



## Learning Through Music: The Support of Brain Research



### What's In This Kit?

This training kit is designed to introduce teachers to how music supports brain growth and development. It contains:

- Expected educational outcomes
- Preparation instructions
- Training strategies and tips
- Implementation steps
- Follow-up activities for teachers
- Follow-up activities for administrators/directors
- A learning assessment
- A training evaluation/further needs assessment
- A resource list
- The article "Learning Through Music: The Support of Brain Research" by Elizabeth B. Carlton.
- A training certificate to award to teachers for attendance and participation
- A certificate for the trainer and other presenters



### Who's the Target Audience?

The target audience for this kit is beginning and intermediate teachers working with children from birth through age 8. Teachers will learn the emerging connections between brain research and musical experiences.

Teacher Skill Level



Children's Age Level





### **Kit Timeline:**

Preparation time for this kit is estimated at 1.0 hour. Implementation time is estimated at 1.5 hours.



### **Training Outcomes:**

1. Teachers will identify the developmental enhancements that music can provide to young children.
2. Teachers will integrate musical activities into their curriculum, routines, and transitions.
3. Teachers will relate the importance of musical activities for positive developmental and learning outcomes to families.

These training outcomes address the following American standards:

- 2.A.08-10, 3.A.05, 8.B.04, 3.D.09, and 2J of the NAEYC Early Childhood Program Standards and Accreditation Performance Criteria (2005), [www.naeyc.org](http://www.naeyc.org).
- Standard 1, 4a, and 4b of NAEYC Standards for Early Childhood Professional Preparation, Initial Licensure Level (2003), [www.naeyc.org](http://www.naeyc.org).
- 1304.21(a)(4)(ii) of Head Start Performance Standards (Federal Register, Nov. 5, 1996, Volume 61, Number 215), [www.acf.hhs.gov/programs/ohs/](http://www.acf.hhs.gov/programs/ohs/).
- D17 and E17 of the National Accreditation Commission for Early Care and Education Programs, National Association of Child Care Professionals (2005), [www.naccp.org](http://www.naccp.org).

You may want to take the time now to locate additional state and local standards that relate to this topic or requirements of other regulatory bodies specific to your program. Add those to this plan to personalize it.



### **Preparation:**

1. Read the article "Learning Through Music: The Support of Brain Research" by Elizabeth B. Carlton. Locate and read any of the following resources to support an understanding of the topic:
  - Andress, B. (1991). Research in Review. From Research to Practice: Preschool Children and their Movement Responses to Music. *Young Children*, 47(1): 22-27.
  - Kemple, K. M., Batey, J. J., & Hartle, L. C. (2004). Music Play: Creating Centers for Musical Play and Exploration. *Young Children*, 59(4): 30-37.
  - Kranowitz, C. S. (May/June 2000). Music and Movement: Bringing Together Children of Differing Abilities. *Exchange*, 133, 57-59.
  - Miller, K. (May/June 2001). Caring for Little Ones: Music and Babies. *Exchange*, 139, 73-74.
  - Weikart, P. (2003). Value for Living and Learning: Insight on the Value of Music and Steady Beat. *Exchange*, 159, 86-89.



2. Read through the entire training kit to familiarize yourself with the kit's design, implementation, handouts, etc.
3. Prepare the flip charts.
4. Copy and distribute the article for teachers to read before the training session.
5. Collect the supplies and materials needed for this session including a cassette or CD player, musical instruments, tapes or CDs, resource books with music activities, flip chart paper, and markers.
6. Create a musical activity to use to divide into small groups, reconvene the large group, and summarize the training session's main idea — see Flip Chart 10: *Music is FundaMental*.
7. Duplicate the learning assessment and the certificate of participation and attendance.
8. Prepare the training environment by posting the flip charts around the room and organizing the musical props and resources.



### **Training Strategy:**

- Talent exchange

**Training Tip:** Getting teachers to feel comfortable with musical experiences is an important precursor for getting teachers to use musical experiences in the classroom. To emphasize the enjoyable (as well as educational) nature of musical experiences, demonstrate that you are comfortable using music by creating and singing a song to divide teachers into small groups, using a musical transition to reconvene the large group, and creating a musical summary to the training session using Flip Chart 10: *Music is FundaMental*.



