000) maintained that a person's existing cognitive structure is the foremost factor governing whether new material is potentially meaningful as well as how readily it can be acquired and retained. In his theory of meaningful reception, the role of the learner is to receive ideas and information, with the teacher being the lecturer or explainer. Critical to the learner's meaningful reception of new information is the provision of "advance organizers" by the teacher, the structuring of a foundation of familiar ideas on which new information can be laid. The teacher who outlines the material to be covered and goals to be met is also organizing for children in advance the learning that will occur. Children must listen intently and actively seek to reorganize their existing knowledge in view of the teacher's ideas, so that they can then formulate new ways of looking at the world.

Jerome Bruner (1966, 1996) is the major proponent of the "discovery method." The discovery method is a type of learning that involves problem solving, requiring the learner to manipulate materials and to cope with incongruities from which information is derived. Discovery learning encourages taking risks, guessing, and exploring student-initiated hypotheses. Exploratory experiences and occasional nonconformity are indicators of creative thinking, which is the ultimate goal of all learning. Improvisation and composition experiences are the most obvious examples of musical exploration and experimentation, but any musical experience that challenges children to think while listening, performing, or creating can exemplify discovery learning. Musical concepts can be most effectively taught via the discovery method. By experiencing a

concept (such as pulse, meter, a three-pitch melody, or binary form) without initially labeling it, children can explore and be guided toward an understanding of that concept and then learn its official name.

Brunerian ideas were influential in the development of curriculum and instruction in music, most notably the highly innovative Manhattanville Music Curriculum Project, or MMCP, that, while no longer intact, may still influence music education programs here and there. In addition to directing musical experiences for children to include musical exploration, improvisation, and composition, Bruner's concept of a spiral curriculum that allows children to learn music through age-appropriate experiences was put to its test through MMCP. The spiral curriculum recommended that "any subject could be taught to any child at any age," so long as it is set in lessons suitable for the intellectual level of the child. Thus, the components of music—for example, melody and rhythm—can be taught to preschool and secondary school students, just as the music of Mozart and Messiaen, and that from Bali and Bulgaria, can be experienced earlier and later in a child's school career.

Robert Gagné's descriptive studies of cognitive processes a half century ago led to his development (with his colleagues) of eight "events of instruction" or "conditions of learning" (1993, 2004). The events or conditions include a progression of sensory information from perception to concept formation. These events embrace the need for preparing children for new information, offering occasions for their responses to and practice of new information, and supporting the transfer of information gained to the greater acquisition of knowledge. The teacher's role in engaging children's interest is an important first step for knowledge acquisition; that role becomes increasingly prominent later, when he or she introduces the more complex process of problem solving. More than most theories, Gagné's events of instruction are clear-cut steps that can be readily applied to music. See Box 2.1 for an application of Gagné's eight events to music for children. These steps may apply to a complete lesson or to single activities within a lesson.

Edwin E. Gordon's (1997) music learning theory appears to be at least partially influenced by some of Gagné's early theoretical work. Gordon's earlier work was nearly a direct application of Gagné's events to music. Like the events of instruction, Gordon's theory is hierarchical in nature, progressing through eight levels that begin with aural or oral reception and transmission and lead to generalization, improvisation, and finally music theory—the whys and hows of musical pitch and rhythm functions. Gordon compares learning music with mastering a spoken language, as a progression from first simply perceiving and responding to sounds to the advanced levels of problem solving and conceptual understanding. Gordon also addresses the sequential nature of acquiring basic discrimination and music literacy skills, and the use and transfer of these skills to bring about more sophisticated possibilities for music learning.

Gordon's music learning theory is a comprehensive model of skill development, founded on the principle of audiation, or inner hearing: the ability to "hear" notation and to notate what one hears. Gordon's recommendations for music instruction begin with musical sound and vocalized patterns, proceeding gradually to the notational symbols of pitch and rhythm. His music learning sequence is a prescribed succession of music skills (or performance behaviors), music content, and tonal and rhythm patterns, and it is intended to develop musical audiation and understanding. See Chapter 3 for further explanation of the method that Gordon developed from his theory.

