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The Dalcroze Approach

Experiencing and Knowing Music Through Embodied Exploration

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Introduction

In the late 19th century, Swiss composer Émile Jaques-Dalcroze (1865–1950), a professor of harmony and solfège at the Geneva Conservatory, initiated the Dalcroze approach after identifying problems in music education practice. He was concerned with why music theory was generally being taught as abstractions disconnected from students' emotions, sensations, and experiences and why students seemed to perform mechanically without expression, understanding, and sensitivity. In early music education settings, children were primarily taught to play and sing, but seldom to hear and listen. Jaques-Dalcroze found that there was no teaching material available for ear training. The exercises being offered in reading music, its notation, and improvisation could be achieved without the aid of the ear. The faults found in music education and the musical, physical, and emotional problems identified in his students led him to dispute the philosophies and teaching methods of his time (Jaques-Dalcroze, 1935). From then on, Jaques-Dalcroze dedicated himself to reforming music education so that it would develop students' hearing abilities, especially "inner hearing," and make students thoroughly musical instead of simply teaching them to play an instrument. Furthermore, he came to regard "musical perception which is entirely auditive as incomplete" (Jaques-Dalcroze, 1921/1980, p. viii) and was convinced that musical sensations, especially of a rhythmic nature, called for the response of the whole body. He argued that harmonizing mind and body could strengthen musical rhythm. Therefore, he sought an approach to music education in which the body and mind are integrated—an approach that involves the person as a whole and aims to develop and refine the development of one's faculties,

especially the ones used to engage in music: the aural, visual, tactile, and muscular senses.

In his pedagogical endeavor, Jaques-Dalcroze began to apply bodily movement to make his students' musical experiences and understandings more embodied, that is, more rooted in perceptions and bodily, lived experiences. Gradually, despite the resistance he encountered, Jaques-Dalcroze's pedagogical experimentation advanced insomuch that, from 1903 to 1905, he demonstrated his ideas with success throughout Europe. Audiences encouraged him to write down his ideas; as a result, in 1906, he published his *Méthode Jaques-Dalcroze*. This approach was first called "gymnastique rythmique" and "plastique rythmique," or simply "rythmique." Later, John Harvey from the University of Birmingham initiated the name *eurhythmics*, a term that is still applied worldwide and refers to the whole approach (Ingham, 1920). However, confusion often occurs because the term *rhythmics* is used when referring to only one of the areas of the approach. Additionally, *eurhythmics* is also often mistakenly associated with *eurythmy* of Rudolf Steiner pedagogy. Thus, the name *eurhythmics* lacks clarity that the musical–educative practice requires and, as such, will not be used in this chapter.

The Dalcroze Approach: An Overview

Dalcroze pedagogy aims to promote abilities, such as sense of rhythm, finesse of hearing, and spontaneous expression, that are, according to Jaques-Dalcroze (1945/1981), vital to a competent musician. Thus, the approach focuses on developing musicianship in a large view and works to support and complete other music studies. Dalcroze teaching takes place mostly in groups. In group exercises, students often move in a space with improvised, recorded, or vocalized music, or sometimes without any music at all. A large variety of music (e.g., early music, classical, ethnic, folk, pop, rock, rap, heavy, soul, and jazz) can be used and studied through Dalcroze exercises (see Chung, 2003; Phuthego, 2005). Through movement of the whole body, music is felt, experienced, and expressed; reciprocally, the movements express what the participants hear, feel, understand, and know. Movement is simultaneously a means of personal, social, and musical discovery and a tool for analysis. The approach assumes that everybody has a personal way of moving, and hence, the movements reflect personalities and individualities. The qualities

of movement and, consequently, of experience play a crucial role in learning. In Dalcroze teaching, the main goals are to encourage musical expression and creativity, to lead students to trust their own ideas and creations, and to help them discover their body as an expressive musical instrument.

The exercises used in a Dalcroze-inspired classroom include the following categories of movement (Abril, 2011, p. 104): functional (e.g., showing a pitch level with the hand), rhythmic, creative, dramatic, and dance. Movement of the whole body in a space is linked with listening; studying the elements of music (such as tempo, rhythm, meter, phrase, form, polyrhythm, dynamics, and harmony); developing automatism of movement; working with materials and props, such as balls and sticks; exploring time/space/energy relationships; and developing the capacity to invent, interpret, and express. Typical exercises include "follow" exercises (e.g., stepping to the tempo of recorded music or the exact rhythm simultaneously as it is improvised by the teacher); "quick response" exercises (e.g., responding to a signal or a change in music, for instance, changing the direction of walking when the teacher says "hop"); "interrupted canon" (also called "echo") exercises; and "canon" exercises that all necessitate rapid and direct communication between thought, feeling, and action. [1] In particular, quick-response exercises are devised especially to develop mental and physical alertness, control, and memory.

Interrelated Areas of Study

The approach includes three interrelated areas of study: rhythmics, solfège (ear training), and improvisation. "Plastique animée"—the realization of music in body movement—can be regarded as an area on its own or as an attendant discipline. Though the different areas can be taught separately, which is often the case in teacher education, Dalcroze teaching commonly incorporates all the areas within one teaching process, in which the areas intermingle and interact. Each one of the following four sections examines the four interrelated areas, respectively—specifically, rhythmics and a sense of rhythm, solfège and finesse of hearing, improvisation and the ability of spontaneous expression, and plastique animée and kinesthetic awareness—and their practical aims.

Rhythmics and a Sense of Rhythm

> *The object of rhythmic training is to regulate the natural rhythms of the body and, by their automatisation, to create definite rhythmic images in the brain*.
>
> —Jaques-Dalcroze (1921/1980, p. 152)

For Jaques-Dalcroze (1945/1981), having a sense of rhythm means the capacity to feel or "sense" the space/time between movements and is connected to the ability to control variations of the elements of time, space, and energy in movement. A sense of rhythm is manifested in rhythmic movements, which in turn affect the rhythmic expression of musical performance. Jaques-Dalcroze was convinced that the sense of rhythm of every child could be developed by repeated exercises (Jaques-Dalcroze, 1921/1980).