### **Implementation:**

1. Briefly summarize the important connection between musical experiences and activities and brain development. Then, divide teachers into small groups by counting off by 9 using the musical activity you planned in preparation step 6.
2. Share the materials you have on display of musical resources available in your program.
3. Distribute markers and ask teachers to reconvene near the flip chart with their corresponding number.
4. Ask teachers to identify one musical activity or experience to share for the large group. The activity or experience can be taken from the article, created by the group, or selected from the resources on display. Give the groups time to research, create, or practice their activity.



5. Reconvene the large group for the talent exchange using the musical activity you planned during preparation step 6. As groups complete their musical exchanges, ask teachers to identify the time of day that the activity might work best (arrival, departure, group time, activity or learning center, indoor, outdoor, transition time, etc.).
6. Summarize the main points of the training session using Flip Chart 10: *Music is FundaMental* using the musical activity you created.



### **Follow-up Activities for Teachers:**

Ask teachers to add at least one musical activity or experience they learned at the training session to their curriculum plans for the next week. Encourage them to look for ways to continue stimulating brain development by incorporating music into the classroom.



### **Follow-up Activities for Directors:**

1. Make plans to observe each teacher briefly during the next few weeks to see which, if any, of the musical activities and experiences performed were added to the classroom curriculum. If possible, take notes, copy good ideas, duplicate the words to songs, etc. Add these resources to this training kit file to use to personalize the plan the next time you implement it.
2. Collect all of the music activities and experiences performed by the groups into an activity book. Make copies for each teacher and add the collection to your teacher-training manual.



### **Learning Assessment**

Ask teachers to complete the learning assessment to validate their understanding of the topic.



### **Training Evaluation/Further Needs Assessment:**

Ask teachers to complete the evaluation. Use the results to evaluate the effectiveness of the training and to identify further training needs.



### **What's Next?**

If the training evaluation and further needs assessment indicates that your staff needs further training in curriculum, take a look at the remainder of the kits in the Curriculum – Teaching and Learning category of Out of the Box Early Childhood Training Kits. For a complete list, go to [www.ChildCareExchange.com](http://www.ChildCareExchange.com).



## Resources:

Andress, B. (1991). Research in Review. From Research to Practice: Preschool Children and their Movement Responses to Music. *Young Children*, 47(1): 22-27.

Kemple, K. M., Batey, J. J., & Hartle, L. C. (2004). Music Play: Creating Centers for Musical Play and Exploration. *Young Children*, 59(4): 30-37.

Kranowitz, C. S. (May/June 2000). Music and Movement: Bringing Together Children of Differing Abilities. *Exchange*, 133, 57-59.

Miller, K. (May/June 2001). Caring for Little Ones: Music and Babies. *Exchange*, 139, 73-74.

Weikart, P. (2003). Value for Living and Learning: Insight on the Value of Music and Steady Beat. *Exchange*, 159, 86-89.

\*You can purchase *Exchange* articles at [www.ChildCareExchange.com](http://www.ChildCareExchange.com).

# Flip Charts

## Learning Through Music

<b>Flip Chart 1</b> Music Develops Listening Skills	<b>Flip Chart 2</b> Music Invites Intuitive Responses
<b>Flip Chart 3</b> Music Strengthens Aural Discrimination	<b>Flip Chart 4</b> Music Helps Children (and Adults!) Remember
<b>Flip Chart 5</b> Music Helps Children Sing Tunefully	<b>Flip Chart 6</b> Music Helps Children Speak Clearly and Pay Attention
<b>Flip Chart 7</b> Music Makes Transitions in the Classroom Go Smoothly	<b>Flip Chart 8</b> Music Helps Children Cooperate, Think, and Problem-solve
<b>Flip Chart 9</b> Musical Instruments Provide Beginning Experiences in Pitch, Timbre, and Texture	<b>Flip Chart 10</b> Music is <i>FundaMental</i>



# Learning Assessment

## Learning Through Music

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Music experiences enhance:
  - a. Listening
  - b. Learning of vocabulary
  - c. Memory
  - d. Eyesight
  - e. A, b, and c
  
2. Children's listening, singing, and reading skills are affected by the quality of:
  - a. The teacher's voice
  - b. The quality of the audio system
  - c. The aural discrimination experiences provided
  - d. The type and number of transition activities
  
3. TRUE or FALSE: Stress, which hinders learning, can be relieved through moving to music, exploring instrument sounds, and/or listening and singing experiences.
  
