

INCLUSIVE PRACTICES AND MUSIC EDUCATION: EDWIN GORDON'S THEORY

PRATICHE INCLUSIVE ED EDUCAZIONE MUSICALE: LA TEORIA DI EDWIN GORDON

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Abstract

The musical experience in the past years was considered an auditory and relaxing break for the activity of the mind (Delfrati, 1989; Badolato & Scalfaro, 2013), afterwards music became an educational current, introduced in the programmatic educations in the national school system (MIUR, 2012; 2018; D.lgs. n. 60/2017) according to this the music have a great value to promote the development of the personal skills (MPI, 2007; UE, 2018) expected for all the students at the end of the first cycle of education. In the following work we are going to expound some kinds of trials about how the music education can be an effective tool and its related physical activity through by the administering of the Intermediate Measure of Music Audiation to a group of 23 kids, among them a child with SLD, attending the first year of secondary school. The test allow to carry out an “*idiographic and normative analysis*”: specifically it has been measured l’*Audiation*” (Gordon, 2017), that shows the entire process that, evolving body and mind, allow the understanding of the music and the acquisition musical of skills and tools. The first results of this preliminary study make it possible to understand that «the true knowledge is you have when the information is embodied in the experience itself [...]» (Lotto, 2001, p. 28).

L’esperienza musicale in passato veniva considerata un passatempo uditivo e una pausa riposante per l’attività della mente (Delfrati, 1989; Badolato & Scalfaro, 2013), successivamente si è consolidata una corrente educativa, sfociata anche nelle recenti indicazioni programmatiche dell’ambito scolastico (MIUR, 2012; 2018; D.lgs. n. 60/2017) secondo cui la musica possiede una forte valenza nel promuovere lo sviluppo delle competenze (MPI, 2007; UE, 2018) previste per gli allievi alla fine del primo ciclo di istruzione. Nel presente lavoro esporremo una serie di prove sull’efficacia dell’educazione musicale e delle relative attività corporee, attraverso la somministrazione dell’*Intermediate Measures of Music Audiation* ad un campione di 23 bambini, di cui un soggetto con DSA, iscritti al primo anno della scuola secondaria di primo grado. Il test consente di effettuare un’*analisi idiografica e normativa*”: nello specifico è stata misurata l’*Audiation*” (Gordon, 2017), che indica l’insieme dei processi che, coinvolgendo mente e corpo, permettono la comprensione della musica e l’acquisizione delle competenze musicali. I primi risultati emersi di questo studio preliminare consentono di affermare che «la vera conoscenza si ha quando l’informazione è incarnata nell’esperienza [...]» (Lotto, 2001, p.28).

Key-words

Musical experience; Audiation; inclusive practices; Intermediate Measures of Music Audiation

Esperienza musicale; Audiation; pratiche inclusive; Intermediate Measures of Music Audiation

Introduction

It was in the late 1970s (D.M. 1979), until the reform of primary school curricula (D.P.R. 12 febbraio 1985) that the Kantian belief that music is pure enjoyment and not culture was overcome (Kant, 1997). The musical experience in the past was considered an auditory pastime and a restful pause for the activities of the mind (Delfrati, 1989; Badolato & Scalfaro, 2013), but after that moment an educational current was consolidated as a result in modern regulatory indications (Legislative D. n. 60/2017; MIUR, 2012a) according to which music has a strong value in the development of skills recognized to children at the end of the first cycle of education.

It has even been possible to verify how music plays a key role in intervening in those areas that present a distress.

On 6 July 2021, therefore very recently, the decree n.1099 was issued by the Department for the Education and Training System the importance to implement in the educational offer which will offer music projects framed in an intercultural and inclusive context. Therefore it's provide for the participation of all students.

The use of music in the implementation of school inclusiveness projects is also recommended by the current national literature (Chiappetta Cajola & Rizzo, 2016 and 2019; Rizzo et al, 2020) and by the international (Uesco – Kaces, 2010; Nussbaum, 2011; Booth & Ainscow, 2014; Darrow, 2016).

For these purposes, the inclusion of musical activities is proposed as necessary as they are capable of having a positive effect on students both in terms of their academic skills and in terms of executive functions. Furthermore, musical activities favor self-control and the recognition of emotions, both affective and social and which therefore contribute to the formation of a sense of respect towards differences (Rizzo, 2018 and 2021).

