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Musical Education aspects in the contemporary school based on the Theory of Multiple Intelligence

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Abstract: *What is intelligence? Which are the most important characteristics of it? Starting from these two questions that have a powerful impact over the researchers, Gardner fulfill to present a new meaning sense of the termen - intelligence, which continues to be discussed. During the article we will present some connections between the musical education systems of the 20th-21st centuries and the Theory of Multiple Intelligences. Even though some of them appeared before the theory, through his affirmations, Gardner manages to prove that the musical intelligence isn't just a talent, it is in every human being. The study of the Theory Multiple Intelligence and the deepening of some of the well-known music education systems led to design and develop of some attractive and efficient music activities in school.*

Key-words*: psychology, improvisation, composition, creativity*

1. Introduction

According to *Dicționarul Explicativ al Limbii Române [The Explanatory Dictionary of the Romanian Language]* (Coteanu, Mareș 1998, 497), intelligence is the way through which we can create connections between things and ideas. The meanings of the word given by the researches reflect the way in which we can prove how intelligent is a person. In the beginning of the 20th century, William Stern create an IQ test and after him, Howard Gardner, through his studies, certified how many types of intelligence a person has.

Using his own musical skills, Gardner made some remarks, regarding the existence of the musical intelligence in every person, in his discoveries. The aim of music education, like in other areas, is to improve the music knowledge, develop the existing skills of vocal or instrumental practice, understand and judge the

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musical language. All these can be trained from a very early age. We need to guide properly the learning process and everything will continue to develop the musical knowledge during the entire life.

The musical approach of the intelligence was researched by teachers, composers and the musicians of the 20th-21st centuries. Their works, even though were realized before Gardner's research, help to understand better the way in which the musical intelligence, mentioned by Gardner, may be consistent for what they proposed. In his works, Gardner validates the musical education system of Shinichi Suzuki, regarding the development of the musical skills of a child.

2. Briefly ABC about the Theory of Multiple Intelligences

Howard Gardner made, in the early 1980s, a critique about the IQ test, well-known in the world since 1912. Through the new subject, Gardner fulfill to attract both, supporters and the attention of some skeptics who didn't find the message depth comunicated through his studies.

Being a young pianist, passionate in the 1960s by the study of the cognitive psychology, Gardner discovered the fact that arts weren't mentioned, in the domain of academic psychology, in course books or other scientific research. His wish, to find new modalities to include the arts in the cognitive research, has made him founding with other colleagues the *Project Zero*, where, until the year 2000, he was codirector. After finishing the Ph.D. studies, he continued to be interested in various brain injuries and the way in which they affect the cognitive functions of the people. In 1979 he received the invitation to join the initiative of the *Bernard Van Leer* Foundation, which dealt to human cognition in biological and behavioral discoveries applied in science. Thus, the opportunity arose to learn, observe and synthetize the evolution of the cognitive abilities in normal and with disabilities children.

If in the beginning, Gardner considered that terms like skills, talents, abilities are the keywords of his research, after some time, he thought that *intelligence* is more appropiate for his studies, fact that connected his work with the IQ test, developed in the beginning of the 20th century. If in the classical psyhometric view, intelligence is operationally defined as the ability to answer questions of different areas of understanding, in Gardner's view, intelligence is the computational ability found in human biology and psychology (Gardner 2015, 14). Through his book, *Frames of Mind*, Gardner draws attention that humans don't have a general intelligence, but they can own seven types, in different combinations for each individual. The differences are caused by the development environment, cultural

factors which contributes to the formation of the children, how the parents are involved in the education of their child, genetic factors, etc.

The Theory of Multiple Intelligences (hereinafter named as TMI) was developed after, but the most important thing that we need to remember is that every person has all kinds of intelligence, but one or two have a higher share, being better highlighted in his personal learning style and personality. These considerations led to the application of TMI in mainstream education, where appeared the need to know as well as possible the student as an individual and the desire to work in an organized framework that required the development of multiple intelligences.

