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Meaningful Music Learning From Early Childhood to the Primary Years

Supported by the Montessori Approach

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Physician and pedagogue Maria Montessori (1870-1952) founded a method of education after years of observing the natural way in which children learn. Her acute scientific observations shaped a belief system noting that children make their own intrinsic discoveries relatively free from adult intervention and approval (Crain, 2004). There are some 5,000 Montessori schools in the United States today (Shute, 2002). Knowledge is acquired by student interaction with a wide scope of sensory materials, from simple to complex, that were designed to stimulate learning (Humphryes, 1998). The primary purpose of the child's musical environment in a Montessori setting is to assist the students in reaching their musical potential. The need for children to investigate sound freely is of paramount importance to their acquisition of music knowledge and general development. Opportunities for creative exploration, through movement, singing, listening, and playing of musical instruments, are requirements of the music environment (Montessori St. Nicholas Centre, 1976). The music learning environment of the Montessori Method bears many similarities to the educational philosophies of the Orff-Schulwerk approach and that of Jaques-Dalcroze. This article will focus on the positive learning environment integral to the Montessori philosophy in the creation of a stimulating and meaningful music education from the early childhood years to that of the primary years.

***Critical Periods are Sensitive Periods:***

The first five years represent a critical period in the musical development of a child. A nurturing environment is necessary to help children reach their capacity for musical response. By planning appropriate musical content and learning activities during this significant period of time, students develop a solid foundation for future study (Temmerman, 1998). Montessori studied the four stages of cognitive development as defined by Jean Piaget (Reilly & Lewis, 1983). Later on, Montessori observed what she labeled as Sensitive Periods that she connected

with needs in the learning environment. Montessori named these the Sensitive Periods of Order, Details, Use of Hands, Walking and Language. Montessori posited that if the students are prevented from following their natural instincts during a given Sensitive Period, the missed opportunity would result in a loss of maturity. It is the responsibility of the educator to assist the child during these sensitive periods (Crain, 1992; Lillard, 1972).

***Importance of Movement:***

The first preparatory stage of music learning in the Montessori Method during early childhood focuses on music appreciation by offering “good” music in the environment that cultivates music appreciation. The Montessori philosophy assists the students to actively build new knowledge in response to sensory experiences. Mental development is directly connected to movement activities that extend understanding and self-expression (Montessori, 1991).

Montessori believed self-growth was dependent on interaction with the environment involving the unity of body and mind (Lillard, 1972). Background music is used as a prompt for locomotor movement exercises, such as “walking the line.”

These rhythmic exercises, termed Rhythmical Gymnastics, and games were incorporated into her curriculum after Montessori and Carl Orff visited the school where Jaques-Dalcroze taught Eurhythmics in Hellerau, Germany (Hackett & Lindemann (2007); Montessori, 1972). Dalcroze theorized that musical concepts were best experienced through the body using physical response to sound. Arms and hands were used to express pitch levels while the students were singing. He later labeled this practice as the system of solfège. (Choksy, Abramson, Gillespie, Woods, & York, 2001). During Rhythmical Gymnastics, students are encouraged to develop a sense of rhythmic understanding through the body in response to the musical selections.

Radocy & Boyle (2003) described the Functions of Rhythm in Music as a way to facilitate one's interaction with music as a respondent. Music with rhythmic movement encourages the active listener to respond to the music with forward motion. Improvement of gross motor ability and a sense of balance are stimulated through the tempo and repetition of contrasting musical phrases as students follow the line that is drawn on the floor. The development of a sense of balance and control of physical movement or dance is a preparation for music study. Practice through repetition increases awareness, resulting in enhanced music sensitivity and creative movement ability (Lillard, 1972). Montessori (1991) also acknowledged the social aspect of dance and movement because they often involve an audience.

The Orff-Schulwerk approach mirrors the child-centered philosophy of Montessori. Exploration in the Orff process begins with the musical element of rhythm using movement patterns and body percussion, such as claps, and pats (Choksy et. al., 2001; Hackett & Lindemann, 2007).