The positive influence of music on cognitive enhancement has also been found in studies carried out in the field of neuroscience, especially those concerning learning language, of which music is even considered an authentic neuroprotector.

In this field, music is considered very useful, being accessible even in the face of severe disabilities; it engages a vast neural network, and finally touches various cognitive and emotional potentials of students, including those with special educational needs.

Understanding the connotations of the didactic interventions that facilitate students in participating in musical and instrumental education activities should be essential to enhance and recognize the effectiveness of the aforementioned interventions in the inclusive context; schools are continuously urged to adopt inclusion activities, but the main objective of scientific research in the special education field, is precisely «to propose a list of guiding principles for the establishment of a frame work for the evaluation of the inclusion quality» (Ianes & Dell'Anna, 2020, p. 115).

1. Materials and methods

Professor Edwin Gordon, a famous university lecturer, has been a researcher for numerous scientific journals. Of the utmost importance are his studies regarding musical aptitude, the

Audiation (musical thinking), the mechanisms underlying musical improvisation and the study of movement in relation to the development of the rhythmic sense.

He was the founder of the *Music Learning Theory* as well as the author of important publications in the field of music education and psychology of music. The MLT, founded on over 50 years of research and observation, is based on the basis that music can be learned from an early age through processes similar to those with which language is learned. The main objective of the MLT is to encourage the development of the child's musical attitude through its potential, methods and times.

The primary skill for the teaching based on the MLT method is the Audiation that Gordon defines «ability to hear and understand music in one's mind that is not physically preset in the environment» (Gordon, 2008, p.4). The ability of Audiation begins from birth and develops in an environment rich in musical experiences through an informal guide. Thus, the child is informally guided by the musically competent adult through games, direct examples and movements.

Gordon defines musical aptitude as “learning potential in music”. From his studies it emerges that the musical attitude develops in the first years of life, up to the age of 10, and then remains almost stabilized for the rest of life. To keep the level of musical aptitude as high as possible, a rich and stimulating musical environment is essential from the neonatal age. In the child of about 10 years there is a stabilization of the musical attitude so that it will no longer be modifiable. Instead, it will always be possible to work for the increase of musical performance, on the basis of individual aptitude. It's meant the learning potential of music while the performance concerns what is learned.

Tools

The *Intermediate Measure of Music* (IMMA) is a test designed by Edwin Elia Gordon (USA, 1927 - 2015) for measuring the musical aptitude of school-age children. IMMA scores can be useful for performing an idiographic analysis (comparing a child's tonal score with his rhythmic score) and a normative analysis (comparing each child to each other). The IMMA includes two tests: Tonal and Rhythmic.

Each test is recorded on separate tracks. There are forty questions for each test. A child does not need to know how to read writing or music, nor does he need to know numbers in order to use the answer sheet for each test.

Therefore no formal musical performance is required to answer the questions. The child answers the questions presented in the tracks by making circles around the figures on the answer sheet.

The Tonal test should be administered first on one day, and the Rhythmic test on another, administering the two tests no more than two weeks apart. Tonal tests are devoid of rhythm, while in rhythm tests there is no pitch variation. Each of the two phrases that make up the question in tonal tests is a tonal pattern, just as in rhythmic tests the questions are made by rhythmic patterns. Tones in tonal test phrases are played in beats of equal length, while notes in rhythm test phrases are played with the same pitch.

Each of the forty items of the IMMA's tone or rhythmic test is identified on the audio recording with the name of an object (for example, a car or a spoon). After the name of the object is announced, the child will hear the word “FIRST” followed by the word “SECOND” followed by the second sentence. There are five seconds between the items to allow the child to hear in audiation and mark the answers on the appropriate sheet. If the two sentences sound the same, the child will draw a circle around the box with two equal faces placed under the image of the object announced by the recording. If the phrases sound different, the child will

make a mark around the box with the two different faces, under the image of the object announced by the recording.

