

# Integration of Art Psychology, Pedagogy and Musical Art in Teaching Playing the Electronic Musical Instruments in The Complex of Rehabilitation Technologies

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**Abstract**— The therapeutic effect of music on the human body has been known since ancient times and is actively used in the methods of music therapy. The innovative method of music therapy uses musical influences that are generated by a computer based on feedback signals from the patient's own physiological characteristics.

**Keywords**— Electronic musical instruments, music computer technologies, playing the electronic musical instruments, music therapy.

## I. INTRODUCTION

The therapeutic effect of music on the human body has been known since ancient times and is actively used in the methods of music therapy. The innovative method of music therapy uses musical influences that are generated by a computer based on feedback signals from the patient's own physiological characteristics.

Helga de la Motte-Haber calls music therapy "applied music psychology." In other studies, this area of psychology is called "applied psychotherapy with music."

Music therapy is a psychotherapeutic method based on the therapeutic effect of music, which is able to influence the psychological state of a person, improve the quality of life of patients. The music therapy is the controlled use of music in the treatment, rehabilitation, education and upbringing of children and adults suffering from somatic and mental illnesses - according to the definition of O. A. Vorozhtsova [1].

We consider the impact of music on a person. Music is a

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harmony of sounds and it causes a human vibration, which entails a mental reaction. The basis of music is sound. A sound is an acoustic signal having a wave structure. It is known that an acoustic signal affects the cells of a living organism, changing their activity.

The authors of the article pay special attention to musical computer technologies (MCT), which were developed at the turn of the 20th–21st centuries as a means of studying music within the framework of the contemporary musical education system at its various levels - professional and pre-professional. In 2002, the first education and methods laboratory *Music Computer Technologies* in the Russian Federation was established at the Herzen State Pedagogical University of Russia, in which the symbiosis of musicians of various specialties, mathematicians and programmers helped to form the subject content of many new disciplines. Comprehensive research and scientific and methodological developments undertaken by the staff of the *Music Computer Technologies* Laboratory at the Herzen State Pedagogical University of Russia served as the basis for the development of music therapy as a field of scientific knowledge and academic discipline and influenced the musical culture of the beginning of the 21st century.

## II. THE POSSIBILITIES OF USING THE ELECTRONIC MUSICAL INSTRUMENTS IN PSYCHOLOGY

### 2.1 Music therapy as a method of the complex psychotherapy

The sounds which affect the human being:

1. The effect of sound on the electromagnetic conductivity of cellular structures, as well as on their electrochemical activity, such an effect is called a "nonspecific acoustic bioresonance effect".

2. The sound effect on the auditory reception, perception.

The perception of music is carried out mainly through the auditory system. The ancient origins of auditory and musical perception go back to the immutable fact that hearing originally served as an orienting tool, which, informing about the state of the external world, emotionally adjusted a person to a certain attitude to various external influences. Every sound for ancient man was primarily semantic: it carried information about the "intentions" of an object in relation to a person – whether thunder rumbles, whether a stream murmurs, whether a branch

crunches in the dark, whether the sounds of a rock fall are heard, prompted an emotional response, and then – to action. These important qualities of the sound signals subsequently gave rise to musical art.

3. The sound effect on the vibrotactile reception, or perception.

Vibrotactile perception is based on the work of a tactile analyzer. He perceives a variety of vibrations, including those that arise during the musical therapeutic effect. Along with other analyzer systems, it helps the body navigate the environment.

4. The physiological rhythms of a person resonate and involuntarily adjust to its frequency and dynamic indicators. "It is shown that the musical tempo, rhythm, structural structure of the work and other musical factors can subordinate the rhythm of internal physiological processes." One of the reasons for the physiological effect of music on a person is that the nervous system, and with it the musculature, have the ability to assimilate rhythm. Music as a rhythmic stimulus stimulates the physiological processes of the body that occur rhythmically in both the motor and vegetative spheres.