Jaques-Dalcroze argues that music, especially its rhythmic component, has its origin in natural body movements and thus is physical in nature. Accordingly, he suggests that it is most natural to develop a sense of rhythm through body movement. In Dalcroze teaching, students are encouraged to become aware of the rhythms of their body movements, to recognize rhythms in music, and to realize them in movement and, consequently, to be able to read, notate, and create rhythms both mentally and physically (Jaques-Dalcroze, 1921/1980). To develop a sense of time, which is particularly important, Dalcroze teaching often starts with having students experience a steady pulse by walking in a space, for instance, and further, by walking to the beat of improvised music or a song. Walking is an inborn, strong, and steady rhythmic movement that is strongly automated, meaning we do not need to consciously direct the movement or think about starting different parts of it (Wallén, Kiehn, El Manira, & Grillner, 2007). Through awareness of walking, one can find a pulse, and by realizing accents in walking (e.g., by bending the knee, changing direction, or tapping), one can practice various rhythmic meters. Further, from the very beginning, changes in tempo and dynamics are incorporated into the exercises. Because walking can be automated easily, other tasks, such as clapping or arm beats, can then be incorporated simultaneously (dual task) already at the primary level. Through other familiar gestures and movements, such as running, skipping, galloping, hopping, and swaying, other basic rhythms and meters are introduced.

In rhythmics exercises, body movement is combined with music listening based on the argument that music and body movement are intrinsically linked. Especially in the beginning, the movements are kept natural and simple (e.g., walking, stepping, clapping, and gesturing). Gradually, the movement language is enriched as more attention is paid to the style and expressiveness of whole-body movements. In a lesson, a teacher might play repeated rhythmic patterns that students have to realize and explore in movement and recognize and remember; finally, a teacher may introduce a music piece that demonstrates or includes the same phenomenon. For example, after doing various exercises (by clapping, stepping, or showing in movement, speech, and echo) to explore eighth-notes, quarter-notes and half-notes, students sing the song "Frère Jacques" and express the melody and rhythm by stepping or tapping each note value on a certain body part: eighth-notes on their shoulders, quarter-notes on their chest, and half-notes on their thighs. Alternatively, the process can start with the piece of music.

In this approach, movements are used to explore and express various qualities of music. Jaques-Dalcroze (1921/1980) argues that the relationships of body movements, involving *time, space,* and *energy*, have counterparts in musical expression. In the rhythmic-movement exercises, students experience and become aware of the time and energy needed for certain spatial movements and understand how these elements relate to those of music. In addition to various rhythmic elements, the form or style of music, as well as the nuances of tempo and dynamics, can be realized through the body. Through practice using bodily involvement, one can learn to discriminate between even the subtlest nuances in all the expressive qualities of sound.

In exercises, a teacher can ask students to express freely in movement what they hear in music or what their attention and listening are directed toward, for instance, a certain aspect of the music. There are no fixed movements for a specific piece of music or musical idea. On the contrary, it is a professional challenge for a teacher to find a style and a quality of movement that illustrates the musical idea and reinforces a student's understanding of it. Even if students move according to the teacher's instructions, the movement itself is a spontaneous and natural response to the music, reflecting a student's listening. As a result, there may be extreme diversity of movements among students doing the same exercise together, to the same music. In general, the approach avoids

promoting stereotyped and mechanical movements and encourages individuality and diversity in movement. At some point, teachers, together with students, may analyze the physical responses and join them to cognitive conceptual responses.

Sometimes, after having practiced certain movements, the students are asked to imagine the movement before doing it ("considered response") or after. Imagining movement does not necessarily have to be followed by the actual movement to be effective. In fact, to permit students to re-experience and internalize movement in a meaningful way without moving gives the kinesthetic imagination a great range and is considered one of the great benefits of Dalcroze training. Motor imaginary is commonly applied in (mental) training and motor (re)learning settings, because it evokes similar motor representations as execution of movement (Anema & Dijkerman, 2013). Moreover, motor imaginary has been postulated as an essential function to build the sense of agency (Jeannerod, 2006).

Movement experiences are stored as aural, visual, and kinesthetic images that can be recalled when reading, notating, composing, performing, or creating music, for example. According to neuroscientist Antonio Damasio (2000), images generally play an important role in actions that are in the best interest of an individual. In action, we go through a selection of images—more or less automatically, presenting various operations, models, scenarios, and results of action. We choose the most suitable images and reject the bad ones. Images also enable us not only to invent new actions but also to plan them. In this way, the ability to change and combine images is a source of creativity.

Solfège and Finesse of Hearing

> *Every sound method of teaching music must be based on the hearing, as much as emission of sounds*.
>
> Jaques-Dalcroze (1921/1980, p. 27)

The term *sol*fège refers to exercises and studies that aim to develop the capacity of hearing, listening, responding to, singing and playing, remembering, identifying, and notating any combination of sounds. One goal is to build a connection between what is heard and what is written—that is, to teach students to write melodies, rhythms, and harmonies by ear. An additional goal is that students gain the ability to translate written

music into sounds, usually by sight-singing or sight-reading on an instrument. However, precision of hearing involves not only the ability to recognize sounds and their relations but also the ability to recognize dynamic and agogic nuances of music. Aural sensations create states of emotion as well (Jaques-Dalcroze, 1921/1980).

Solfège seeks to develop the "inner ear" (or "inner hearing"), which is the ability to mentally produce (i.e., "hear") exact sound images without the help of the voice or an instrument; a teacher can develop students' inner-hearing skills, for example, by having them practice alternating between singing aloud and internally. Jaques-Dalcroze particularly sought to develop this capacity so that students would be able to mentally hear rhythms, intervals, phrasing, and dynamic nuances of music when reading music, that is, in advance of and therefore as a guide in performance, improvisation, or composition. Yet, inner hearing can also be conceived as tied to bodily action. For example, we employ inner hearing when we move: We listen to our bodies' mechanisms though we may not be conscious of doing so. In relation to bodily action, inner hearing can be understood as an aural image of anticipated action (Ilomäki, 2011).

For Jaques-Dalcroze (1930/1985), good "hearing" is one of the most important traits of a competent musician, and thus, developing listening skills is at the center of Dalcroze teaching. He believed that music education should be based on developing hearing skills and should start at as early an age as possible so that aural perception is well developed before instrumental studies, music theory lessons, and the use of musical notation begin. Jaques-Dalcroze realized that simply producing sounds mechanically on an instrument did not develop (inner) hearing. He even claimed that piano lessons could damage the aural and rhythmic faculties, unless preceded by rhythmic-movement and inner-ear training. He stressed that the study of theory should be connected to the experience and aural analysis of music; theory should be a consequence of musical study, not approached as a conceptual end in itself, as was common at that time (Jaques-Dalcroze, 1921/1980).