***Musical Exploration:***

The musical aptitude of the average elementary student is largely dependent on early listening and performing experiences. The process of learning is enhanced by imitation, memory and recognition (Gordon, 1999). The purpose of the second stage of music learning is to study the musical elements of harmony and melody through activities that involve attention, comparison and judgment (Montessori, 1970). Instrumental music is introduced using instruments that are appropriately sized for a child. The principal use of instruments in a Montessori classroom is purely for tactile and aural exploration. Students are instructed to use instruments "freely" after a brief explanation by the instructor on how they are used (Lillard,

1972). During free exploration, a student learns to explore an instrument within a time constraint (Flohr, 1981).

One sensory exercise that does not allow “free” exploration is that of the Montessori musical bells. Students pair the bells by matching their pitches. They do this by striking each bell with a hammer, thus increasing their ability to audiate while developing an understanding of melody. Audiation (inner hearing) occurs when one recalls a pitch that is not physically present. Through repetition, one learns to audiate melodic patterns (Gordon, 1989; Gordon, 1999). Gordon’s (1999) music-learning theory is based on techniques that develop audiation using tonal and rhythmic patterns and phrases.

Students move beyond exploration when they can perform what they hear mentally. When students begin to repeat patterns, structural patterns emerge for composing (Burns, 2002; Kratus, 1991; Mickolajak, 2003; Volz, 2005). Brophy (2000; 2001; 2002) reported that at age nine, the original music of children begins to reveal patterns and repetition of musical ideas. An awareness of musical phrases becomes apparent between the ages ten to twelve. At this stage, the child is capable of creating variations to what is heard.

### ***Musical Composition and the Hand:***

The final stage of music learning is reserved for the reading and writing of musical notation. Montessori (1991) theorized that a child’s intelligence was assisted by the hand. The psychological development of a child is connected with the use of activities that involve the hand; therefore, the mind and hand are closely related. Hand manipulatives, in the form of Western notation, are placed on wooden scale-boards to develop the spatial awareness of individual pitches. Students are encouraged to transfer the melodies on the scale-boards to the Montessori bells, thus connecting the spatial awareness to sound awareness. Near-transfer effects

occur when students train in one intelligence that directly enhances another. As students manipulate the wooden musical notation across the scale-board, the students are not only increasing their musical intelligence, they are positively affecting their spatial and kinesthetic intelligences as well (Gromko, 2004).

The study of musical scales provides a basis for understanding tonal relationships. Since musical instruments, notation, and music of Western culture are based on the diatonic scale system, studying pitch in the form of a scale is a relevant activity (Radocy & Boyle, 2003). Mursell (1951; 1954) recognized that listening is an active process that involves physical responses. Extended outcomes of the scale-boards include heightened abilities in musical composition and note reading. The process of composition allows the students to explore many combination of sounds during which these patterns can be revised and tested (Gordon, 1989, 1999). Older students are encouraged to record observations in written journals. Musical concepts are, therefore, embedded through the process of active listening and with the use of hand-held materials.

Mursell (1951; 1954) postulated that the act of composing brings meaning to the musical experience. Composers need enough resources to explore musical sound freely. The creative process, therefore, helps to further clarify musical meaning. Montessori (1991) emphasized that rapid progress cannot take place without achieving independence. In *The Discovery of the Child*, Montessori (1972) described children as independent learners. Through independence, the child seeks self-knowledge and self-discipline (Lillard, 1972).

The student's opportunity for choice should be extended to promote autonomy-supportive conditions in the classroom (Rodgers, 1998). Given choice and freedom to choose, there is a reduced need to seek adult approval (Montessori, 1991). Kamii (1985) suggested that urging

students to use their intelligence to approach problems they encounter in new ways, foster their creativity and autonomous behavior. The need to make personal artistic choices helps students to construct a sense of self; therefore, the musical environment should be supportive of students' autonomy.

Like the Montessori bells, the barred instruments, such as xylophones, are used for sound exploration in the Orff-Schulwerk approach. The variation in materials and sizes of the barred instruments, such as various woods and metals, allows choices and thus heightens the sensory experience of the students while introducing the concept of timbre.