These forms of human intelligence have been identified by observing various types of individuals and situations in which intelligence was manifested. These include knowledge about normal development and the one of gifted individuals, information about impaired cognitive abilities in the event of a brain accident, studies about well-known researchers, historical development, support based on psychometric research, identification of basic operations, gifted children and scientists, and the susceptibility to be coded in a symbol system (Armstrong 2009, 14). With all the gathered information, Gardner was able to discover the types of intelligence that cover a variety of areas that people can try throughout life. In the absence of a psychometric evaluation, TMI doesn't find the dominant intelligence, but leaves open the option to develop the intelligences equally. The most important is the cultural product presented in the community as an achievement of the individual. Basically, Gardner, through his theory, finds problem-solving skills by developing points that we consider weak.

Following his extensive research, since the writing of the original book on the TMI, he has managed to identify three distinct meanings of the term *intelligence* (Gardner 2015, 44). The first refers to intelligence as a characteristic of the species. The second brings into attention the individual difference, being the most often sense used by psychologists. This is due to the way in which individual particularities can be examined in a various way. The latter sense leads to the proper fulfilling of a task, by identifying the right way to find a solution about what needs to be solved. Thus, we can say that each of the three meanings leads to one of the fields: lexical, scientific and educational.

By exposing a practical view to its readers, Gardner is able to demonstrate the applicability of the TMI in schools and high schools, based on an experiment. Following its application, he discovers three educational implications that are based on the individualization of teaching and evaluation process, the need to create articulated educational goals and the advantages of multiple representations of key concepts (Gardner 2015, 67). The idea of a student-centered

education is a phrase that appeared in the vision of all teachers and researchers of the 20th century and which continues to be debated to this day, in order to identify solutions. According to Gardner, it is necessary for the educator to know as much as possible about the development of each child, the limits and skills he has, being necessary to present them to other teachers, parents and children for possible future actions, where they need to find a better definition. The teacher's activity isn't finally done, for the moment, but it continues to be achieved by adapting the school curriculum to the student, requiring a content planning, the use of appropiate teaching strategies for students and conducting suitable assessments. It is also necessary that the teacher, who have all the information about the children, to be able to guide children and their parents in choosing extracurricular activities, with a vocational role and to get a strengthen of a certain inclination that the child has.

Even the modality in which the operational objectives of a lesson are conceived is changed because it must give a greater weight to practical activities than to the transmission of the scientific content. Gardner supports the creation of educational content that promotes critical, creative and interdisciplinary thinking, the use of technology, etc. (Gardner 2015, 70).

The TMI has been criticized over time and continues to be debated during these days. The majority of the critics of Gardner's theory come from academic or school, scientific or journalism environment, especially from America and after that from the rest of the world. Gardner's desire was to convince psychometricists that intelligence could be conceived in a broader form than the one presented in 1912.

3. The TMI and the musical education systems relationship

Howard Gardner's experiment once again states the major influence of the social environment on children's development and the importance of their knowledge and types of intelligence by the teacher. By studying the existing methods and music education systems, we can demonstrate that the education models developed by teachers and musicians involve several types of intelligence, as the ones described by Gardner. For the contemporary school, finding those teaching strategies, that can develop children's intelligence, other than music, appears as a necessity and as a condition for students to be stimulated and actively involved in music lessons.

Gardner considered three very important components in order to develop the types of intelligence, where music represents a individual part: solving problems in everyday life based on learned skills; the need to create a product or to realize a professional activity from a creative perspective; and the ability to identify

problems that can be solved by acquiring new knowledge (de Beaurepaire 2002, 12). Based on these three rules, Gardner identified the initial seven types of intelligence, which were later completed, so that they now number nine.

Musical intelligence is characterized by the appreciation and identification of rhythms and melodic lines with different patterns, the differentiation of musical instruments, as well as the portrayal of the variety of musical styles. Although, at first, this type of intelligence was considered to be rather a talent, research has shown that each of us is born with a musical sense. Not for nothing, Zoltán Kodály mentions the role of music in the development of the child from an early age, the first six years being the most important for acquiring musical skills (Chircev 2009, 41). Starting from this premise, the type of intelligence where music is the foundation, proposed by Gardner, can be framed as an intelligence such as linguistic, logical-mathematical, etc.

Music is used to communicate, learn, share with others and last but not least, it is passed down from generation to generation, thus becoming the history of a family (Armstrong 2019, 36). All these activities can be done interdisciplinary, the music education teacher requiring a complex training. The involvement of other types of intelligence, in order to increase the musical one, contributes not only to the creation of connections, but also to the active participation of the educated person in the development of his own personality.