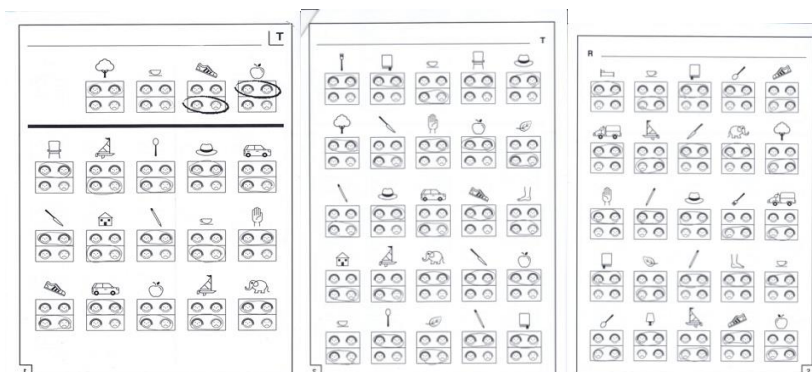


Figure 1. Model of the answer sheets of the IMMA

Aim

The aim of the research is to measure the aptitude of children attending the first year of lower secondary school. Music aptitude is the learning potential of music and is measured through “*Audiation*”. Neither short-term nor long-term memory is required in the IMMA and the listener reacts to first impressions with intuitive responses to what is audibly perceived in terms of similarity and difference.

Sample

The sample is made up of 23 children (male = 12; female = 11), one of whom with SLD, all attending the first class of a lower secondary school in Salerno.

2. Data analysis and discussion

The Intermediate Measures of Music Audiation provides two types of scores. These are the “raw” score and the percentile ranks. A raw score is a simple count of questions that were answered correctly in the test. The meaning of a raw score changes depending on the length and difficulty of a given test. Therefore, the raw scores are usually transformed into another type of score, to compare the status of students on one test and to compare the relative status of students on different tests. Percentile ranks are mostly used as standard score types for the purpose of interpreting test results. The following three scores are derived from the IMMA: Tonal, Rhythmic, Composite. The composite raw score is given by the sum of the tonal raw score with the rhythmic one. For the purpose of analysis and recording, the test results are shown in Table 1. As regards the interpretation of the IMMA results, the following is attributed: high aptitude 80-90 percentile; average aptitude 21-79 percentile; low attitude 1-20 percentile.

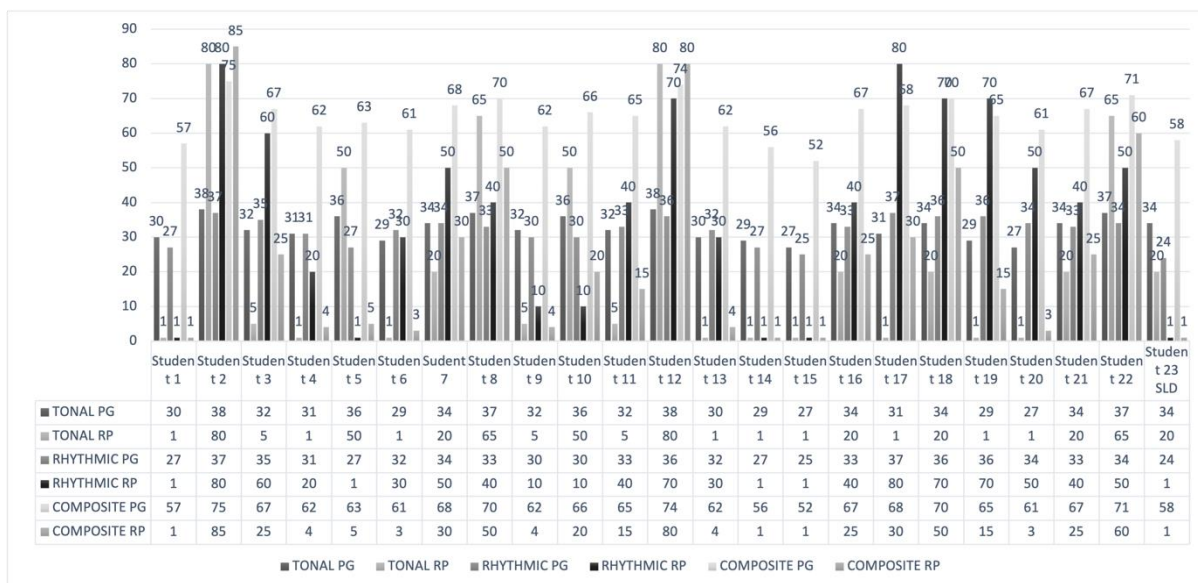


Table 1. Score class register

The percentages related to aptitude were calculated (*Table 2*). From the scores obtained it emerged that out of 23 participants: 13 therefore 56.52% have a low attitude, 8 or 34.78% an average attitude and only 2 or 8.69% a high attitude.