5. The cardiovascular system reacts noticeably to music that gives pleasure and creates a pleasant mood. In this case, the pulse slows down, heart contractions increase, blood pressure decreases, blood vessels dilate. With the annoying nature of the music, the heartbeat becomes faster and weaker. D. Campbell points to musical stimulation reduces the time of motor reaction, increases the lability of the visual analyzer, improves memory and sense of time, revives conditioned reflexes. Music has an effect on cholesterol metabolism. By slowing down the tempo of a piece of music or listening to slower music, you can deepen and slow down your breathing, give the brain an opportunity to calm down. A deeper, slower breathing rhythm is optimal, promotes rest, controls emotions, deeper thinking and a better metabolism. Erratic breathing can lead to shallow and distracted thinking, impulsive behavior and a tendency to make mistakes.

6. Music also influences hormonal metabolism. It "regulates the release of stress-reducing hormones... the level of stress hormones in the blood is significantly reduced in those who regularly listen to relaxing calm music." Musical pleasure — the feeling of uplift that listening to certain music causes is the result of the release of endorphin — "your own opium". Endorphin is produced by our brain. It relieves pain and causes a natural uplift.

7. Music can change a person's emotional state. A well-known music therapist and researcher S. Shusharjan notes that the waves created by the brain can be changed with the help of music and spoken sounds. Consciousness consists of beta waves that vibrate at a frequency of 14 to 20 Hz. Beta waves are generated by our brain when we are focused on daily activities or experiencing strong negative emotions. Sublime sensations and peace are characterized by alpha waves propagating at a frequency of 8 to 13 Hz. Periods of peak creativity, meditation and are characterized by theta waves having a frequency of 4 to 7 Hz. And deep sleep, deep

meditation and unconsciousness generate delta waves, the frequency of which ranges from 0.5 to 3 Hz. The slower the brain waves, the more relaxed and peaceful we experience. It is possible to shift consciousness from beta waves in the direction of the alpha range, thus increasing overall well-being and attentiveness [2, p. 21].

8. Music is able to participate in the self-regulation of the human body.

Playing music can create a dynamic balance between a more logical left and a more intuitive right hemisphere of the brain. D. Campbell also points to the interchange of thoughts is the basis of creativity. Music also causes various motor reactions of the body. "When a person listening to music, he experiences real muscle pulsations in a variety of areas: in the muscles of the arms, legs, head, trunk, and larynx." Music with a pronounced rhythmic beginning causes involuntary ticking with a hand or foot, shaking of the head. Children learning to play musical instruments, imperceptibly begin to reproduce the pattern of sound in game movements. The rhythm of the music encourages the child to move. A person listening to music not only reproduces the musical rhythm with his motor apparatus, but also sings music soundlessly (perceptual vocalization). Moreover, the frequency, volume and duration of perceived sounds are accurately reflected in the silent contractions of the ligaments."

Thus, we see that the picture of unconscious motor and vegetative reactions of a person in perception is diverse and individual. We do not associate our behavior with music while listening, but musical impulses inevitably influence the rhythm of our thinking and behavior

There are passive and active forms of music therapy. This classification is based on the way the music is played and the degree of involvement of the patient in this process. During passive music therapy sessions, the psychologist suggests that patients listen to various pieces of music in order to achieve a certain emotional experience. Additional techniques such as breathing exercises, auto-training, hypnosis, painting or dance are often used as accompanying actions in the process of music therapy.

Patients themselves participate in the performance of musical works with active music therapy. Basically, this is singing in a choir or playing in an orchestra, since the main goal of rehabilitation with this approach is to include the patient in various social groups; joint musical creativity increases the effectiveness of working out communication skills, contributes to the formation of stress resistance, the elimination of excessive shyness.