BOX 2.1 Gagné's Events of Instruction: Applications to Music for Children

1. Gaining and maintaining attention
   - Ask a probing question to pique curiosity
   - Present a startling statement
   - Tell a short story
   - Sing a favorite familiar song with children
   - Clap a rhythm children can imitate
   - Play a recording that encourages children's movement responses
   - Engage children in immediate participation
2. Preparing learners for instruction
   - Repeat #1, but with relevance to the new music to be learned
   - Share with children the goals and expectations of the lesson or activity
   - Present fragments and phrases of the new music to be learned as teasers for children's imitation
3. Presenting the material
   - Present the lesson's music in live or recorded form
   - Present small sections or chunks of the new music that can be linked together to form the whole
4. Prompting and guiding learning
   - Illustrate problem melodic and rhythmic phrases through mnemonics
   - Call attention to repeated patterns and unusual musical features
   - Allow time to rehearse individually, in small or large groups
5. Providing conditions for response
   - Offer occasions for active participation and performance by all
   - Switch from playing to singing a piece; from singing to moving to its rhythm or pulse
6. Providing feedback for response
   - Remind children of learning goals and expectation of the lesson or activity
   - Offer specific comments when possible
   - Allow children opportunities to change and to perfect their performance
7. Promoting and measuring retention
   - Critique children's performance
   - Allow children to evaluate their performance
   - Provide opportunities for children to develop the musical ideas of the piece through improvisation
8. Enhancing transfer of learning to new tasks or information
   - Transfer concepts and skills to performance of unfamiliar piece
   - Transfer concepts and skills to listening of unfamiliar piece

Relating Theory to Practice

Five components of guidelines based on the theories of teaching and learning provide for the effective delivery of instruction by teachers to children in preschool and the elementary grades: the classroom environment, the child-centered curriculum, the teacher as transmitter, instructional strategies, and motivation and management. Chapter 11 offers considerable discussion of this last topic.

The Classroom Environment

WHAT SHOULD THE MUSIC CLASSROOM LOOK LIKE? Theories of child development, musical play, and learning styles inform the physical setting of the music classroom. Most important, furniture in the music room must be minimal so that a great variety of musical play and performance experiences can occur. A piano is always useful, whether acoustic or electric, and preferably one with wheels for easy maneuvering. Various types of xylophones and percussion instruments can be laid on tables for easy access by children. Larger drums and bass xylophones can be laid across the floor or kept in storage until needed. Computers for independent and small-group projects can be set up in one corner of the room, and various programs and packages are available for children's opportunities to composing, listening, and learning notation. Even in a medium-sized room, a small keyboard lab of four to six pianos can be placed at one end.

For seated activities, floor space is still preferable to desks. Children can pick up three-foot carpet squares (usually available as remnants from a carpet store) when they enter the classroom, or they can situate themselves on the periphery of a circle of masking tape laid out on the floor. Choral risers can make for useful seating or standing arrangements, especially for the upper grades. These should be located against a wall so that open space remains in the center for movement activities.

Various audiovisual resources are vital for teaching and can be kept on wheel carts for greater portability. A high-quality sound system, typically a laptop with the capacity to play audio and video downloads, is basic to any successful music instruction. A simple screen or SMART board interactive whiteboard should be strategically placed such that it is easily visible to all. A table with chairs, on which basic laptop or cellphone listening centers with headphones can be set, can make for an ideal independent listening and ear-training lab. A teacher's desk, a personal computer, files, and storage cabinets complete the list of necessary furniture.

WHAT SHOULD THE MUSIC CLASSROOM FEEL LIKE? Teachers need to be aware of factors that create an environment conducive to music listening, performing, and creating. The music room should be well ventilated, with plenty of windows for fresh air and light. It should be low on ambient sound and moderate in temperature, ventilation, and light. Cafeterias, with the noise of cookware clanging together, are not ideal for use as music rooms. Gyms are built for sports and games, but they are not appropriate for developing musical sensitivity, performance techniques, and aural skills because of their poor acoustics.

WHAT OTHER RESOURCES CAN ENHANCE A MUSIC CLASSROOM'S POTENTIAL FOR EFFECTIVE INSTRUCTION? Visual appeal can motivate children to want to come to music and to learn. A SMART board or whiteboard, preferably with staff lines, is the sine qua non of the music room, especially by the time notation is introduced. Felt boards and bulletin boards can be places for attractive posters and color photographs of performers, composers, dancers, instruments, maps, and timely announcements. Notational symbols make pleasant borders, and colorful lists of terms can be pinned to these boards. Instruments should be labeled in bold letters so that their names are known. Sheets of butcher paper (available from art supply or butcher's shops) are useful for writing and posting song words and key concepts of a lesson.

WHAT PRINT, AUDIO, VIDEO, AND WEB-BASED MATERIALS SHOULD A TEACHER HAVE AVAILABLE FOR MUSIC INSTRUCTION? A personal collection of audio and video files and favorite websites (bookmarked and ready to use) is

of tremendous value to a teacher, and CD recordings, DVDs, the old standard basal series textbooks, story books, and supplemental books can stimulate the design of successful lessons. An annotated listing of the contents of such a collection can trigger the memory and serve as a guide for lesson plans. Updated basal series music textbook offer ready-made online lessons, and a rich array of web-based materials. Sources for beginning to build a personal library of music education materials and methods are listed at the end of each chapter. While websites come and go, some of the long-lasting treasuries of music fit for use with children are available on sites of Smithsonian Folkways <www.folkways.si.edu/>, the Association for Cultural Equity <www.culturalequity.org/>, and the Library of Congress <www.loc.gov/index.html>. A teacher's personal storehouse of instructional materials may be a balance of electronic and physical sources, and the key is the teacher's careful review, organization, and planning for ways of best use.