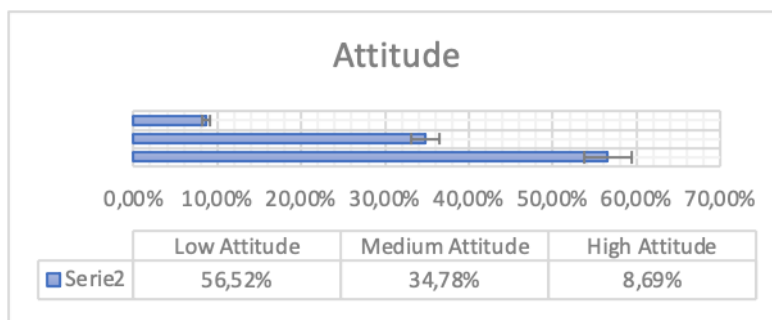


Table 2. Attitude

Starting from the data reported in *Table 1*, the average of the scores was calculated (*Table 3*). From the scores obtained from the tonal test an average of 32.65 was measured. From the scores obtained from the rhythmic test an average of 32 e was obtained. Finally, an average of 64.65 was calculated for the composite score. Comparing the mean of the scores of the tonal test with that of the scores of the rhythmic test, it is observed that, although the raw values are similar, in relation to the corresponding percentile ranks, better performances were recorded in the rhythmic test.

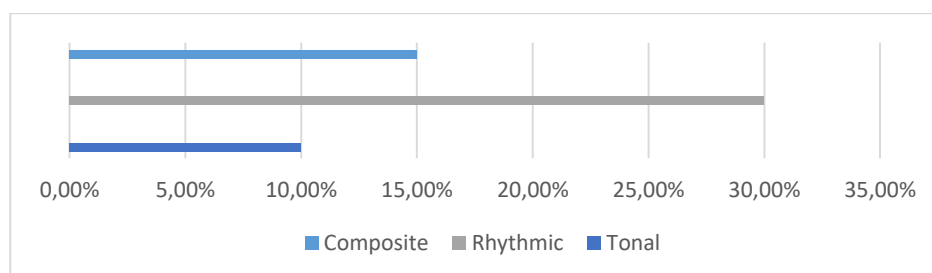


Table 3. Mean

Observing the scores of the pupil with SLD it is clear that the score of the tonal test is higher than the average of the peers, in this case equal to 32,59. The score of the rhythmic test, on the other hand, is lower than the average of the peers, in this case equal to 32,36.

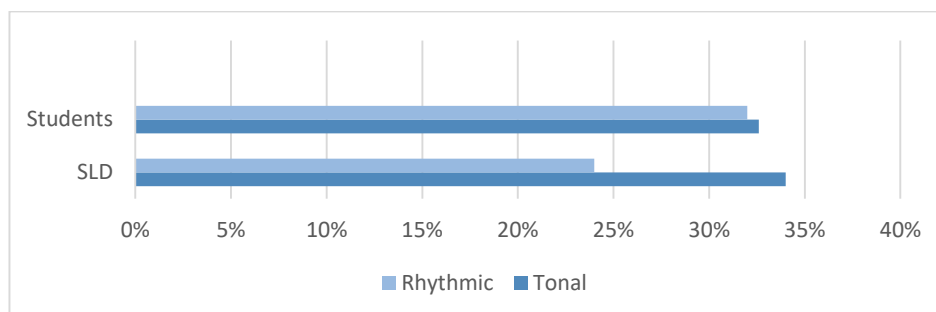


Table 4. Mean subject with SLD

Recent studies by Maria Teresa Guasti et al. clearly show that dyslexia, as a specific reading disorder, manifests itself with difficulties in decoding the text linked to an inadequate elaboration of the rhythm. The latter plays a relevant role in dyslexia because it gets used to perceiving the immediate future and prepares to act at the right time, an essential requirement for a fluid reading. The dyslexia disorder therefore also affects motor skills in that it compromises the development of rhythmic and coordinated movements. It goes without saying that a rhythmic training or a musical practice can represent a valid help for people with dyslexia as music and dance sharpen the ability to anticipate the future and therefore optimize the mismatch between voice and glance.