J. Trapp, describing the impact of music on a person, calls it a musical cocoon that envelops a person. This metaphor symbolizes the constant protection of a person from alien influences during the autistic state of immersion in the harmony of music. A similar condition can occur when a patient learns to play a musical instrument. Thus, active music therapy develops not only social skills, but also self-regulation skills. In this context, music acts as an internal subjective experience: "Only in experience does it become a reality, finds existence and

reveals itself as a special world of meanings, specific relationships, dimensions and logic" [3, p. 13]; and also as a means of internal "expansion" – from concentration at the point of painful experience to a wide, the infinite "I", the location of oneself "outside the time of the present and the earthly... in times of initial abundance" [4, p. 52].

### *2.2. The application of art psychology in the complex of research on the psychology of assistance using the capabilities of an electronic synthesizer*

Nowadays there are many students with various psychological problems. The information overload of the modern world, the unfavorable environmental situation of the environment these are factors affect the normal development of the human fetus in the womb. Negative conditions in which a person is formed in the prenatal period often cause the development of a neurological and behavioral personality disorder of a child - attention deficit hyperactivity disorder (ADHD). With this dysfunction of the body, changes occur in the work of the central nervous system (the area of the reticular formation of the brain is affected), which leads to problems with concentration and attention maintenance, memory disorders and learning abilities, as well as difficulties in processing information. Neuroticism, emotional lability, instability of attention, self-doubt, lack of communication skills, loss of motivation for school education these are negatively affects the further adaptation of the child and leads to the development of a tendency to deviant behavior. ADHD in adolescents is expressed in demonstrative behavior, aggression, a tendency to conflict, sometimes in low self-esteem. If the ADHD syndrome in childhood is not corrected, the disease can pass into the adult stage. Adults who are subject to this emotional disorder have the following personality traits: forgetfulness, poor orientation in time, frequent lateness, constant disorder in the workplace, disorganization in business, a lot of started but unfinished business. Neurotic personality disorders negatively affect the psycho-emotional state and, as a result, reduce the quality of human life.

This problem is very relevant in modern society, that why many researchers are studying the causes of the formation of deviant behavior and are looking for ways to rehabilitate patients. E. Zmanovskaya, P. Kovalev, Ts. Korolenko, V. Kudryavtsev consider deviant behavior as a stable behavior of a person deviating from the most important social norms, causing real damage to society or itself personality, as well as accompanied by its social maladaptation. That is why it becomes important to develop a program of correctional and developmental classes with young and adolescent children with attention deficit hyperactivity disorder in order to provide them with timely psychological assistance.

Music therapy as part of art psychology is a modern method of prevention and treatment of various disorders and disorders, including in children and adolescents. This direction has a significant positive experience of implementation. Electronic musical synthesizer is a modern universal instrument that can

be used as an auxiliary tool for the application of this technique for the rehabilitation and social adaptation of children with various disorders. Music therapy can help children with ADHD, as well as to relieve anxiety in children and adolescents. In the application of music art therapy, as well as any technique, various difficulties inevitably arise: difficulties in organizing rehabilitation classes related to the characteristics of students, lack of tools, mastering an instrument. The teacher has an important role in this process. He must be competent in the field of methods of influencing music on their psyche, developing in unusual conditions — both musical and psychological and pedagogical.

The fundamental change in the environment as an information environment has led to the need to make changes in the musical and educational process, through the increasingly widespread use of information technologies in music. It's connected with "interest of young people in modern information technologies and their applied use, in particular in the field of electronic and computer music. Traditional music education attracts many children, but for others the alternative is attractive – learning to play the electronic musical instruments EMI (for more details, see the work [5]). The method of teaching playing the synthesizer and playing other musical instruments, in particular, the piano, naturally has significant differences.

To conduct rehabilitation classes, the teacher must use various musical instruments: drums, musical bowls, etc. The difficulty lies in the fact that a music psychologist does not always immediately know which instrument from the spectrum of mastered is the most effective, this is due to the individual characteristics of the patient's personality. The synthesizer has a unique ability to reproduce various sounds existing in nature and music. With the advent of EMI and music computer technologies (MCT), it became possible to implement various sound-pitch systems, their rapid alternation and free connection, which, in turn, determines the broad possibilities for synthesizing timbres with both harmonic and non-harmonic spectrum (for more details, see the work [6, pp. 32 -33]. The unique ability to create your own sounds makes the synthesizer an optimal tool for music therapy sessions. Thanks to this quality of the synthesizer as a contemporary EMI, the therapist gets the opportunity not only to use the synthesizer as an independent instrument within the framework of music therapy, but also to conduct research in order to choose an instrument, even if there are no real analogues in the therapist's arsenal. This individualizes the process of working with the patient, respectively, significantly increasing the results of therapy.