Jaques-Dalcroze (1921/1980) states that perceiving music depends not only on hearing but also on aural sensations, which need to be completed by muscular sensations. Body movement is used to reinforce musical hearing, forming a dynamic partnership between the body and the ear. In this partnership, listening inspires movement

expression, while moving guides and informs listening. The goal is also that students can understand what they hear and hear what they understand. For example, the students can be asked to identify one- and two-line melodies and to walk alone when hearing a unison melody and together with a partner when hearing a two-part melody; or, when learning to distinguish major and minor triads, students can be asked to cross their arms when hearing a minor triad and to keep their arms open when hearing a major one. The possible pedagogical reasons behind these exercises are that the bodily involvement compels the student to react in bodily "terms" and—to be correct—to concentrate. The bodily movement gives the student something concrete to do, at the same time as it apparently clarifies listening, strengthens musical memory, and reinforces understanding of musical phenomena. In fact, movement seems to structure listening when one does not even think consciously about one's movement (Johnson, 2007). The students learn from each other without having to be afraid of being judged for an incorrect answer. In addition, the teacher is able to see the responses of all of his or her students at the same time.

The Dalcroze solfège applies a *fixed do* system.[2] However, today, many Dalcroze teachers use *movable do* or some other note- and function-naming system. In Dalcroze solfège, there are also special exercises for developing perfect pitch, accurate hearing, and refined intonation (e.g., Choksy, Abramson, Gillespie, & Woods, 1986). Usually, pitches used in the beginning exercises are not limited but use the entire diatonic scale. Intervals and harmonies are studied within the context of the scale through singing. In teaching, any musical material is used and teachers also often invent new songs and melodies, both when teaching solfège and when teaching rhythmics (Johnson, 1993). Learning songs and melodies by ear particularly practices musical memory. All solfège exercises require attention, alertness, and concentration (see Figure 7.1 and Sample Exercises A and B).

[FIGURE 7.1.]

Sample Exercise A (This exercise is a variation of Mead's exercise; see Mead, 1994, p. 13.):

1. Sigh-sing the melody (using note names or numbers, and conduct in 4/4).
2. Sing the melody repeatedly. When the teacher says "Hop!" change the tempo to twice as fast. In the next "Hop," return to the original tempo (quick-response exercise).
3. When singing the melody, change the meter in each measure as indicated by the teacher (for example: 4 quarter-notes, 4 eighth-notes, 4 half-notes, 4 quarter-notes).
4. Change the last quarter-note (or any one of the notes) of each measure to a half-note.
5. Sing aloud only g-notes, and sing the other notes in silence (inner-hearing exercise).
6. Add to the previous exercise: Clap on all the c-notes (multitask exercise).
7. Sing the melody, but improvise or vary the melody of the third measure.

Sample Exercise B (pitch discrimination):
The teacher sings or plays the melody (e.g., the one in Figure 7.1); for each measure (one measure at a time), the students sing, echoing back the repetition of each measure. For an additional variation, when echoing the melody, the students

1. toss and catch an (imaginary) ball on the highest note in the measure.
2. bounce and catch the ball on the lowest note in the measure.
3. combine exercises 1 and 2.

Jaques-Dalcroze holds that music is not purely intellectual; it works through the senses and sets the whole sensory being echoing to the vibration of sound. Hearing in itself is a very physical thing. It is a form of vibration that starts off as a kinesthetic sensation. Sound waves penetrate the body tissue and the eardrum receives sounds as tactile vibrations that resonate throughout the body.

Also, listening to music is grounded in the body (e.g., Stubley, 1999). It is not only an act of grasping meanings but also an action-oriented intentional activity of making sense of the world (Tuuri & Eerola, 2012). Using the notion of listening metaphorically, we can note that the human body as a whole holds a listening attitude. Listening to music with the whole self refers not only to the physical reactions of the body but also to the listening that comes from a "felt" bodily understanding of what the music means. Levin (1989) uses the notion of "preconceptual" listening: a listening that involves the entire body, the body of felt experience. It is a listening structured not

simply by the intentionality of conceptual grasping, but also by listening attuned through feeling. According to Levin, a musician develops skillful listening by allowing his or her body to become itself a medium, an instrument, for the resonance of sound.

The Dalcroze approach develops this type of preconceptual listening, which is tuned to oneself. As a teacher asks students to listen to the reactions in their bodies, he or she is enabling them to connect, not only to music, but also to their own response to music, to themselves. It seems that this echoes what Levin (1989) tells us about skillful listening in general; he argues that the cultivation of listening is a "practice of the Self," which enables us to listen to our bodies' felt needs (p. 38). This kind of listening happens in our inner ear as a capacity of the body in its ontological wholeness. It seems that Jaques-Dalcroze had ideas similar to those of Levin, but in the context of music education, namely, how to make music making more personal and connected to one's own self. From this perspective, Dalcroze teaching includes the practice of self, by encouraging students to listen sensitively to their own reactions in the body, that is, sensing the psychophysiological self. Thus, the moving and sensing body, by resonating through sounds, contributes a sense of wholeness.

Improvisation and the Ability of Spontaneous Expression

In Dalcroze exercises, students improvise by moving, singing, or playing an instrument. Overall, Dalcroze practice offers abundant possibilities for such improvisation and spontaneous expression. Improvisation motivates students to express their own ideas, stretches students' imaginations, and brings about a sense of accomplishment and satisfaction (Mead, 1994).

Jaques-Dalcroze (1921/1980) regards instrumental improvisation as quick and spontaneous composition. Musical improvisation offers a way to apply and give sonorous form to things learned (e.g., various rhythms, forms, harmonies, and dynamics) to reveal musical understanding and to develop creative facility. Also, the teacher can assess what students know by hearing what they can invent. Improvisation should be an essential part of instrumental studies from the beginning because it teaches students to express their musical thoughts and feelings spontaneously through their instrument.

In teaching improvisation, it is important that exercises are meaningfully designed and of a suitable difficulty level for the participants; these parameters in turn promote a security and willingness to improvise. It is also important that improvisation is practiced regularly. Integrating improvisation in teaching can be realized in little things, such as varying a way of clapping or stepping, or accompanying one's movements with different sounds. Using the voice in movement-improvisation exercises is also a way to approach instrumental improvisation.