4. TRUE or FALSE: Children tend to participate more in musical experiences when an adult, rather than a recording, leads the singing.
  
5. Musical activities can be used for which of the following:
  - a. To allow children the time needed to finish their activity and move on to the next
  - b. To help children speak clearly and pay attention
  - c. To provide children with many experiences related to pitch and singing tunefully
  - d. To wrap feelings or emotions around an experience to enhance learning and long term memory
  - e. All of the above
  
6. Name the active learning precursors to thinking, problem solving, and memory.

# Learning Assessment (cont.)

## Learning Through Music

Name \_\_\_\_\_

Date \_\_\_\_\_

7. Research suggests which of the following periods is critical for combining music experiences with learning:

- a. The preschool years, ages 3 to 5
- b. The last 10 weeks of the school year
- c. The first 3 years of life

8. List 5 or more items the music area of a classroom should contain:

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_

9. Describe a time when music is helpful during the day and write a short song you might use during this time.

10. Identify 3 ways to share your knowledge about the connections between music and brain development with families.



# Learning Assessment Evaluation Rubric

## Learning Through Music: The Support of Brain Research

1. Music experiences enhance:
  - a. Listening
  - b. Learning of vocabulary
  - c. Memory
  - d. Eyesight
  - e. **A, b and c**
  
2. Children’s listening, singing, and reading skills are affected by the quality of:
  - a. The teacher’s voice
  - b. The quality of the audio system
  - c. **The aural discrimination experiences provided**
  - d. The type and number of transition activities.
  
3. **TRUE** or FALSE: Stress, which hinders learning, can be relieved through moving to music, exploring instrument sounds, and/or listening and singing experiences.
  
4. **TRUE** or FALSE: Children tend to participate more in musical experiences when an adult, rather than a recording, leads the singing.
  
5. Musical activities can be used for which of the following:
  - a. To allow children the time needed to finish their activity and move on to the next
  - b. To help children speak clearly and pay attention.
  - c. To provide children with many experiences related to pitch and singing tunefully.
  - d. To wrap feelings or emotions around an experience to enhance learning and long term memory
  - e. **All of the above.**
  
6. Name the active learning precursors to thinking, problem solving, and memory:
  - a. **Opportunities to cooperate in singing games**
  - b. **Action songs**
  - c. **Movement to music**



# Learning Assessment Evaluation Rubric (cont.)

## Learning Through Music: The Support of Brain Research

7. Research suggests which of the following periods is critical for combining music experiences with learning.
- The preschool years, ages 3 to 5
  - The last 10 weeks of the school year
  - The first 3 years of life*

8. List 5 or more items the music area of a classroom should contain:

- 4/5 rhythm or percussion instruments***
- A small keyboard***
- Short tapes of instrumental music and songs***
- Cassette/CD player***
- Headsets for listening to music***

9. Describe a time when music is helpful during the day and write a short song you might use during this time.

***Accept any answer that is compatible with the information presented in the article.***

10. Identify 3 ways to share your knowledge about the connections between music and brain development with families.

***Accept any answer that shares the information in the article with families including sharing songs with families, inviting families to share music they enjoy, etc.***

# Learning Through Music: The Support of Brain Research

by Elizabeth B. Carlton

Beginnings Workshop

“Star light, star bright, . . .”  
“Ring around the rosey, pockets full of posies . . .”  
“The farmer in the dell . . .”