### *2.3 Development of the student's creative potential with learning to play the EMI*

The rapid development of the new information technologies has led to the process of computerization of EMI because the ability to control them is simplified, musical means for creating, processing and presenting a wide range of sound palette are becoming increasingly available. Therefore, learning a musical language with the help of MCT meets the individual needs and

expectations of a modern person, contributes to its realization in self-expression, and most importantly, helps to harmoniously enter the information society by developing creative abilities. That subject objectively poses the task of teaching music education to play EMI and thus introducing the broad masses of people to musical culture.

Digital instruments allow the student to try himself in various fields of musical activity: arranger, sound engineer, composer, creator of new timbres and sound effects from the first days of training. EMI with limited possibilities in the implementation of the musician's creative ideas have become a thing of the past. Now these are modern workstations designed for professional creativity and mass music making. All this makes keyboard synthesizers an extremely valuable means of musical education, allowing to overcome one-sided performance orientation, activate the musical thinking of the student and develop his musical abilities to the fullest extent.

In the program for the keyboard synthesizer class, attention is paid to the development of a sense of musical form (a sense of the whole). The attention of students is focused on the development of elements of the musical language. An idea is formed about the division of the musical period into phrases, sentences, about the basic principles of music development (repeatability, variation, contrast).

The key component of the program is the intensification of creative activity, the meaning of which is not in the final result, but in the process itself, which contributes to the involvement of students in the creation of an electronic project, encourages them to think, reason like real musicians, thereby activating artistic imagination, emotional and imaginative thinking, creative motivation, expressed in the need to create. By creating artistic images, students become participants in a process involving a long maturation of a musical idea, repeated return to what was done in order to change, rethink the finished product, conduct a constructive critical analysis of their own work, which stimulates creative orientation.

An important feature of learning on EMI is the possibility of interactive participation in the creative process of an artificial intelligence synthesizer that performs the necessary actions, logical transformations in the construction of a musical project and at the same time teaching professional skills to the user. During the training, students master a whole range of skills – composing, sound engineering and performing. In parallel, they study musical and electronic literacy, the knowledge of which is immediately applied in practice, get acquainted with the elements of harmony, instrumentation, with the laws of sound engineering and arrangement, learn to competently dispose of functional elements and additionally master the principles of electronic instrument management. Due to this, the theoretical saturation of learning increases, which requires priority assimilation of general concepts and functional features of the instrument.

Composing music is an important component in learning to play electronic musical instruments, allows students to become active participants in the process of creating music, forming the basis for an independent vision, which is necessary for a person

in general. The composition process has an integrated character in relation to the development of students' performing and auditory skills, so the composition should be done with children from the first lessons. This requires interesting musical ideas, vivid themes, expressive harmonies and diverse rhythms, everything that can be fully found in the artistic potential of EMI. A wide imaginative palette is possible here – everything that a child wants to share and tell about the world around him in the language of music and feelings. The main thing is that the process of cooperation between the teacher and the student is important, even more than the final result.

Therefore, along with educational tasks, the most important developmental task should be the formation of a child's ability to manage the processes of creativity: imagination, understanding patterns, solving complex problem situations.

In this regard, the development of creativity, creative abilities is defined by this program as a priority direction, as an urgent problem of the development of a child's personality. A future musician seems incomplete without this process of education.

In this regard, we can conclude that it is necessary to overcome formalism in training in musical informatics using the capabilities of contemporary music computer technologies (MCT) [7-12].

