A model of approaching melotherapy through on-line sources- An alternative to the treatment of children with communicative deficiencies

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Abstract: - Melotherapy is an alternative therapy, psycho-preventive which involves, using movement, sound and music, in order to open new channels of communication for people. In modern psychiatrics, the use of melotherapy has brought benefic results through the improvement of nervous disorders, noting every so often the patient’s recovery. The use of technology in music teaching and learning has been a field of research for many years and the highly interdisciplinary nature of the field is reflected in the diversity of approaches given to the applications of ICT in music as melotherapy.

Assisted by a music teacher, a psychologist and a school doctor, the children from a special needs school in Alba Iulia underwent active methods of melotherapy, where electronic informational resources have been used in order to establish ways of communication for improving aggressiveness. Applying the active methods of melotherapy, by referring to computerized infrastructure and specialized software, this has led to outline an innovative methodological model in melotherapy which intends to be theoretically and applicably grounded in the future, due to the improvement in the behavior of children participating in the project.

Key-Words: melotherapy, children, interdisciplinary research, computerized infrastructure, communication deficiency

1. Introduction

The therapeutic value of music was attested centuries ago, the clinical applications of music therapy (environmental, receptive and active) generating a large spectrum of therapeutic changes: physiological, psycho-physiological and sensorial, of movement, perception, cognition, behavior, communication, creativity.

The connection between music and medicine originates in the old times customs. Long ago people started to treat affections or physical discomfort with rituals of white magic accompanied by music used to invoke divinities. Music therapy was also used with the intention, as well as with the result of revigorating the depressed or encouraging those preparing for battle. However, until the 19th century, music therapy was an empirical method of treatment and doctors hadn’t studied what kind of curative effect could sounds, have the harmony, the rhythm in some melodies the treatment of psychological and even physical affections.

The scientific studies in the last decades have shown that music modifies the cerebral waves and the cardiac frequency [1]. Music is capable of awakening the spirit of freedom and the conscience, of removing pessimism and melancholy, of improving the quality of sleep and creativity, of reducing stress and depression [11].

Melotherapy can have a strong effect against pain and fatigue because it stimulates the release of the endorphins, the so called hormones of happiness. Music therapy can treat hidden aggression, mental or affective disorders, but it can also influence several psychosomatic illnesses, such as asthma or nutrition disorders [4].

Nowadays, there are many research institutes and sanatoriums where melotherapy is being successfully used as a therapeutic method (e.g. Perceval St. Prex Vaud Institution- Switzerland, Cross - France, Deutsche Akademie fur Wissenschaftliche Musik Therapie, Medizinische Resonanz Therapie Musik, Center for the Study of Violence - Iowa State University, USA). They improve and note healings in affections like: stress, nervousness, anxiety, physical and psychological asthenia, headaches, migraines, insomnia, depression, high blood pressure, palpitations, arrhythmia, dyslexia, Parkinson disease, Alzheimer’s disease, cardiac insufficiency etc.

2 Techniques of Melotherapy

Melotherapy is an alternative therapy, psycho-preventive, which involves, using movement, sound and music, in order to open new channels of communication for humans. In modern psychiatrics,
the use of melotherapy has brought benefic results in the improvement of nervous disorders, noting every so often the patient’s recovery.

Therapists can choose between the passive technique, which refers to listening to carefully selected melodies and the active technique, where the patients play various instruments, use sonorous sources, take part in various musical productions.

The practice of the passive method refers to the music of composers such as J.S. Bach, W.A. Mozart, L. van Beethoven, R. Schumann or Fr. Chopin in a special environment, which stimulates the relaxation and the improvement of patients’ health. The effect of this therapeutic method has been proven in the improvement of panic, stress, nervousness [10]. Moreover, as music acts directly upon the autonomous nervous system, regardless of whether we realize it or not, the cardiac rhythm becomes regular, the blood pressure comes back to normal parameters, the general effect being that of relaxation, of recovery of energy, optimism and trust.

In active melotherapy there are several techniques to musically approach the subjects.

The Improvisation Method is based on a musical algorithm offered by the therapist upon whom the patient will spontaneously create a sonorous production (a rhythm, a melody or a song). The starting base is made accessible to the musical education level of the subject, while in the improvisation form, one can also resort to extra musical elements (visual, graphic or semantic) specific to creations of the musical Modernism of the 20th century, in the form of text-composition, photo-composition, musical graphics etc.

The Recreational Method consists of reproducing a musical form by means of instruments which are easy to use, pseudo-instruments or primary sonorous sources (Orff’s instruments).

By the use of the Compositional Method, creative activities (collages, cassettes, CDs, video clips) or the composition of songs and instrumental pieces can be initiated.

3 Using On-line Sources in Melotherapy

Nowadays, the environment of the Information and Communication Technology (ICT) is changing vividly, leading to an increase of ICT research all over the world to more open innovation processes, to wider and faster exchanges of ideas, to more complex technology chains, as well as to the involvement of other related-disciplines: biotechnology, materials and cognitive sciences. The use of technologies in music teaching and learning has been a field of research for the last years and the highly interdisciplinary nature of this field is reflected in the diversity of approaches given to the applications of ICT in music as melotherapy.