### ***The Primary Music Classroom***

#### ***Music Curriculum Design***

##### ***Instruments***

A section of the room is designated for music making. A collection of six pairs of closed sound boxes, and the Montessori bells are standard instruments in the Montessori classroom. Sound boxes contain shaken produce graded for sound intensity to isolate a single timbre. The Montessori bells are similar in shape, dimension and color. Students are expected to pair off the bells that are on the same pitch on a board by striking a hammer in a sensorial activity. Percussion and tuned percussion instruments, such as xylophones are played on a pentatonic scale.

##### ***Singing***

Group singing activities are organized along with a recorded accompaniment or lead by the instructor. Conscious effort is made to select songs that contain repetitive verses or choruses, body movements, with simple words are preferred. Singing games are also encouraged.

### ***Listening***

Recorded examples are played that contain noticeable rhythmic patterns for small groups. Enthusiasm is recommended when a recorded excerpt is presented. Historical background is presented prior to the playing of recordings. The teacher should perform on instruments with musical expression as a model to the students. The teacher should provide a variety of attacks, such as: legato, staccato and a variety of dynamics, such as forte and piano, to perfect silence to stimulate kinesthetic response. Students are given a music stimulus by the teacher to engage them in active and spontaneous response. Knowledge of meter is recognized in the form of body percussion. Strong and weak beats are emphasized by the instructor by how hard they strike a mallet.

### ***Movement***

“Walking the Line” rhythmic gymnastics to highly rhythmic music is used to teach balance and posture. Improvised body movement is used as it applies to the vocal music.

### ***Music Games***

The Montessori bells are used for memory games and for playing scales.

### ***Reading and Writing Music***

The musical staff is printed on green wooden boards for use with numbered indentures for each line and space. Moveable disks may be arranged at random on the board by name of note. The Montessori bells may be used in conjunction with what the students have placed on the wooden boards. Students are encouraged to learn the relative position of the notes on the treble and bass staves. Flash cards that contain notes and rests are used in matching games (Barnett, 1995; Montessori, 2002).

***Environment and Sensorial Education:***

The senses are viewed as a point of contact with the environment from which an individual achieves certain levels of perception. The Prepared Environment in a Montessori classroom is designed to contain the exercises for Practical Life and sensorial materials necessary to encourage sequential mental and physiological child development steps called manipulatives. The selection of materials is based on the intellectual, moral, and social needs of the child as to which the natural development of the child could be nurtured. The students explore each of the senses: sound, smell, taste, touch and sight. Vocabulary is increased by describing each new experience with reference to length, height, and width. Mathematical skills are enhanced by matching pieces of various sizes and shapes. Measurement is a natural outcome of these comparisons (Calvin-Campbell, 1998). A valid integrative experience that deepens the understanding of music as well as mathematics is a practical application of interdisciplinary learning (Hackett & Lindemann, 2007). Measuring the bars on the xylophones to recognize the changes in pitch in a scale is one way in which music can be integrated into the Prepared Environment.

Placement of the materials requires an exact position in the shelving. Each activity is designed to focus the attention on a single quality. In the case of the Montessori bells, all of the bells look uniformly the same. The students are expected to distinguish them by sound comparison in the sequence of a scale (Standing, 1998).

The central purpose for music in the Montessori school setting is to awaken the senses of the students through discrimination among complex sounds, in order to lay the foundation for future musical training (Standing, 1998). Exploration of sound is also integral to the Orff-Schulwerk process of music education. Students experience the elements of music through voice

and instruments as they learn through exploration, imitation and creation (Choksy, Abramson, Gillespie, Woods & York, 2001; Hackett & Lindemann, 2007). Some of the stimuli in the environment can be colors, notes, forms, sizes, and tactile experiences. The drums, stringed instruments and bells are described as instruments to be actively manipulated in the chapter, “Education of the Senses,” of the book, *The Montessori Method*. Musical selections to be used should be those that students had previously favored. The musical selections and instruments are selected to entice students into participation and spontaneous movement (Montessori, 1970).

***Imitation Through Understanding:***

Students must be given a motive to imitate, as well as proper preparation for imitation. Understanding must take place before imitation is attempted (Montessori, 1991). The Orff-Schulwerk Method makes use of imitation during active participation, connecting music with movement, dance, and speech. An echo technique is used with short musical phrases. These phrases are lengthened as the students gain greater listening skills (Calvin-Campbell, 1998). Beginning at two years old, students reproduce spontaneous sound sequences through active spontaneous singing during play. Most students imitate songs they have heard in their homes and school environments. Learned song replaces spontaneous song by age four (Radocy & Boyle, 2003).