### III. THE USE OF ELECTRONIC MUSICAL INSTRUMENTS AS A PART OF MUSIC THERAPY IN THE COMPLEX OF REHABILITATION TECHNOLOGIES

#### *3.1. EMI is in the complex of psychological and pedagogical practices in the removal of anxiety states in children*

One of the means of reducing anxiety of mental harmonization and personality development is art therapy. The healing possibilities of art have been known since ancient times, the statements of the ancient philosophers Aristotle, Plato, Pythagoras, Socrates about the influence of art on the human body and various manifestations of human activity have reached our days. In Judea, India, Ancient Greece, and China attempts were made to study color and use it in the diagnosis of diseases, as well as to change psychological states by means of chanting and prayers. Research in the field of the impact of art on a person has been carried out by many domestic and foreign teachers, psychologists, philosophers. The history of the relationship between man and art goes back many centuries.

In the field of fine art pedagogy, the views of T. Campanella, Ya. A. Komensky, J. J. Rousseau, I. G. Pestalozzi were widely known, who considered the possibilities of using fine art as a means of self-development and self-knowledge of the individual. Campanella, Komensky highlighted the laws of educational activity and the role of art in development and education, the processes of self-knowledge, self-development by art Rousseau and Pestalozzi emphasized the importance of developing children's natural abilities, sensory experience of cognition, creative thinking and intuition. Steiner continued to study the role of sensory cognition for younger schoolchildren in the development and formation of the emotional world of the

child by means of art, and also stressed the importance of the subjects of the artistic and aesthetic cycle in the educational process.

What is the reason for such a wide interest in art therapy? What are its features of using EMI to relieve anxiety in children and adults?

Art therapy has obvious advantages over other forms of psychotherapeutic work based solely on verbal communication.

It promotes the activation of the processes of the "self" of primary school age - self-knowledge, self-development, self-therapy by means of art, prevention and self-correction of unfavorable psycho-emotional states of adults.

The interest to art-therapeutic methods reflects the need of modern man for more natural, complex methods of treatment and harmonization, in which the mind and feelings, body and spirit, male and female qualities, the ability to introspect and active action play an equal role.

Art therapy is a means of predominantly non-verbal communication. This makes it especially valuable for those who do not speak well enough, find it difficult to verbally describe their experiences or, on the contrary, are excessively connected with speech communication.

Symbolic speech is one of the foundations of fine art, it often allows a person to express their experiences more accurately, take a fresh look at the situation and everyday problems and find a way to solve them.

Art therapy is distinguished by a special "softness" among the variety of modern psychotherapeutic methods. The child is given the maximum degree of freedom. In many cases, he turns out to be the "leader" of the art-therapeutic process, expressing himself in the style and forms that meet his condition, personality characteristics and needs.

We chose a group form of art therapy work for our research. As Ir. Yalom notes, in group psychotherapy (including group art therapy), such "healing" factors as group cohesion and support, obtaining information, interpersonal learning, realization of altruistic needs, correction of mental patterns associated with staying in the "primary family group", imitation of behavior, development of social skills and others.

We would like to note the large variable features of the use of the synthesizer in the implementation of the art-psychological program "Music therapy". Such musical activity is productive in nature, which is based on a focus on rehabilitation and creativity. And the simplicity and accessibility of this activity makes it possible to significantly expand the circle of children and adolescents involved in it. This determines the purpose of training in this program.

Learning to play a keyboard synthesizer is associated with solving the following psychological and pedagogical tasks:

1. To stimulate the performing activity of students in extracurricular activities, concerts, holidays, festivals, competitions.
2. To contribute to the formation of their artistic taste and interests.
3. To cultivate an interest in individual music-making and

playing in an ensemble.

4. To activate the development of musical abilities (fret sense, sense of rhythm, musical form; timbre, harmonic, melodic hearing).

5. To promote the formation of ideas about the expressive essence of the elements of musical speech and means of musical expression.