Musical intelligence has four fields in which activities tend to be organized. For each of these areas, Gardner was influenced in the development of his theory by the 20th century music education systems.

The development of musical hearing is based on active listening. Each participant receives a set of questions that must be solved by listening to a musical work. Most often, people don't listen to music actively, but on the contrary, music accompanies them during other activities, being rather part of the environment. The active listening method was mainly used by Shinichi Suzuki, in order to teach children to play an instrument, but it is also very important in the Willems method. Even Gardner, in his works, mentions the Japanese pedagogue when he refers to how we can develop children's reception skills. Both for Suzuki, Édgar Willems, Maria Montessori and also Jos Wuytack, mention the environment as one of the most important factors in the development of musical skills.

How we can create music? We give free rein to our imagination and let ourselves be engulfed by the energy of the place where we are. In order to activate the creative potential of the students, it is necessary to use all the other types of intelligence, and the teacher to stimulate their engagement, by implying them in the work tasks given. Writing lyrics or just doing some movements gives us the right inspiration to make a musical improvisation. This appears in Carl Orff's, Zoltán

Kodály's or even Battia Strauss's systems. Whether, we start from experiencing rhythms through the use of body percussion or we talk about the involvement of the human voice, the methods manage to lead students to the realization of musical examples (practical or written), through their own experience.

If we learn musical notation, we can decode a set of symbols that we need to use in musical activities. Through rhythmic and melodic notation we give birth to musical patterns, we get to discover the difference between a musical noise and sound and last but not least, we create music. In order to carry out this step, the methods of Émil Jaques-Dalcroze and Javier Romero start from the living example, which is presented in various situations. In the end students are going to write everything that they discovered during the activities. Here, Gardner uses what Dalcroze imposed through his method, namely, less theoretical knowledge and more practical content, in order to deepen the musical language.

Both for vocal singing and playing a musical work on the instrument, it is necessary to find the internal element that will lead us to the find the personal tuning. The moment we get to feel the music, with everything that makes it up, we have the musical soul formed together with the ear that helps us identify possible irregularities. In Zoltán Kodály's method, great emphasis is placed on achieving a clean, tuned vocal song, being implicated and participate in a choral ensemble activities representing a real help for learning pure intonation.

The ideas and experience of pedagogues in the 20^{th}-21^{st} centuries, together with a good knowledge of the personality and learning styles of students, can help a music teacher to contribute through his lessons to the development of all types of intelligence theorized by Gardner. Even the American researcher, being a talented pianist, proposed both the involvement of other types of intelligence in the development of the musical one, and vice versa. For example, for linguistic intelligence, if you want to develop musical skills through what you read, you aim to make a narrative thread or create lyrics for listening music, while if you want to become better at languages, you put grammar rules on music and try to sing them for a better understanding and to remember them more easily. Another example is the one related to spatial-visual intelligence, where starting from music you listen to, you draw what you hear, you portray music, while music contributes to the creation of visual images, depending on the musical genre listened to. Basically, everywhere we talk about the connection between musical intelligence and other types, we are mainly talking about achieving active listening. It starts from what you hear to the representation through words, patterns, images, movements, etc.

4. Musical activities designed starting from the TMI

The pedagogical activity carried out in the 20th-21st centuries represents the gathering information obtained over time by pedagogues and the discovery of didactic strategies relevant for the field of work. The approaches of the music education systems initiators focus primarily on musical skills, but also the development of the personality of the educated. However, it is no longer enough just to follow some methods developed in the past, but it is necessary to create new ways of working in the classroom to captivate the students from the contemporary school.

We will list and further explain some of the learning situations created in the classroom, following the framework given by Gardner in his theory and integrating music education systems in the form of interactive activities. Some of them will be detailed, while others will be mentioned just as possible examples, verified through personal practice.

For the Music Education classes in which the musical language with the reading and writing elements are important, from the 5th and 6th grades, the lessons started with a stimulus material in a practical form, which involved either kinesthetic intelligence through elements of body percussion, or the musical one for learning some songs after hearing. Next, the new element was discussed, discovered by the students, and based on it and realizing how important it is, were made some exercises that aimed to combine different types of intelligences – musical with linguistics, musical with logical-mathematical or musical with interpersonal.