In Dalcroze teaching, many different forms of movement improvisation are applied. Movement improvisation develops the ability to lead or follow, imagination, initiative, communication, trust, responsibility, and spontaneity. Some practical examples of movement improvisation include the following:

- Following in movement the music or the leader's movements (see Figure 7.2)
- Exploring space, time, and energy with exercises
- Employing creative movements inspired by images, emotions, stories, or pictures
- Moving or leading the movement by a certain body part (head, shoulder, elbow)
- Integrating movement and voice exercises, for example, following your own/another person's voice in movement, or accompanying movement with the voice or an instrument
- Transforming a rhythmic phrase into movement (and sounds)

Dalcroze teachers are expected to be able to improvise music in their lessons, and several Dalcroze-based texts include exercises for developing keyboard improvisation skills (e.g., Mead, 1994, pp. 203–210). Improvisation is designed to initiate a response in movement; it is the main means of dialogue with the students. When the students respond to the music and the teacher responds, in turn, to the students through the music, there is a spontaneous interaction that recorded or notated music does not allow. The music is constantly changing according to the students' responses; the music is being created at the same time that the movements are being enacted. Even though it is a big advantage for the teacher to be able to tailor the music for each exercise in the teaching situation, improvising music for Dalcroze exercises is demanding as the teacher simultaneously has to be aware of and follow the students and their movements while playing. It is also a

challenge to play in such a way that evokes, supports, or effects a change in the movement.

Plastique Animée and Kinesthetic Awareness

Plastique animée aims at expressing music in movement, embodying all shades of it, and making it visible. Often in exercises, students make movement-compositions to a given piece of music that is associated with choreography. It is considered a way of discovering, understanding, and revealing the musical text, and an application to which practitioners can bring all that the students have studied in the other areas of the approach. As a "living analysis" of the musical score, a movement-composition entails portraying primarily the form, structure, style, and/or expression of a musical work through interpretative movement. It is also possible that the people moving together create music, even "in silence," in collective movement. Although movement itself is "composed," its expressive and spontaneous quality is emphasized. As Jaques-Dalcroze (1921/1980) views it, "movers" simultaneously create and, through experiencing their own movement, receive or "sense" artistic expression, allowing them to feel and express music for their own pleasure.

Plastique animée invites students to express natural and spontaneous reactions and individual images, not just to repeat a learned series of movements or to be guided by supposedly fixed aesthetic objectives. Jaques-Dalcroze (1921/1980) wanted both dancers and musicians to replace their intellectual thinking with spontaneous feelings, to fuse instinctively with music. Such plastic movement within the Dalcroze approach, then, is always connected to personal experiences and feelings. The internal experience—sensitivity toward music and its expression—is more important than the qualities of external performance.

Plastique animée also aims to achieve perfect balance in bodily actions—a matter of being able to control all the movement qualities in relation to time, energy, and space. The kinesthetic sense plays a crucial role in achieving this control. It seems that Jaques-Dalcroze intuitively understood what researchers (Sheets-Johnstone, 2011) have since verified, namely, that the kinesthetic sixth sense—the body's ability to monitor, feel, or

sense movement—is our basic perceptual organ and the source of perceived qualities of time, space, and energy.[3]

Starting Points and Pedagogical Principles

The Holistic View of Human Beings and Embodied Understanding

Using today's terminology, it could be said that the understanding of the human being that underpins the pedagogical views in Dalcroze teaching is holistic (Westerlund & Juntunen, 2005). Jaques-Dalcroze stresses that the body and the mind are inseparable, and he wants to establish a balance between thinking and doing that in turn promotes freedom of imagination and emotion and thus general well-being. Following this, there is an understanding that the bodily roots and bases of musical learning should be reinforced in music education. In my understanding, Jaques-Dalcroze's thinking is in line with the ideas of Maurice Merleau-Ponty (1908–1961), a French philosopher of the phenomenological tradition, who seems to have struggled with the same challenges in a theoretical way within philosophy that Jaques-Dalcroze did in a practical way within music education (Juntunen, 2004). Merleau-Ponty's (1962) work can be interpreted as an effort to unify the world and our experience of it and to turn our attention to the importance of embodied, prereflective experience. Jaques-Dalcroze suggests that we come to know the musical world and ourselves through meaningful mind–body exploration and experiences that combine music and movement and take place in interaction with others and the world. Thus, in Dalcroze teaching, knowing and doing, theory and practice, self and others are blended together to form a holistic entity. Emphasizing this holistic view of the body–mind connection and the importance of action and experience in learning echoes the ideas of the American pragmatist John Dewey, who stresses how we only know the world through our active orientation toward it.

The attempts to facilitate embodied experiences and to reinforce the mind–body connection are manifested in various aspects of each teacher's actions and teaching procedures, for example:

- The same musical idea is studied through various activities and areas of study, which are integrated in teaching.
- The mind–body connection is reinforced by combining (a) sensing with action (e.g., expressing in movement what is heard); (b) thinking with

> action (e.g., becoming aware of, remembering or analyzing one's movements, or expressing in words bodily experiences); and (c) feeling through action (e.g., expressing the emotions aroused by music through movement).

Thus, in the exercises, sensing, action, feeling, and thinking interact, making students both bodily and mentally active, and allowing students to experience things for themselves.

Constructivist View of Learning

The conception of learning in Dalcroze teaching resonates with the basic principles of constructivism: Teaching processes build on students' earlier understanding and knowing and gradually proceed based on students' ongoing responses and progress. Though students are taught at a pace that is suited to their individual development, learning is understood to take place in interaction with other students. Students work with partners or in small or large groups, and they are encouraged to pay attention to and become aware of the movements of other students and to collaborate and solve problems together, as well as to learn from each other. The fact that a student is seen as an active agent, construing knowledge as a result of (inter)action, communication, and experience, reflects social constructivist views (Vygotsky, 1986). Furthermore, viewing the teacher as guiding the learning process rather than transmitting knowledge is foundational to the constructivist conception of learning.

Play and Joy as Educational Tools

Jaques-Dalcroze (1921/1980) was convinced that joy is the most powerful mental stimulus for learning. To inspire a free and joyful atmosphere, many of the exercises are shaped as musical games in which students play "against" the music, according to set rules, but without competition between one another. Play challenges, because it demands the reordering of one's own know-how to overcome and rise beyond obstacles and the unexpected (Csikszentmihalyi, 1990). Joy arises when students experience balance between present capacities and the task in question. Furthermore, positive experiences foster positive motivation to study because merely acquiring information does not

generate motivation, but rather, it comes from and is experienced by the "felt" body (Sheets-Johnstone, 2011). Furthermore, according to Jaques-Dalcroze (1921/1980), the spirit of the game liberates the student from being self-conscious and the state of joy intensifies the students' imaginative and artistic faculties.