Placing the tools of technology into pupils’ hands can guide them to active music making and can offer alternative ways of learning to those children who may experience difficulty with more conventional approaches [2, 5].

Technology creates possibilities for performance that otherwise may not have existed. In a sense, a computer can become a musical instrument that pupils may use for creating or performing music.

ICT can help pupils to (fig.1.):
listening itself. Technology used in listening activities enables a new way of listening; there is an implicit interactive process of the pupil participating in a process of informal discovery with an element of entertainment. Digital libraries basically store materials in electronic format and manipulate large collections of musical materials effectively.

Recent developments in software allow the user to link text, sound, graphics and video in what has come to be known as hypermedia presentations. Programs such as Hyper-Studio or PowerPoint allow users to develop presentations that are synchronized to audio materials. These presentations can include text, graphics (including notation), animation and videos. Additionally, interactive elements can be added to allow students to respond to the presentation.

Through the appropriate use of technology, pupils are able to undertake guided listening exercises by researching textual information related to the work during the process of listening. Many closed applications include an entertainment section that both aids and reinforces the communication.

With the help of computer technology, new horizons can be made available to music therapy for the faster creation and assembling of pieces of music, without having studied composition. Any musical composition goes through a technological process at some point, whether the piece of music is created, played or reproduced.

There are a number of studies which seek to describe musical processes [3, 6, 7, 8, 9]. Most of these are related to the compositional process from the point of view of the novice composer; however, Savage (2005) develops this work further by exploring the process from the perspective of view of an expert sound designer and describes how such processes can relate to pedagogy.

There are many types of both instructive and attractive composition-related activities students can perform with the help of ICT, such as: (table 1)

| create | original background sounds for classroom readings and dramatizations with the help of software programs designed specifically to that purpose |
|        | compositional forms using a sequencer or notation program |
|        | (edit and store sounds) using a MIDI instrument, a sound source, and editor/librarian software |

| compose | original compositions using software designed for younger students |
|         | pieces demonstrating the ranges of traditional instruments using a notation program or MIDI sequencing software |
|         | music using algorithmic composition software |
|         | the timbres of one or more parts in a pre recorded MIDI sequence |
|         | with different combinations of sounds using a MIDI sequencer to alter the elements and characteristics of the music (melody, harmony, rhythm, timbre and form can thus be isolated and changed, and elements such as tempo and dynamics can be created and controlled) |
|         | a piece of music using the MIDI sequencer to change timbres |
|         | a MIDI sequence and synchronize it with a movie soundtrack, film, or video, etc. |

Table. 1. Active music therapy activities

3. Experiment

Assisted by a music teacher, a psychologist and a school doctor, the children from a special needs school in Alba Iulia underwent active methods of melotherapy, where electronic informational resources have been used in order to establish ways of communication for improving aggressiveness.

Out of the 155 students in the school 80, representing 51.61%, were submitted to melotherapy sessions (Graphic 1). The students participating in the study had ages between 7 to 15 years old.

| The percentage of students not taken into consideration | 48.39% |
| The percentage of students taken into consideration | 51.61% |

Graphic 1. The percentage of students taken into consideration for the study from the total number of students in the center

Out of the 80 students (100%) taken into consideration, 50% have a heretic behavior – verbal and behavioral hyper aggressiveness, 40% have a slight mental retardation with moderate verbal and behavioral aggressiveness, 7% are diagnosed with moderate mental retardation with restlessness and 3% have Down Syndrome or Little Syndrome (convulsive syndrome). (Graphic 2)
The most frequent diagnoses present in the students of the studied group are presented in fig. 3.

For the corrective and recovery related activities, 111 hours/week have been allotted, out of which 90 hours for speech therapy and 21 hours for psychotherapy.

The services offered include medical actions, in order to offer preventive medical assistance with a school doctor and a psychologist, but especially a curriculum adapted to the school’s specificity.

The didactic activities take place in relation with the psycho/pedagogical evaluation charts drawn up by the school.

The didactic and medical personnel involved in the educational process apply differentiated strategies using methods adapted to the needs of the students. (fig. 5)

In order to apply these strategies, the infrastructure of the school is also endowed with electronic equipments, software for language development, software for the assimilation of cognitive acquisitions (cartoons, letters, numbers, colors, sounds etc.).

With the purpose to reach the pedagogical objectives of psychological support for the physically and psychologically frustrated children in the institutions mentioned above, an interdisciplinary team, consisting of a music teacher (assisted by professors from the “Gheorghe Dima” Music Academy in Cluj-Napoca), a psychologist and a general practitioner- school doctor, have initiated and coordinated melotherapy activities for two groups of children, selected by using the age criterion, for a period of three months (approximately two activities weekly). The experiment aim was to create a proper methodology for children diagnosed with psycho-affective deficiencies, in order to recover their communicative abilities and to reintegrate them socially and in their families.