When fundamental materials, such as a sound system and musical instruments, are not available, small educational grants or gifts can be obtained to provide for them.

A Child-Centered Curriculum

A child-centered curriculum offers instruction that is relevant to the child's experiences and abilities, needs, and interests. This curriculum is more playful and more integrated than other curriculums, and it is more likely to be led by the responses of children than by the whims of the teacher. What are the realities of a child-centered curriculum in music? Several key issues merit consideration in the design of a music program.

KNOW THE CHILDREN. What musical skills and knowledge do children possess? What music interests and moves them? What are their learning styles? What subject strengths do they possess? Where are they developmentally? What are their cultural and familial backgrounds? What, if any, are the musical and educational expectations of their parents? Do they have musical goals and dreams they hope to attain? Generalizing about children leads to surefire foiled experiences that fail to reach them. By talking to teachers and parents, reviewing school files, and asking questions of the children themselves, teachers can offer far more relevant musical experiences and training.

BEGIN WHERE THE CHILDREN ARE. While many specific questions may be asked for which answers should be sought, universal concepts must be considered when designing music instruction for children. These include (1) providing lessons that lead children from the familiar to the unfamiliar—that is, teaching  after they know  and teaching $\frac{7}{8}$ after they understand two- and three-beat meters; (2) giving children many occasions for active instead of passive experiences (most children achieve their greatest learning when they have actively participated through manipulation of a concept or through performance); and (3) offering children lessons with variety (various approaches to a concept, various musical examples, and various musical pieces and styles).

ALLOW TIME FOR MUSICAL PLAY AND EXPLORATION. For young children, musical sound is a discovery of how loud and how soft, how choppy and how smooth, how long and how short, how fast and how slow, how high and how low a set of pots and pans, the teeth of a comb, or two pencils can sound. Given a drum, sandblocks, or a xylophone, how many different sounds can a young child play? For older children, the music curriculum can be linked to solving musical problems creatively through experimentation: Choose the pitches for a rhythmic pattern and

create a new song; or write a poem and perform it rhythmically and with dynamic expression. Time must be allotted as well for experimentation and personal expression through music.

INTEGRATE MUSIC INTO THE OTHER PARTS OF A CHILD'S LIFE. Songs blend with stories, music listening mixes with movement, and a study of musical instruments is also a lesson in the science of acoustics. Like the whole language approach in other subject areas, music is not to be treated as a separate entity but can be coupled with the learning of concepts in social studies, language arts, mathematics, and the sciences. A musical experience can be enhanced by experiences in the visual arts, stories, poetry, theater, and movement and dance.

The Teacher as Transmitter

"Teachers are transmitters of culture."

Teachers are transmitters of culture. How they package and present information to children is critical to whether the transmission process is completed; that is, whether the information is received and assimilated by children. Theories of instruction, reinforcement, socialization, and social learning underscore the powerful impact that a teacher can have on children's learning and development. Of the many qualities that good music teachers possess, several are most prominent.

KNOW THE SUBJECT MATTER. The effective music teacher knows well the music, concept, or technique to be taught. Knowing the music requires preparation; without it, the lesson will fail. A Russian folk song cannot be taught before the teacher has practiced the song's words, melody, and rhythm. A xylophone arrangement cannot be masterfully taught if the teacher has not worked out the parts: by reading and rereading, chanting, patting, singing, or even playing them. The teacher should be able to sing, play, or move to the music selected for lessons with ease and refinement. As the teacher transmits the music, his or her enjoyment and love for it is also passed on to the children. Music concepts must be clearly understood in terms of their critical perceptual qualities so activities can be chosen to highlight those qualities.

MODEL THE MUSICAL BEHAVIORS. The effective music teacher serves as the live model for the music to be learned. Performance skills are learned by children who imitate or are otherwise influenced by the behavior and comments of their teacher. Verbal explanations are far less effective than demonstration. How can children be told in words alone how to sing staccato, to sustain a sound, or (initially) to play a bourdon (bass drone) or xylophone? As the adage goes, a teacher's "actions speak louder than words." Many children will know no other musicians who can sing well and perform proficiently on musical instruments. For them, the teacher who performs is critical to their musical well-being. While absolute mimicry by children is not the goal of a teacher's musical demonstrations, model musicianship can be observed, absorbed, and reinterpreted by children in their own performance.

PRESENT WITH ENERGY AND ENTHUSIASM. The effective music teacher is enthusiastic about music and children, and he or she presents lessons that are charged with energy. Enthusiasm is conveyed in many ways: a broad spectrum of vocal inflections and facial expressions, steady eye contact, varied gestures and demonstrative movements of the body, and descriptive vocabulary. The teaching pace needs to at least occasionally match that of television programs to which children are accustomed, with quick changes of experiences and approaches to a musical concept. High energy and vitality most successfully convey ideas. While enthusiasm