Aims and Broad Goals

Previously in this chapter, when examining the main points, I articulated many goals of the Dalcroze approach. Among these are receiving and expressing rhythmic qualities of movement, acquiring finesse of hearing and listening, and developing skills in improvisation and musical expression. In what follows, I will review three central ways that the approach benefits students: (a) developing general bodily skills, awareness, and knowing; (b) learning through kinesthetic experiences; and (c) deepening musical understanding. Additionally, it should be noted that Dalcroze teaching engages numerous capacities and qualities of a student, and personal transformation is not limited in connection with music. The exercises also aim to enhance nonmusical general capacities such as attentiveness, concentration, memory, the reproduction or change of an action, communication, social skills, imagination, and creativity.

Developing General Bodily Skills, Awareness, and Knowing

First, students' motor skills and coordination are developed through various kinds of movement exercises incorporated in integrated processes of rhythmics, ear training, improvisation, and plastique animée to, for example, enable the student to manage his or her movements in related activities, such as playing an instrument, singing, and conducting. Of course, the training of motor skills has to follow and support the general and individual phases of physical development.

Through a deeper analysis, Dalcroze training aims to develop not only bodily skills but also bodily knowing or "bodily knowledge," meaning improved knowing in and through the body (Parviainen, 2002). Bodily knowledge originates in the body's interaction with the world and has a direct connection to the senses and bodily awareness, as well as to psychomotor abilities, skills, and actions. It includes the realization and understanding of movements, as well as being able to accomplish them, which

necessitates bodily practice and skills. This knowledge is acquired through observing our own movements and through "listening to" our kinesthetic sensations. Exercises and ideas from various awareness techniques, such as Alexander Technique and Feldenkreis, can also be applied. Bodily knowing encompasses all the senses through which we know ourselves as whole; it is the foundation of all our knowing and sense of self.

Learning Through Kinesthetic Experiences

Second, it could be argued that Dalcroze teaching offers opportunities for learning through movement and thus through kinesthetic experience. To make use of kinesthetic experiences in learning, it is crucial to guide students to pay attention to and become aware of bodily sensations and experiences—to make them kinesthetically aware. To enhance kinesthetic sensitivity, variations of movements are encouraged. For example, students can be asked to walk on their toes or heels, sideways or backward instead of just walking normally forward. When accomplishing any movement for the first time, we become aware of its felt qualitative character (Sheets-Johnstone, 2011). Thus, to get a sense of this original experience in habitual movements, such as walking, we need to try different ways of doing them. By making the familiar strange, we familiarize ourselves anew with the familiar.

Students can also be asked to change and differ their movement expressions, or to imitate somebody else's movement. Finding another way compels awareness and also invites students to become more connected to their personal self (Juntunen & Hyvönen, 2004). According to experienced Dalcroze teachers, by constantly requiring personal responses and awareness of oneself, Dalcroze teaching develops a student's self-knowledge and sense of self and also helps the student to better communicate with other "selves" (Juntunen, 2002a).

There are also other ways of awakening kinesthetic awareness, for example:

- Starting the teaching session with a warm-up exercise, in which it is possible to experience a change in the body (e.g., muscular activation, more profound breathing, relaxation, or better position)
- Asking students to think, remember, repeat, imagine, analyze, or describe one's movements and bodily sensations

- Studying gestural points of departure and arrival in movement (e.g., starting and stopping walking or becoming aware of the hand gesture when tapping on a hand-drum)
- Applying an excitation and inhibition exercise (For instance, students walk with the pulse of the music. Every time they hear a triplet, they stop or start walking again. However, they are not supposed to react to any other kind of change in the music, for example, to stop walking if the music stops; in other words, they have to resist the "natural" reaction. They have to be simultaneously ready to react and to resist reaction. This sort of exercise forces constant attention and conscious control over the kinesthetic processes.)

Deepening Musical Understanding

Third, Dalcroze teaching aims to deepen musical understanding. Despite the visceral, physical nature of music, current music education still emphasizes relatively few nonverbal approaches to musical understanding. It is commonplace to think that concepts should be explained and understood abstractly before they are experienced directly, that concepts give experience its categorical structure. Hence, musical concepts are often taught prior to the empirical experience of the external world. In Dalcroze teaching, students are not expected to learn concepts or rules before they actually experience the practice in question. Movement experiences are incorporated into musical learning, and the conceptual understanding of music is based on those experiences. However, knowledge gained through bodily experience is not *objective* knowledge, but rather knowledge that contributes to one's unique *subjective* understanding of some particular matter. The transformation depends on personal variables and, in particular, awareness of and reflection on one's actions and experiences.

In my understanding, Dalcroze practice, first and foremost, develops a bodily understanding of music, which can be approached through the notion of habit: Understanding of a musical subject or phenomenon as a habitual action implies bodily knowing its meaning in use. Thus, the Dalcroze approach appears to primarily develop a prereflective mode of knowing, "a bodily way of being in sound" (Juntunen, 2004, p. 68) that forms the basis for subsequent reflective thought. Through causing a change in musical actions, embodied involvement also transforms (conscious) thinking and,

consequently, shapes both thinking in action and thinking as action (Juntunen & Westerlund, 2001).

Another way to interpret how body movements relate to musical understanding is to analyze their use as a physical metaphor: Music can be transformed into a physical expression, and bodily response implies the metaphor in structuring musical meaning. Bodily exploration of a musical meaning can imply various things: The teacher can guide students through certain physical metaphors—movements that seem to embody a certain musical meaning—that allow students to comprehend one (or some) aspect of it.[4] In this case, the process is primarily designed to teach students to be able to understand (prereflectively or reflectively), name, recognize, read, or notate a certain musical phenomenon—or all of these skills. Yet, physical metaphor is not necessarily only conceptual mapping from movement to musical understanding. According to neuropsychologist Jaya A. Seitz (2005a), there are different kinds of metaphors and they are largely nonconceptual and entail, for example, cross-modal mappings that may operate largely outside of conscious awareness. When a teacher offers a musical phenomenon (e.g., phrasing of a piece of music) for bodily exploration, meaning that the students are encouraged to freely explore the phenomenon through spontaneous movement without specific models or verbal guidelines or explanations, the exercise may aim to generate diverse performance options, resulting in improved nonconceptual or bodily understanding of the music. In this way, the kinesthetic response to music is then, at first, spontaneous and prereflective but gradually, as the process proceeds, becomes more intentional.