The task of the teacher is to teach the student the optimal setting of hands, constantly give (not only at the initial stage, as in the process of learning to play the piano) various exercises for setting hands. The absence of live sound increases the role of articulation, the role of choosing the right timbre. Unlike pianists, students in the synthesizer class learn both standing and sitting, as a result, the performance apparatus is undergoing changes, and they should not be overlooked.

Another property of the instrument is the mechanistic nature of auto accompaniment - increases the role of form in music. So, from the first lesson, the student begins to separate the structures of the form (periods, sentences) with various techniques characteristic only of the synthesizer (using knocks, transitions from style to style, timbre transitions).

The most diverse choice of timbres from the synthesizer's voice bank, mastery of articulation characteristic of a particular sound of the instrument, enable the student to experience the amazing riches of the musical world. And the constant desire to get away from the mechanistic accompaniment, like nothing else, develops a sense of the form of a musical composition, the ability to orchestrate it, to hear all the details of the orchestral texture. Constant harmonic accompaniment gives incomparable with any other instrument the skills of harmonizing any melody. The big advantage of learning on this instrument is that the synthesizer replaces whole ensembles, and all learning is, in fact, playing in an ensemble. The student is in constant dialogue with the orchestra.

He almost completely repeats the piano course on the Normal keyboard. The multi-timbre nature of the synthesizer makes it possible to add huge layers from the repertoire of brass players, organists, string players to the main repertoire of pianists. This leads to an even more versatile education of students on this instrument. Imitation of traditional instruments (harpsichord, harp, piano, etc.) allows you to get as close as possible to the sound of music specially written for them. Achieving the authenticity of the sound may well become a special artistic task of the arrangement.

The study of the electronic features of the synthesizer, the generally accepted designations and names, the many thousands of variations of pressing the function control buttons adds to the load of the student. This feature allows you to develop new patterns of behavior. By mastering the synthesizer instrument, the student gets the opportunity to develop some specific skills related, for example, to switching sound modes while playing on an electronic keyboard.

The development of timbre hearing plays an important role in art therapy classes with a synthesizer:

- acquaintance with various types of musical instruments (strings, wind instruments, percussion);

- determination by ear of a given timbre on the instrument;
- definition of the instrument when listening to musical works;
- independent choice of timbres of instruments in the work on electronic arrangement.

### 3.2 Development of exercises for music therapy sessions

The general structure of the lesson includes the following sections:

I. Introduction and "warming up" involve acquaintance and preparation of students for work, creating an atmosphere of trust and security. The art therapist should explain the basic rules of behavior during the trainings. In particular, he asks not to be late and attend trainings, show mutual respect, refrain from conversations and remarks that may interfere with others. The subsequent "warm-up" represents different types of physical activity and ways of "tuning" to work with a musical instrument (synthesizer). They can use relaxation exercises, as well as some simple musical techniques.

II. The main part. The stage of work involves the choice of a musical theme and its subsequent development using synthesizer playing techniques. The evaluation of the game is undesirable, because it can confuse the author, bring him out of the state of immersion in the creative process and prevent the sincere expression of feelings.

III. Reflection. The stage of discussion and completion of the training. The discussion is a story of students about their feelings.

Sometimes a different sequence of stages is used. For example, a detailed discussion may precede the topic selection stage, or the entire training may consist mainly of playing an instrument or listening, the discussion is postponed to the next day.

A kind of final "ritual" or exercise can be used in the training, designed to mark the end of the training and return the students to real life.

Classes in groups are held once a week, the duration varies on average from an hour to an hour and a half. Classes are held in the office of a music psychologist.

The main goal for a teacher is the psychological health of every child. If a child experiences any difficulties (uncertainty, insecurity, aggressiveness, anxiety and anxiety, then this is reflected in his playing or perception of music. Auxiliary art-therapeutic means will help us to achieve the psychological health of the child, since art therapy is a treatment with "plastic visual creativity", the following art therapy techniques are used in the classroom: modeling, drawing, music, fairy tale.

The proposed techniques can be used in working with both children and adults individually, in pairs, as well as in groups. They are not requiring significant expenses and are very effective.