From the therapeutic point of view, the melotherapy sessions have had in view:

a) Reducing the children’s tension and aggressiveness (psychotherapeutic treatment);

b) Establishing emotional and communicative relationships (especially for the ones already diagnosed with psychiatric disorders).

The methods used were differentiated by:

1. The number of the subjects (the individual and the group method)

2. The degree of the subjects’ involvement (the active and the receptive method)

3. The degree of the therapist’s involvement (the directive and non-directive method)

The activities consisted of:

1. **Musical auditions** organized in especially created environments, where the music used led to a state of relaxation, intentionally conducted by the therapists into activities in order to stimulate...
imagination. The children had to express graphically, by gestures or verbally their emotional relation with the music. The conversation, led by a psychologist, was directed towards stimulating the positive features of the individual: imagination, creativity, ability to interact with the artistic meaning and message of the musical and conceptual expose (visualized and presented by the music teacher during the audition).

2. A cycle of receptive melotherapy consisted of: individual discussions and meetings, taking part in three group sessions, a new patient – melotherapist individual meeting, integrating the subjects in other three sessions, while the ending of the cycle consisted of a new individual meeting having as a purpose an individual survey on the evolution of the subject. The therapeutic tool in the receptive melotherapy applied was conditioned by: the patients’ mood, the environment of the meeting, the conducting of the therapist - patient dialogue, as well as by the musical construction of the session.

The difficulty in elaborating a musical therapeutic program, encountered by the melotherapist, was determined by the participants’ differentiated emotional responses. Consequently, we consider it necessary that the coordinators explain the therapeutic process to the patients; also the finding of the subjects’ musical tastes and their disposition in being responsive to music as a therapeutic mean.

3. Organizing group reunions in order to produce music using unconventional instruments (pseudo- musical instruments), as well as informational resources from the school infrastructure (computers, software) and from the database of the e-learning platform of the “Gheorghe Dima” Music Academy in Cluj-Napoca (which includes research from the European Socrates, Comenius 2 Prelude-Training teachers in using ICT project, comprising on-line didactic materials, with their methodology for application in different types of musical activities), as it can be seen in fig. 6.

In the group sessions of the active melotherapy, reuniting patients with the wish to sing and to express their ideas together makes this type of activity a privileged means of communication and expression. In a therapeutic execution, the patients went through every state of group communication: leader, co-leader or simple participant who can express him/herself through words or song, each patient becoming aware of his/her ability to express musically and annihilating the initial inhibition. In fighting against the children’s communicative deficiencies, active melotherapy could determine positive effects by relieving tension, reducing anxiety, externalizing emotions, facilitating the contact with the environment. The musical self-expression has allowed the externalization of human emotions in an interaction and communication through non verbal language by means of various techniques.

4 Conclusion

By means of melotherapy we can resort to verbal and non verbal techniques of closeness by associating sound, movement and graphics, using instrumental support and expressions of the body and of the voice, in order to reach a psycho-musical induced relaxation. These techniques have as purpose acting on various personality disorders in order to adjust emotionally, as well as from the relations’ point of view, the behavior of the subjects. The group sessions bring tranquility and inner harmony. The nervous tensions are disintegrated in a blink of an eye. Medical assistance has confirmed exceptional results: the pulse becomes normal, the heart relaxed, the thoughts and mental restlessness melt in the harmony of music.

The partial results of this experiment, which applied melotherapeutic techniques using on-line sources, have shown the following changes in the children’s psycho-somatic behavior:

- induction of a state of relaxation, goodwill stimulation;
- improving emotional relations;
- stimulation of the individual’s positive features, imagination, creativity;
- an increased ability to express verbally at physically healthy, but emotionally illiterate individuals;
- an anti-stress prophylaxis with positive consequences on aggressive behavior.

Applying the active methods of melotherapy by referring to computerized infrastructure and specialized software has led to outline an innovative methodological model in melotherapy, which intends to be theoretically and applicably grounded.

Fig. 6. The information flow in active therapy
in the future, due to the manifest optimization of the level of recovery in this group of children participating within the project. The following graphic details the main results.

As a melotherapeutic behavior, the professionals participating in this experiment have proposed that, before the application of the musical therapies, a psycho-musical (active) analysis were made, consisting of:

1) Having, as a background, instruments which are easy to use (including the computer), the patient is invited to do whatever he/she wants;

2) Operating these sources has to be made under the influence of different pretreated fragments, individualized by rhythm, harmony and electroacoustics within a melody.

The main objective is to observe the patient’s behavior when faced with a musical instrument, to determine the limits and the ability to interact with an on-line source and to intuit the emotional and the musical perception affinities, before actually beginning a melotherapy session.

In the prevention and for fighting against difficulties in communication at children with behavior deficiencies, melotherapy is an alternative with obvious chances of success, the involvement of interdisciplinary teams and the complex computerized infrastructure being overwhelmingly decisive for the therapeutic results.

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