In my view, Dalcroze teaching is based on a belief that what can be known through bodily experience, while often incapable of being expressed in words, is known at a deeper and often more functional level. Movement-based learning is considered prereflective knowing and can be understood as a process of musical understanding that moves from the concrete doings of music making toward the abstract and/or conceptual. Bodily exploration of music can be followed by reflection and using words. To think, remember, and express one's experiences strengthens the mind–body connection and initiates a transformation of images, ideas, or the meaning of earlier experiences—and often all three. It can also initiate awareness of "I" as the subject of experience. In my

teaching practice, I often allow students to talk in pairs for a minute about their experiences right after being actively involved in an exercise or a process, when they have a fresh sensation of "having been moved." As a person uses words to describe or reflect on his or her experiences, these words embody the personal experience and hence have an immediate meaning for the person using them. Students also learn from each other through shared experiences. Although one will never experience and understand things as another person does, the words of another may initiate new understanding of one's own experience.

Practical Applications

The ideas of Dalcroze pedagogy can be applied to all levels of music education, including colleges and universities, early childhood education programs, primary and secondary schools, private lessons, and community settings for both newborns and older adults. In addition to music and music education, the approach is applied and researched in a wide range of academic disciplines and research fields including theater, dance, cinema, somatic education, special education, therapy, and gerontology (Mathieu, 2010). In some cases, the practical applications have developed so differently in different countries that one may question whether these different developments can be called the same thing.

Teachers usually create their own ideas, exercises, and materials and should be prepared to adapt them to fit each teaching situation. Music is explored through movement and other musical activities such as singing, listening, and improvising. Teachers can also organize singing games and songs with movement; folk, ethnic, and historical dances; and story creation and various types of dramatization. All of these activities are expected to form a logical developmental sequence—a process in which two learning modalities appear to be at work: the intellectual and the sensory. More specifically, there is "a cyclical and spontaneous flow from idea into action into idea" (Alperson, 1994, p. 242). Often, the process is designed around a musical subject or idea, for example, tempo, meter, phrasing, or form. As the process develops from easy to difficult, it involves students in a pleasurable experience at all times. Importantly, it partly is an extension of previous work and partly includes the presentation and manipulation of new material.

In school contexts, the content of teaching suggested by the curriculum can be approached through or enriched by Dalcroze exercises, which can be integrated with other activities in music classrooms. For example, a song can be learned through movement, a study of music history or ethnic culture can be enlivened by a dance, or the style and the rhythmic feel of music can be introduced through movement. When applying Dalcroze exercises in a school context, it is essential that the teachings offer the opportunity for each student to

- enjoy music through body movement and listening, enhanced with perception and understanding;
- express his or her own ideas, feelings, and experiences; and
- explore and become familiar with music from various times, places, and peoples.

Teaching Children in the Primary Grades

In the primary grades, movement exercises are easily integrated into music teaching because children naturally react to music with the whole body. Early Dalcroze experiences are dominated by the use of movement activities and free exploration. Children are asked to show with movement what is taking place in songs, stories, or music. With young children, Dalcroze teaching first encourages the spontaneous, intuitive movement reactions to music and only later focuses on refining them. As a result, bodily skills and physical expression are developed. As movements become rhythmical, a child will also learn to think and express him- or herself rhythmically (Jaques-Dalcroze, 1930/1985). The music is often improvised for children to follow, or the music follows the movement of the children. It is important that the music and its tempo support the movements of the children so that they can feel: “I am right” (Alperson, 1994). Research suggests that “children are most successful in rhythmic tasks when they are within a reasonable range of their personal tempo” (Abril, 2011, p. 119). Overall, children should be offered opportunities to perceive, respond to, and experience music through movement with their whole bodies and to learn to move, sing, and hear. As a result, according to Jaques-Dalcroze (1921/1980), they attain not only a love of music but also a desire to express musical feelings. Further, attention should also be paid

to improving the child's hearing faculties through the use of rhythmic-movement exercises.

The overall goal is to lead children from the most elementary to more sophisticated responses to the structural and expressive aspects of music. As children explore the world around them, their sensory perceptions evoke active movement responses, in which rhythms are unconsciously developed. They also receive aural and visual rhythmic experiences (e.g., a horse galloping). If children identify themselves further with what they have seen or heard, by imitating the galloping of a horse, for example, the original rhythmic experience is reinforced. The teacher's task is to direct children's natural capacities for rhythmic expression and to connect each child's capacity with the rhythms of music. When children learn to identify their movement patterns with sound patterns, music becomes a language easily understood in terms of their motor imagery. Visual attention to notation, which tends to distract from listening, is delayed until a later stage when the basic materials of music have been experienced and absorbed (Juntunen, 2002b). Basic concepts such as high/low or fast/slow in music can be explored by analogous body movements, which embody these abstract musical qualities. By their own experimental movements, children also discover spatial relationships, such as up and down, above and below, in and out, and back and forth, and they expand their movement vocabulary.

In primary grades, singing games and songs with movement are effective ways to integrate bodily experiences in music teaching. Select other practical examples follow (see also Mead, 1994):

- Exploring movement
  - Walking and moving in different positions and ways
  - Imagining movement in songs, stories, and pictures
  - Telling a story in movement
  - Expressing music with fingers, hands, and arms
- Sound and silence; starting and stopping
  - Starting and stopping the movement with music or a signal
  - Listening and anticipating sound and silence or a length of music
  - Responding to silence in music

- Beat, tempo, rhythms, and form
  - Realizing and experiencing the beat in movement (e.g., by bending the knees, jumping, walking, bouncing a ball, clapping in various ways, etc.)
  - Realizing and experiencing the beat by using props (e.g., by bouncing or passing a ball)
  - Adjusting actions to tempo changes
  - Feeling a steady beat twice as fast/slow
  - Creating movements for certain note values
  - Practicing rhythms in movement (e.g., by stepping, running, and skipping)
  - Realizing the form of a song or other piece of music in movement
- Listening and hearing (sounds, pitches)
  - Hearing and responding to high and low pitches through movement
  - Exploring through the voice and movement how sounds go up and down
  - Gesturing the direction of pitch in a simple song
  - Hearing, singing, stepping, and other gesturing, and recognizing tonal patterns
- Listening perceptively; moving expressively
  - Finding a suitable movement for a certain style of music
  - Encouraging children to explore and express various qualities of music in movement
- Exploring space and relations
  - Exploring a space, its limits, and its center
  - Exploring spatial relations, such as close and far away
  - Exploring places, such as above, behind, on the right, and so forth
  - Exploring a space in relation to others, for instance, side by side, one after the other, or in a circle, line, or chain

Teaching Students in the Intermediate Grades

Teaching in the intermediate grades builds on and further develops students' learning and skills developed in the primary grades. Earlier exercises and experiences should be repeated with a new challenge or level of difficulty, with a different emphasis or new music. Sounds and singing can be integrated in many exercises. Teaching may focus on developing understanding through discovery, recognition (aural and visual), performance, and creativity (Mead, 1994). Students should be encouraged to work with other students

in pairs and groups of various sizes. Various sorts of dances from different times and places can be introduced and integrated in teaching music. Also, various exercises of creative movement are applicable (see Figure 7.2).