Do you remember singing these simple songs from childhood? If the first part of a familiar song text is given, most of us will finish singing the song, even if we sing it only in thought! As grownups, we may remember the joy experienced while singing and playing musical games with our friends. Often as we hum these melodies, we think of other songs we learned during our early school years, and we realize that we can still sing many of these from memory! I wonder if singing many songs and experiencing other essential benefits music provides will be possible for the majority of our 15 million preschoolers today.

MUSIC! How can children learn or live without it? Music educators have known for years that quality music experiences enhance listening; invite intuitive and steady beat responses; and aid learning of vocabulary, sound and pitch discrimination, emotional responses, creative responses, memory, and many hours of fun for our wee ones. What powerful links to learning might we use within the many aspects of music? It appears that the first three years of a child’s life are critical for optimal brain development, for music, and for learning through music. Now brain research is becoming available to support these perceptions. Let’s consider some of music’s important gifts, supported by research, for the children entrusted into our care.

## Music develops listening skills.

Three-year-old Alissa heard her baby sister crying in the infant-care room down the hall. Even though two other

babies were also crying, Alissa could recognize the cry of “her” baby! How important keen listening skills are!

We have all experienced crying, fussy, or sick children in our care who become calm when quality instrumental music is played. They are listening! If we sing to our three- and four-year-olds, we will probably be asked to sing the song again . . . and again. **Many** listening experiences during the first two years of life are necessary before children actually sing or talk with us. How special the day when we begin to hear their tiny voices joining our voice on repeating or rhyming words in a nursery rhyme, or on the last word and pitch of the song! Songs, instruments, and instrumental music are wonderful ways to develop children’s listening skills and awareness of different words and musical pitches.

It is critical that we begin to develop listening skills in our child care settings. Many games about “Listen! What is that sound?” or “Listen! Who is talking/singing?” or “What is making that sound?” encourage children to pay attention to what they are hearing, and even to represent that sound, when we ask, “What sound does the cow (dog, lawn mower) make?”



Elizabeth (Libby) Carlton is an assistant professor emerita of music at Catawba College and an organist at the First Baptist Church in Salisbury, North Carolina. She is also the music consultant at High/Scope Educational Research Foundation in Ypsilanti, Michigan.

*Child Care Information Exchange 5/00*

Reprinted with permission from Exchange magazine.  
Visit us at [www.ChildCareExchange.com](http://www.ChildCareExchange.com) or call (800) 221-2864.  
Multiple use copy agreement available for educators by request.

Moving to music, dancing, playing instruments, and experimenting with materials that make sounds are all helpful to the development of toddlers. "It is the **doing**, in addition to the **listening**, that offers the greatest positive benefit in all aspects of learning, especially in music" (Wilcox, 1999, p. 31). John Feierabend, nationally recognized early childhood music educator, states: "We see a very large difference in the singing capability and musical awareness between children five years old and younger who have been exposed to music and those who have not" (Feierabend, 1999, p. 19).

Listening is necessary to hear same and different letters of our alphabet, words, sounds in our environment, and musical pitches. There will be a lifetime of sounds our children will need to identify. The sooner we encourage listening skills, the more opportunities children will have to develop them.

## Music invites intuitive responses.

Children's intuitive responses to high-quality musical recordings is universally positive from birth. Wendy Sims, professor of music education, University of Missouri-Columbia and chair of MENC's Society for Research in Music Education, states, "Researchers have found that, during the preschool and primary years, children demonstrate very positive attitudes toward many kinds of music" (Wilcox, 1999, p. 31). In our child care centers, we may see children moving their whole bodies intuitively to the mood, tempo, and dynamics of music, or to a special instrument they hear in the music long before much language develops. Offer them a scarf or a wide ribbon, and watch their responses grow! Play a Sousa recording, and children will march instinctively! Play a lullaby without words, and notice the intuitive responses! Children will move naturally to almost any musical selection. The seeds of listening encourage intuitive, creative responses to music.

Our challenge as adults is to provide **quality** music for their experiences as we respect the collective needs of children. They also need to be introduced to music they might not have opportunity to hear otherwise. When adults encourage children's intuitive responses to music consistently, children may surprise us as they move creatively to music, and respond with movement representation of the music that makes us want to join in their "dance."