***Teacher Role and Attitude:***

The teacher’s role in the Montessori classroom is that of observer and of resource for knowledge of the classroom materials. Initially, the students are put in contact with the materials and are informed as to their use without outside distraction. To obtain and maintain the attention of the students, the teacher must generate enthusiasm when introducing new topics. Arousing interest in the environment allows students to direct their attention to the object in focus with

more intensity (Lillard, 1972). The teacher then intervenes only to ask the students' perception of the task, contributing applicable vocabulary. The students are then required to articulate their response. Independent mastery on the part of the student is the objective. It is therefore necessary that the teacher avoid drilling or directing the students (Crain, 1992; Montessori, 1972). Suzuki posited that musical training could take place in a stimulating environment in which the teacher showed a positive attitude and patience. The teacher's role described by Suzuki is also advocated by Montessori. Suzuki believed the purpose of music education is to enrich appreciation as well as providing music making opportunities (Jorgensen, 1997).

### ***The Multiple Intelligences Theory***

The training for the Montessori Method often includes Gardner's theory of Multiple Intelligences in which students are encouraged on an individual basis to use their preferred way to learn in order to reach their potential. The Multiple Intelligences Theory advocates the use of a variety of tools to on an individual basis (Gardner, 1983). The certification process of a Montessori teacher is grounded in the theories and practices of educational psychology. Some of these early childhood theories include those written by: Dewey, Erikson, Piaget and Vygotsky. The teacher's interaction with the students is encouraged only when the students have questions or need brief instruction, thus reducing the amount of interruptions from their pursuit of knowledge. It is essential that the instructor is responsive and attentive to the needs of the students when they arise. The access to the tangible objects in the environment, not the instructor, fuels the student's desire to acquire knowledge (Montessori, 1972). The instructor is described as a patient listener and is expected to follow-up when the student has questions. The instructor is expected to observe the student in order to provide necessary instruction. The

instructor should number the objects for each sensory experience to verify each activity was completed (Standing, 1998).

***Key Attributes of Intrinsically Meaningful Learning Environment:***

Montessori (1972) developed a profound respect for the competence of the students to navigate the learning process at their own pace by self-exploration based upon their inner needs and interests. Appreciation and respect of the student is the main aim of the Montessori Method. The teacher encourages the student by showing interest and offering explanation. Although the instructor is expected to encourage the student, praise is limited so that the student does not develop the need for reassurance of merit (Standing, 1998). Intrinsic motivation is described as pursuing those learning goals which the students seek to personally pursue. Intrinsic goals are those that directly satisfy an individual's psychological need for competence, autonomy and/or relatedness (Deci, 2004). Intrinsic motivation is relevant to music achievement and effort (Schmidt, 2007). Following the interests of the students is part of the Montessori philosophy. By consciously adhering to the intrinsic needs of the students, they develop ownership in the learning process.

***Conclusion:***

The Montessori Method has much to contribute toward following the natural instincts of the students to direct the learning process. By their own acute observation, music specialists can monitor how their lessons are received by their students. The feedback teachers receive from their students is of great value in shaping the musical environment provided. The Montessori philosophy is evident in much of the Dalcroze and Orff approaches, especially as to the focus on the students' exploration, imitation, improvisation, and creation. Students will be more apt to take risks in the music classroom if they are made to feel comfortable and invited to participate

at their own level of skill. The tools provided in the classroom should satisfy the sensory needs of each individual student. Instruments should be colorful in as many sizes and materials as possible to attract the student's interest. Musical exploration should be encouraged, and should include comparisons of shape, color, size, material, pitch, depth and musical style to further develop curiosity. Providing time for creative work is the most important gift a teacher can give the beginning music student since it allows the student to actively acquire more acute music thinking skills (Azzara, 1993.) Finally, Montessori concurred that it is the responsibility of the teacher to construct an environment in which students can achieve the desired learning outcomes (Jorgensen, 1997).

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