[FIGURE 7.2]

As the students' sensitivity to timing develops, various rhythmic exercises and games can be introduced (see also Abramson, 1997), for example:

- Playing (circle) games with balls (e.g., bouncing and catching or passing the ball with the beat; tossing and catching an imaginary ball with music)
- Internalizing a form of music through movement
- Showing various meters by means of accents in movement or by movement patterns (e.g., conducting)
- Recognizing a meter in music through movement
- Singing and improvising in various meters
- Singing games and dances with a changing meter
- Showing the phrasing in movement
- Feeling the anacrusis and crusis of a phrase
- Hearing, recognizing, and reading the division of the beat
- Realizing various rhythmic patterns
- Realizing a canon in movement and singing
- Expressing various rhythmic feelings of different styles of music

Teaching Students in the Upper Grades

Students in the upper grades can be offered more challenging exercises while teachers make sure to foster progress for more advanced students, as well as to provide successful experiences for those with less experience. Much of what has been practiced in the intermediate grades can be reviewed and then further explored with music that is more challenging. Often, rhythmic exercises, including motoric challenges, are well received in this age group, as are various dances and creative exercises. If students do not have earlier experiences of moving with music, teaching should start with easy and inviting exercises, applying everyday movement expression and perhaps using music that the students are interested in, bearing in mind that students at this age are often self-conscious.

Some suggestions for exercises include the following (see Mead, 1994):

- Exploring movement expression
  - Expressing an idea (e.g., together, indifference, contrast vs. repetition) in movement in a small group
  - Showing a character with a walk
  - Creating a group movement-composition for a piece of music
  - Exploring forms and shapes (including statue poses) with the body (and continuing them by movement)
  - Applying real-life situations (drama) or pictures as a starting point for movement with or without music
- Rhythmic exercises
  - Exploring and responding to changes in rhythmic movement
  - Creating, realizing, improvising, and reading various rhythmic patterns
  - Responding to subtleties of tempo
  - Exploring augmentation and diminution in movement and song (e.g., rearranging a song with augmentation and diminution, e.g., Frère Jacques)
  - Performing exercises with syncopation (e.g., drawing from Latin music)

Some Advantages and Challenges

One of the advantages of Dalcroze teaching is that it allows one to develop music potential without instruments or instrumental skills through the medium of the moving body, which becomes, in effect, a musical instrument. The movement allows the student to learn (various aspects and styles of music) at an experiential level and provides an opportunity for the teacher to "see" the degree and the quality of learning. Movement activities allow for the energy and freedom inherent in everyday activities to be metaphorically transferred to the musical processes. Dalcroze principles and exercises can be applied in a multitude of educational contexts and with diverse learners. Dalcroze teaching is efficient since it addresses so many learning issues in one lesson. The practice allows and supports personal responses and invites individuals to learn from their own individual experiences. Making all the students join in the action at the same time creates a secure atmosphere in which students are offered a space to explore music and themselves.

While Dalcroze teachers generally have strong confidence in the benefits of the approach, they also identify challenges (see Juntunen, 2002a). It is notable, for instance, that it is very difficult, almost impossible, to explain the practice of the approach—you have to have personal experiences, which also form the basis for experimentation, testing of ideas, and finally, each teacher's own application. This is also an important issue because there are limited teaching materials available. Movement exercises in the music classroom require sufficient space (though many exercises can also be done in a limited space), careful planning, and preparation. Additionally, working with a large and exceedingly active group of students makes teaching susceptible to restlessness and behavioral problems. Students participating in Dalcroze activities do not always find the movement exercises useful or their experiences meaningful. There are also cultural differences. For example, expressive movements can be problematic for boys in certain cultures. Learning through movement can be difficult for students who are self-conscious about moving to music. This lack of ease, even embarrassment, may prevent them from enjoying participation and thus from gaining positive experiences. Therefore, it is important to create an encouraging atmosphere and to start with simple movements and easy exercises. Moreover, awakening the students' sensitivities toward movement and establishing their connection between sensing, thinking, feeling, and moving usually takes time, which is not always available. Further, Dalcroze teachers also acknowledge that Dalcroze training is not necessary for the musical success of all students. On the other hand, the bodily exercises integrated into music learning may be one of few opportunities for some students to experience and express themselves in a holistic manner, to learn from bodily experience, and to be in contact with others through music and movement. This does not, however, exclude looking for new possibilities, for example, possibilities using new technologies, which have not yet been explored sufficiently within Dalcroze teaching. Incorporating new technologies offers one direction for the approach to evolve in the 21st century.

Chervel (1998) criticizes Dalcroze teaching for the lack of proper means of assessment, which in turn, according to him, has prevented the pedagogy from being integrated properly in schools. Nevertheless, students' participation in music and movement activities can be argued to make explicit various skills (e.g., listening, bodily,

social, and creative skills) and understandings of music. In Dalcroze teaching, assessment is mostly formative, meaning that the teacher constantly observes the students and gives feedback to them during the teaching processes. This observation also informs a teacher's subsequent decisions and actions. When assessing learning, a teacher focuses on the general quality of the students' movement because this movement reflects their listening and understanding. Also, specific skills, such as being able to walk in tempo, can be assessed in a given teaching situation.[5] However, because the exercises are so wide-ranging and multifaceted, it is not always easy to monitor progress in all the various areas of work. Also, the assessment should reflect the experiential nature of the learning. Yet, a series of graded exams, as a summative assessment that tests specific developed skills, has been developed and is applied in Dalcroze programs (Vann, 2013).

The Impact of Dalcroze Teaching on Student Learning

Research shows that in music teaching, especially at the preschool and elementary levels, movement is used for developing body awareness, honoring student cultures, and reinforcing music concepts. A large body of studies suggests that the use of movement develops a student's sense of tempo and beat, rhythmic skills, and understanding of pitch concepts; the use of movement shapes and enhances music perception and listening, as well as improves singing and expressivity. It also has an impact on creativity and creative thinking. Furthermore, children generally react positively to movement activities in music instruction, and the use of movement seems to foster positive attitudes toward other music studies (Abril, 2011).