Music is called the universal language because — with no words — all types of music touch children's ears, head,

heart, and body, and leave them more alert for having responded.

## Music strengthens aural discrimination.

During the first two years of life, young children listen and show us that they recognize many sounds important to them: voices of parents, siblings, and caregivers; sounds in their immediate environment such as their toys, TV, videos, and sounds in the kitchen and in the car. They also recognize musical sounds such as their own name sung, the theme songs for children's TV programs, music an older brother or sister may be practicing, songs sung to them, and the "music" heard in expressive voices of family members and caregivers.

The foundation for responses to aural discrimination is laid from the third trimester *in utero* (Wilcox, 1999, p. 29) and continues through age three. The quality of aural discrimination experiences will affect children's listening, singing, communication, and reading skills throughout their lives. On a nationally televised program, Oprah Winfrey made a plea for parents to sing to their children. Every adult working in child care also needs to take Oprah's request to heart, and sing, sing, sing for the musical needs and aural discrimination skills of their children.

Research shows that infants who are sung to and talked to a lot develop greater phonemic awareness and later develop larger vocabularies. It has been reported that *in utero*, the fetus hears all sounds as "musical" through the amniotic fluid. Toddlers often join in singing with others, and create "infant songs" on their own while they play. Young children who miss these all-important interactions are often less expressive and sometimes delayed in their speech, and may be shy in communicating with others. They may not sing naturally on their own or with a group. This is music's gentle reminder to us that when music tenderly plants the seeds of aural discrimination, it is essential that adult caregivers nurture that seed through *daily musical experiences* that incorporate listening, singing, and moving to music in our child care centers.

## Music helps children (and adults!) remember.

When young children sing "Eensy Weensy Spider" or "Clean Up, Clean Up," the underlying steady pulse of the song combined with the active singing pushes the brain to

remember the next part of the song, and the next, until we reach the end. This begins as "rote memory" (short term) but does evolve to conscious thought and long-term memory as children mature and songs that have meaning are sung repeatedly by individuals.

A former elementary student of mine recently called to share how much a particular song meant to her in fourth grade. Now that she is teaching fourth grade, she needed a copy of the music ( she remembered all of the song!) so her students could sing it with piano accompaniment for their parents. This incident caused me to wonder if we have ever seriously considered the powerful link to learning that lies in all of the aspects of music.

Not only does music strengthen memory, it often wraps feelings or emotions around a song that enhances learning experiences. The Barney version of "I Love You" has placed "This Old Man" on the back of the shelf for two- and three-year-olds! Four-year-olds beam when singing "You Are My Sunshine" or "Hokey Pokey." Think of the pride instilled when singing patriotic songs, the peace experienced singing campfire songs, the religious connections strengthened when singing great hymns of faith. Learning is strongly influenced by emotion — "the stronger the emotion connected with the experience, the stronger the memory of that experience" (Jensen, 1998, p. 73).

For many children today, stress blocks learning avenues. We can relieve much of that stress through daily listening and singing experiences, moving to music, and exploring instrument sounds. We can help create that safe feeling of being a caring "classroom family" through the songs and singing games we lead. Help children develop a "music bank" of aural experiences that provide the foundation for rich memories throughout life.

### **Music helps children sing tunefully.**

Singing experiences with the whole class are the most frequently reported musical activities today. In many classrooms, singing with a recording is the standard way this occurs. In reality, children participate more musically when adults in the classroom lead the singing! Yes! Sing a greeting song! Sing for a birthday! Sing a good-bye song! Often, the tempos recording artists use are faster than young children can imitate. You are right there, and can determine what tempo suits your children. Sing for the joy of singing!

Sometimes, artists forget to sing songs in the children's

singing range. If at all possible, please sing **with** your children **in their singing range**, and model the pleasure felt when everyone sings together. The children's natural singing range may feel high or uncomfortable to us at first. Keep in mind that their tiny vocal cords cannot begin to match our adult vocal singing range. We need to "flex" and sing in their range!