The concept of Audiation (term coined by Edwin Elias Gordon) indicates the set of processes which, involving mind and body, allow the understanding of music and the acquisition of musical skills. By means of these cognitive processes we can attribute meanings to sounds within musical language. The audition processes can be activated when we listen to and understand within us music that is no longer physically present, or has not yet been. This can happen in different ways: while listening to a song, allowing us to “predict” what will follow; in singing or playing an instrument, either by ear or with the score; in writing and composition. Audiation corresponds roughly to what thought represents for verbal language: when we listen to someone speak, we retain the words within us and give them meaning in relation to our ability to understand verbal language; in the same way, thanks to our Audiation, we organize musical sounds that we have just listened to or that are part of our purchased repertoire and give them a meaning. The protagonist of this complex process is the body. The sensory experiences of listening and movement are the fundamental ingredients to inaugurate the process of knowledge and to keep it always active in the body, where the music lives. Although the parameters of sound in music are many, the processes of Audiation are above all involved in giving meaning to sounds related to their syntactic, rhythmic, or tonal function. The development of Audiation processes and skills includes the ability to express oneself in an objective rhythmic or tonal syntax and to recognize rhythmic or tonal functions and patterns.

This project studied the importance of using the musical instrument in creating relationships and had as its objectives to ensure predictability, increase attention spans, develop visual-spatial and motor skills, allow verbalization and understanding of experiences, increase the self-esteem and increase group cohesion.

3. Music teaching and SLD

«Music makes sense in the educational process because rhythms, sounds, sound timbres, musical order are part of our growth even before we are born» (Trovesi, 2007, p. 29).

In fact, music is one of the most useful tools for the transversal growth of the student in almost all disciplines: it improves not only the skills that depend on language, but also, very important, the attention span, motivation and memory.

The formative capacity of music, as well as having been proven through school practice, has been demonstrated through modern studies, which have highlighted through various researches that this educational power derives from biological, psychological and sociological elements.

In fact, studying neurosciences it emerged that there are direct relationships between musical activities and the aptitude for reading, writing and calculating, i.e. all those skills that are not only linguistic and related to memory, but are directly linked to motor activity and corporeal.

According to the new studies, music would have such a vast area of action, such a broad power, because it is connected to a plurality of brain areas, which are those that are set in motion during musical activities.

Through *tomography and positron emission* (PET) it has been deduced that the various musical activities activated in the brain are not only numerous, but distributed in both hemispheres.

In particular, there are important studies which have shown that the Broca area is the seat of the main functions of language useful both for music and for fine hand movements, proving the strong neurobiological link that exists between music, language and movement. The coordination of these functions is given by a hierarchical order among several elements: just think for example of the ability of hands and fingers to coordinate when it comes to making small precision movements.

An important discovery was made by an Italian scientist Gabriella Musacchia at Northwestern University in Illinois: she showed that music can make the neural mechanisms necessary for language stronger and this would be the way to go to provide help to children with dyslexia or who have difficulty developing language skills.

The educational capacity of the musical experience is probably also due to its link with the affective sphere, as evidenced by the studies on the limbic system (Bencivelli, 2007, p.54) which is located in the cerebral cortex and has the task of providing gratification to the individual whenever he performs a useful or pleasant action for himself or for the other, activating a hormone, dopamine, which in the sympathetic nervous system, causes the acceleration of the heartbeat and the raising of the pressure generating energy, attention and pleasure.

Furthermore, music has the function of «fostering connections between people, thanks to its emotional significance collective phenomena», as well as the ability to influence the mood of adults and children (Bencivelli 2007, p. 122).