Within the Dalcroze approach, studies have mainly focused on the influence of Dalcroze teaching on the development of musicality and auditory or rhythmic abilities, as well as the approach's effects on music perception and understanding. For example, studies by Joseph (1982), Rose (1995), and Blesedell (1991) among kindergarten and first- and second-grade children suggest that there is a positive impact of Dalcroze exercises on the ability to recognize and respond to rhythmic patterns, demonstrate beat competency, and develop rhythm aptitudes. Crumpler (1982) examined the influence of Dalcroze exercises on the melodic musical growth and pitch discrimination abilities of 76 first-grade children. Crumpler's results showed a significant improvement between

pretest and posttest scores of a group that participated in Dalcroze exercises, whereas a control group not participating in Dalcroze exercises demonstrated no particular improvement. Carvalho's (2013) study investigated the development of motor and rhythmic skills of 8- to 9-year-old children attending a weekly music class during one academic year. Carvalho reports that a group of children to whom more movement activities were offered achieved higher final-test scores, became more rhythmically rigorous, and gained bodily musical expressivity while performing compared to a control group who focused on playing instruments in an Orff setting.

Moreover, participants' experiences have been examined. Habron, Jesuthasan, and Bourne (2012) examined experiences and perceptions of student composers at Coventry University, England, after participating in a series of optional Dalcroze lessons. Two-thirds of the participants reported indirect influences on their compositional work, such as improved aural awareness, altered understanding of music, or gain in musical knowledge. All participants enjoyed their engagement with Dalcroze teaching and the majority identified learning though movement as an engaging and eye- and ear-opening experience. Finally, van der Merwe's (2015) study examined first-year bachelor-level music students in South Africa; she reports that Dalcroze-inspired activities during a music education module had, among other things, enhanced students' creativity and understanding of musical elements.

The impact of Dalcroze teaching on student learning has been promoted by practitioners and verified by participants' personal testimonies (Schnebly-Black & Moore, 1997). For example, after working for over 20 years with children from very diverse backgrounds in inner-London primary schools, Hadley (2013) argued that applying Dalcroze ideas whenever possible to music lessons resulted in immense benefits. According to her, the experience of moving to music appeals to children from a wide range of backgrounds and abilities; deepens understanding of musical elements (e.g., pulse, tempo, rhythm, phrasing, duration, and structure); develops coordination, concentration, and cooperation in class; provides opportunities for creative work; and, most of all, generates a love for music, which the children have made their own.

Conclusion

All in all, the faults Jaques-Dalcroze identified in the institutionalized music education of his time were related to the general disembodiment of experience in Western culture, specifically, the dualistic view of mind and body within the professional education of musicians and the nature of knowing in this dualistic framework. By "knowing," I mean predominantly understood as being gained through visual sense and intellectual thinking instead of through hearing, feeling, touching, or doing. A similar critique of the dualistic view of the human being was expressed in the early 20th century on a more general level and has grown extensively over recent years, becoming an almost common-sense stance in science.

Jaques-Dalcroze aimed to resolve the imbalance caused by the intellectualization of musical knowledge and the tendency toward abstractions, without practical roots or bodily connections in learning practices. Therefore, his pedagogical reflections concentrate on searching for ways to combine sensing, feeling, thinking, and bodily action by linking listening and body movement, making students both kinesthetically and mentally active, and making his students experience things for themselves. Thus, the Dalcroze approach can be regarded as music pedagogy that invites us to recognize the embodied dimensions of learning.

It seems that the main arguments of Jaques-Dalcroze are still relevant in today's educational contexts. The close relationship between music and human-body movement persists and has continued to be pointed out by subsequent scholars.[6] Also, the importance of the body and movement in learning has been recently addressed. For example, Hodges and Gruhn (2012) argue that one of the most important aspects for education coming from brain research is the involvement of the body and movement in the learning process. They maintain that "if learning is seen as the development of mental representations, it is crucial to understand that the only way to build representations in the cortex is through body movement" (p. 212).

However, within teacher education, the possibilities and challenges of the Dalcroze approach, as of any, should be discussed reflectively and critically (Juntunen & Westerlund, 2011). This could take place, for instance, through rereading and thus reconsidering what the specific problems related to musical growth or musical practices

are that an approach or a method identifies and aims to solve. Through critical stance, music educators can become aware of and articulate what is taken for granted, canonical, and expected, and what needs a better explication. Critical analysis may also help teachers and students recognize the essence of each music education method, reflecting reasons for actions, assumptions, and values. This could make our pedagogical thinking more explicit because teachers' normative ideals concerning growth in pedagogical practices often remain implicit and are often based on teachers' own unreflected learning experiences.

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Figure 7.1.

A melody for Sample Exercises A and B.

Figure 7.2.

Sample Exercise: Four participants form a diamond (there may be more participants inside the diamond) so that whoever is the "leader" has his or her back to the rest of the students in the group. The leader moves slowly (in place) expressing the music, while the others follow the leader's movements. When the leader chooses to pass on the leadership to the next person, he or she turns 90 degrees to the left or right.

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[1] For practical examples of these typical exercises, see Urista, (2003, video clips 1–4).

[2] For an overview of Dalcroze solfège, see Thomsen (2011).

[3] For further information concerning the Dalcroze training, teaching, areas of study, and materials, see Le Collège de l'Institut Jaques-Dalcroze (2011).

[4] Following Lakoff and Johnson's (1980) definition of metaphor, a physical metaphor can then be understood as abstract from the concrete body movement, a bridge connecting the concrete and the abstract.

[5] For assessment target areas, see Le Collège de l'Institut Jaques-Dalcroze (2011).

[6] For example, when surveying recent literature on the physiological and neurological bases of musical expression, neuropsychologist Seitz (2005b) notes that all major elements of music (melody, rhythm, phrasing, accents, microvariations in timing, dynamics, and harmony) are informed by, and draw on, bodily processes. Because of the unbreakable bond of the auditory and motor systems in music perception and interpretation, it is fundamental to place the body and movement at the core of music education. "That is why Dalcroze's seminal understanding of the role of the body and movement in music and musical pedagogy is so important to musicians, musical educators, and psychologists today," Seitz argues (p. 431). Also, several other scholars (e.g., Bowman, 2004; Bowman & Powell 2007; Rabinowitch, Cross, & Burnard, 2011) urge us to recognize the body's central role in music cognition and creativity, and to identify music as a kind of embodied mode of being.