In the case of the hour that had as subject the musical genres and forms, in the 7th and 8th grades, musicograms were made for a better understanding of the structure of the musical work listened to. Subsequently, based on the explanations provided, the students managed to create their own animations, drawings or texts starting from the music heard.

For example, the lesson topic *Elements of musical agogics: Tempo* (5th grade) involved a series of activities in which elements of music educations systems were integrated, but also aimed to stimulate students who don't have a musical intelligence so well developed. Starting from the things that students find in the environment, they had to order them in three categories, depending on the speed with which they move. After the order of the given elements was debated, the students followed the teacher's instructions and try to integrate the missing words in a given text. Later, based on an audition, the students were tasked to identify the tempos and in the end they had to exemplify a musical storm starting from its natural elements represented through body percussion. As a homework, they

performed a new rhythmic exercise, by integrating body movement. We can see that for this lesson, not only the musical intelligence was stimulated, but also the logical-mathematical, linguistic, kinesthetic, natural and interpersonal intelligences, by designing an activity suitable for each of them and every student from the class. The musical storm exercise is taken from the Orff-Schulwerk method. Even students who didn't actively participate in the class usually, managed to integrate into this activity.

The *Musical Chronology* (9^{th} grade) was configured as an interdisciplinary lesson. Based on a conversation that started from the mankind history, the musical ages were established through the connections between those two types of history, and later, with the help of the map were observed the cities and countries that had a strong impact on the cultural activities. Musical intelligence was stimulated by team play and logical vision on the perception of a musical score that contained the overlapping of three different songs, respectively by the „hanging" type game and the design of a musical journey in certain cities. Thus, activities were organized to combine musical intelligence with linguistic, spatial-visual, logical-mathematical and interpersonal intelligences. The best represented method was the music audition during this lesson, with the help of a visual frame given by the musicograms and the response to certain work tasks.

The valorization of the ideas derived from the comparative perspective of the TMI and mentioned music education systems, in the daily didactic activity, led us to apply a set of rules.

These ones were meant to contribute in the organization of a lesson based on: choosing a subject that can be approached from different point of view depending on several types of intelligence by establishing a set of questions specific to each; the use of brainstorming as a method of starting the lesson, during which all activities are carried out in an interactive manner; and the use of means and methods for each existing pattern lead to a very good prior knowledge of all students in class (Armstrong 2009, 65).

Some of the strategies used to activate the musical skills were the following ones: singing, whistling, using musical instruments, beating some rhythms, improvisation, using the ambiental music and listening to musical images, etc. (Gliga, Spiro 2001, 36). If all of this were present during school lessons and would dominate the practical activities, the Music Education discipline would achieve its goal and would successfully form the skills provided in the school curriculum.

5. Conclusions

Placing the student in the center of the teaching-learning-assessment process is one of the desideratum of the contemporary school, achievable only through a constant concern of teachers for continuous updating of methods and means used in the classroom, in order to configurate the most appropriate teaching strategies. Howard Gardner's *Theory of Multiple Intelligence* is no longer a novelty, and the music education systems developed in the last century have already been validated by long-standing practice in schools around the world. However, there are few teachers concerned about taking some risks and putting into practice new ideas that motivate the student and attract him to music in a new way.

The challenge of overcoming certain limits, let to the shaping of learning sequences that would stimulate students who don't have such well-developed musical intelligence. Adapting work tasks to different types of intelligence has led to success in lessons. We have always considered the main goal of the Music Education discipline is to develop musical abilities and skills, but the starting point has always been elements familiar to students, either from the formal or non-formal environment, which were then capitalized and stimulated individual participation.

Activities based on heuristic strategies and following the path from practical activity to abstraction – as is done in all music education systems in the 20^{th}-21^{st} centuries – have proved their usefulness and the process of learning music has been done naturally.

Opening up to the new and choosing a diverse material that suits all students is a daily challenge. The design of an effective didactic scenario must ensure the complexity of the school curriculum, but you as a teacher need to start from the knowledge of all students and the possibilities that each of them has regarding the perception and practice of music and the acquisition of specific notions. As we have seen through lessons designed for middle school and high school, personalizing musical activities taking into account the types of intelligence of students and combining methodological solutions from different experiences validated over time, can be one of the solutions to revitalize and streamline Music Education lessons.

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