### **Music helps children speak clearly and pay attention.**

Become best friends with "neat steady beat." This element of music lies inside all language and music and holds it all together. When children speak nursery rhymes and pat steady beat, they speak more clearly. When teachers encourage children to keep patting steady beat while they sing, no one child races ahead to finish the song first. Children also sing more "in tune," and enunciate more clearly; therefore, singing is more satisfying to everyone. High/Scope Educational Research Foundation's statistics on the steady beat factor suggest that students who demonstrate beat-competence and beat-independence are the same students who perform well in all areas of the academic curriculum (Weikart, 1998).

### **Music makes transitions in the classroom go smoothly.**

All segments of the daily routine — time to work, clean up, go outdoors, have a snack, story time, singing time, etc. — can be connected by using a simple melody such as "Hot Cross Buns" or "Where is Thumbkin?" and creating specific verses for your needs. Before long, children will join you in singing these "new" songs for transition. Many teachers have reported success with this idea. The simplicity and repetition of the melody has given children and adults confidence to sing many other songs.

Singing transitions together provides the time needed for children to finish one activity and be ready for the next. Since young children learn and play totally in the present, their sense of time is not the same as ours. *Their* plan is always the most important plan! Some children need those musical cues and a few extra minutes to finish their project. Try this singing transition to the melody of "Hot Cross Buns":

Time for a snack! Time for a snack!  
Pass the napkins, pass the juice.  
Time for a snack!

Sing this daily for a week, and then create new words using this same melody for another transition with your teachers next week!

## Music helps children cooperate, think, and problem-solve.

Opportunities to cooperate in singing games, action songs, and movement to music are the early childhood active learning precursors to thinking, problem-solving, and memory. Music helps children and adults stay alert. *Music is the essential element for children that touches all ways young children learn.*

Music has received short shrift in today's world of educational values because we cannot measure its immediate importance with hard data. School budgets have cut music programs first. Teachers have allowed others to determine that the gifts of music should be relegated only to nonessential frills and to the area of entertainment. How disappointing. **We have to help others realize that quality music experiences provide essential gifts to learning found nowhere else.**

## Musical instruments provide beginning experiences in pitch, timbre, and texture.

Exploring the various sounds of instruments fascinates young children and, again, can strengthen aural discrimination. They will discover that most instruments make several sounds; they should be encouraged to talk about what they discover.

The music area of the classroom should contain four or five rhythm percussion instruments, a small keyboard, cassette player with headset(s), and several short tapes of songs and instrumental music. Instruments and tapes can be rotated on a monthly basis for maximum learning.

If parents play musical instruments, invite them to share with your class. Older brothers and sisters often need an opportunity to play for others. Here is a perfect opportunity to share music between generations!

## Music is FUN! – and fundamental for all young children.

Research suggests that the first three years (**our preschool years!**) are critical for combining music experiences with learning — especially for children in at-risk categories.

Because movement almost always accompanies these musical experiences for young children, we should endeavor to provide these double reinforcements in all areas of the curriculum, because **the body, voice, and brain are united for optimal processing.** Grace C. Nash, noted pioneer in American music education, has said for over 20 years that music and movement are the **first languages of childhood** — used before traditional language provides the link to communication. As I have interacted with and observed infants and toddlers for over 40 years, I wholeheartedly concur. Moving and singing are joyful and memorable experiences! Children don't begin to get enough to satisfy their needs.

Daily music experiences in child care can make many valuable connections to our children's language capabilities, memory, physical activity, creative thinking, emotional stability, discipline, and emerging academic success. As brain research begins to support the importance of learning through music, we must continue to find useful ways to make the gifts music provides essential in our daily routine. While music possesses awesome meaning and great value in and of itself, our children will never be able to realize this unless we begin to share these gifts every day. Music's gifts abound around us. Let's use them now to make significant differences in ourselves and with all our children.

## References

Feierabend, J. (1999). Quoted in *Make music, America! Teaching Music*, 7(3). Reston, VA: Music Educators' National Conference.

Jensen, E. (1998). *Teaching with the brain in mind*. Alexandria, VA: Association for Supervision and Curriculum Development.