Also, according to Fraisse's studies, which emphasize the rhythmic and repetitive aspect of music where «repetition generates rhythm and rhythm is a fundamental aspect in natural processes» (Fraisse 1996, pp. 12-14) showing the man to move and thus get a feeling of satisfaction. Fraisse writes: «[...] We know that a complex participation of the higher nervous centers corresponds to this perceptual-motor synchronization. Everything that is perceptible is primarily of the cortical order, but the kinesthetic particularly excites the diencephalon, that is our affective brain [...] It is essential to underline how this synchronization [...] has the direct consequence of making rhythm a social experience, as the same causes produce identical effects

in all those exposed to them [...] The dances, the marches, the choral singing, are collective phenomenons and the rhythm finds a new dimension in them» (Fraisie 1996, p. 92).

In light of all this, and from the didactic-pedagogical point of view, the opportunity emerges to suggest in compulsory school learning units that include targeted music-motor experiences, which if carried out continuously would facilitate school learning even in children with special educational needs, dyspraxia or other difficulties.

But in addition to all this, music offers learners to learn in a dimension of pleasure, fun and choral, all elements that can provide greater motivation to perform the exercises and overcome the boredom of repeating them.

The usefulness of the use of music is revealed above all in helping children with learning difficulties to overcome the lack of the natural impulse to explore the surrounding environment, to repeat and learn through games that can strengthen the intellect and body of the subject.

From all these reflections a new teaching method emerges, which concerns the multiplicity of the intellectual resources of children and their equally multiple to gain experience, focusing on a synergistic development of the potential of the hemispheres.

It would be advisable for teachers to reflect on the different cognitive value that each learning possesses. We can indeed underline

1. a restorative value, which makes it possible to increase certain skills through different ways, where those in use are found to be difficult to use;
2. a “supportive” value, in the sense that it can facilitate the development of alternative skills to those that are difficult to achieve.

Naturally, in order to carry out a good teaching activity, musical operators must discern between the various and different actions that they can implement to make students acquire the transversal skills we have talked about. Often it will be necessary for them to develop programs that aim at the development of both transversal-basic skills, that is, perception, space-time organization, lateral dominance, body schema, etc... and that lead to results more typical of musical subject.

Therefore, the work is made up of various facets, without forgetting to enhance the music, as often relegated to a corner, but also to keep in mind that we must always arrive concretely at a more pleasant and effective school learning for all children.

Conclusions

To understand the importance of musical education in school it is appropriate to start from the meaning of the word “socialization”.

Socializing means conforming to standards of behavior, thought and action and this happens for children simply by immersing them in a world that accustoms them to certain common conditions day by day (Parlebas, 1997, p. 149).

For Emile Durkheim «education consists in a methodical socialization of the younger generations». «A “social” individual is therefore a subject well adapted to the society in which he grows up. [...] Meets the expectations of its environment. [...] » (Parlebas, 1997, p.155)

Therefore, the key concept that characterizes the phenomena of socialization is precisely that of institution» (Parlebas, 1997, p.149).

In educational institutions, the most suitable activities for students’ socialization are those actions together with others, connecting one’s behavior with that of one’s classmates, coordinating, communicating through the body.

We understand, therefore, that we will not close ourselves in the study of psycho-pedagogical behaviors of the educator and educating, but we will broaden ourselves to the concept of socio-pedagogy that deals with the entire network of possible intercommunication starting from one subject to others.

Obviously, this approach should not be absolutized nor in some cases excludes the usefulness of individualized or personalized teaching that is talked about so much, especially with regard to compulsory schooling, in which the uniqueness of the student is always considered as a priority.

In reality it is natural that the teaching should be adapted to each individual, but the teacher is required to include each child in the multiplicity of experiences that the group can offer.

Each component of a set of individuals has a single psychomotor role: that is to say an organized series of motor behaviors, in some way attributable to an explicit and common code, where the psychomotor dynamics itself can be modified by the changes of role that may occur in the created network of which you are a part and which we will call *ensemble*.

The ensemble contains a friendly network of relationships and a socio-affective structure of which the child becomes a part and which constitutes the so-called “atmosphere” or “morale”.

Those who (educators or pupils) enter into communication through movement or, in our case, music, create a profound empathic resonance made of relationship and cooperation, if we leave aside an agonistic vision, where cooperation consists in looking for a sound together, a harmony, a notam a sound experience that becomes so much shared.

Understanding all this leads us to no longer consider musical activity as a fun tool in company, but just as a pedagogy of musical behaviors which can be influenced to make the individual’s personality grow (Parlebas, 1997, p.33).

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