Weikart, P. S. (1998). *Steady beat: What we now know*. Ypsilanti, MI: High/Scope Educational Research Foundation.

Wilcox, E. (1999). Straight talk about music and brain research. *Teaching Music*, 7(3), 31. Reston, VA: Music Educators' National Conference.



# EVALUATION

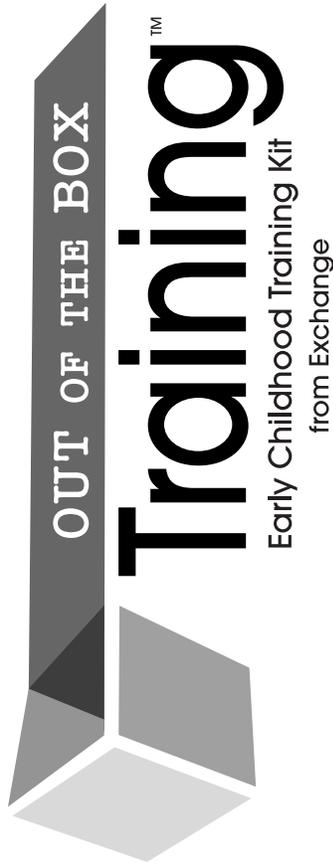
*Your Opinion Matters! Please share your perceptions about this session.*

**Training Topic:**     *Learning Through Music: The Support of Brain Research*

	Poor	Fair	Satisfactory	Good	Excellent
Length and format of the session	_____	_____	_____	_____	_____
Presenter's instructional style	_____	_____	_____	_____	_____
Presenter's knowledge of the topic	_____	_____	_____	_____	_____
Overall usefulness of the information	_____	_____	_____	_____	_____
Training room comfort	_____	_____	_____	_____	_____

The most important thing I learned during this session was . . .

I would like to learn more about . . .



Certificate of Attendance and Participation  
1.5 hours training session entitled

# *Learning Through Music: The Support of Brain Research*

Awarded to \_\_\_\_\_

Certified by:

Trainer's Signature

*Kay M. Albrecht*

Kay Albrecht, Ph.D.  
Out of the Box Training

by Exchange Press

Date \_\_\_\_\_

Certified by:

*Bonnie Neugebauer*

Bonnie Neugebauer, President  
Exchange Press

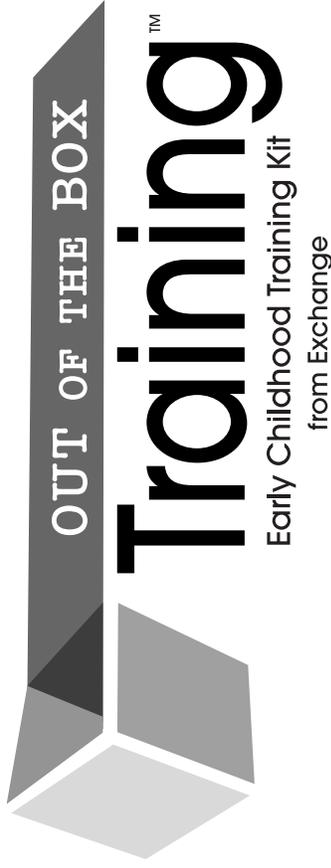
*Roger Neugebauer*

Roger Neugebauer, Vice President  
Exchange Press

**Exchange**

800-221-2864

[www.ChildCareExchange.com](http://www.ChildCareExchange.com)



Certificate of Training  
1.5 hours training session entitled

# Learning Through Music: The Support of Brain Research

Awarded to \_\_\_\_\_

by Exchange Press

Certified by:

*Bonnie Neugebauer*

Bonnie Neugebauer, President  
Exchange Press

*Roger Neugebauer*

Roger Neugebauer, Vice President  
Exchange Press

Date \_\_\_\_\_

Certified by:

*Kay M. Albrecht*

Kay Albrecht, Ph.D.  
Out of the Box Training

**Exchange**

800-221-2864

[www.ChildCareExchange.com](http://www.ChildCareExchange.com)