#### 3.2.1 Listening

##### Exercise 1

1. Choose the sound of the singing bowl that that you like.
2. Listen to a musical excerpt (it is possible to use a multiped).

3. Sing this sound.

##### Exercise 2

(For adults and older teenagers)

1. Choose the sound of the singing bowl that you like.
2. Listen to a musical excerpt (it is possible to use a multiped).
3. Sing this sound.
4. Imagine an unpleasant life situation, a situation of fear, after that strengthen it.
5. Present a joyful picture. Switch to it when you hear the sound of the bowl.
6. Do the exercise with the therapist several times.
7. Task: turn on the sound of the bowl on the synthesizer, or in the recording, when an alarm occurs.

Goal: to reduce anxiety in a child or adult, the ability to express and understand your feelings.

##### Training 1

Purpose: to relieve psychological stress, increase self-esteem, develop creative abilities.

Stage I. The ritual is a greeting. Removal of muscle clamps.

1. Tonic breathing.

Instructions: slowly inhale into the stomach, chest and bronchi, elbows gradually rise, hands hang freely. Then a strong exhalation on the syllable "ha", the hands unfold from the level of the face and are thrown up, then the hands slowly descend.

2. Removal of the muscle clamp at the level of the throat and neck.

Instructions: inhale simultaneously through the nose and mouth, then sing, mumble any melody while exhaling through the nose, while the lower jaw is lowered. In conclusion, you can accentuate the exhalation by pushing out the remaining air with your abdominal muscles.

3. Relaxation of the muscles of the face and head.

Instructions: the exercise is based on imitation of a prolonged snorting of a horse. When exhaling through the mouth, you need to try to weaken all the muscles of the face so that they vibrate freely under the influence of freely passing air.

4. Relaxing breathing.

Instructions: present a large and beautiful bouquet of flowers in front of you and inhale an imaginary fragrance.

Stage II. Psychotherapeutic activity. "The technique of active listening".

Step 1: psychological entry. Exercise "Bowl" (1-3 points)

Step 2: practical. Exercise "Bowl" (4-5 points)

Step 3: cognitive. The Association game.

Purpose: To develop self-awareness, awareness of one's own experiences, increase self-confidence.

Children are invited to listen to a specially selected piece of music, and then discuss their own experiences, memories, thoughts, associations, fantasies that arise during listening. Come up with the name of the heard musical composition.

Step 4: psychological relief. Reflection.

Children answer questions: What did you like? What didn't you like? What was difficult?

A musical composition "Awakening" was created to play "Associations" with the synthesizer. Sub-echoes were added with the help of a multiped - the sound of bells (flat bells).

### 3.2.2 Execution

#### Exercise 3

1. Listen to the meditative melody "Awakening".
2. Independently turn on the sub-voice on the synthesizer. The sound of a singing bowl.

Goal: to reduce anxiety in a child or adult. The ability to express and understand your feelings.

#### Training 2

Goal: to reduce anxiety in a child or adult. The ability to express and understand your feelings.

Stage I. The ritual is a greeting. Imagine what kind of flower you associate yourself with.

Stage II. Spectral meditation "blue cloud". Turn on the musical composition "Awakening".

Take a comfortable position, close your eyes, relax. Concentrate on the blue color. Imagine that you are surrounded by a blue cloud or a wide pink ray. Now direct all your attention to the top of your head. Taking a deep breath, feel how simultaneously with the air a blue ray enters you through the top of your head. The energy of the blue color spreads throughout your body. Along the way, the beam washes away tension, muscle clamps and spasms, eliminates nervousness and anxiety. Feel how the energy of the blue color fills you with peace and relaxation, balance and harmony. Blue particles penetrate into every cell of your body. As these particles spread, you feel the tension subside, as peace spreads inside you. Try to hold this state for a while, then mentally thank the blue energy of peace.

#### Stage III. Exercise 3.

Stage IV. Reflection. Discussion of what feelings arose when the sub-voice was turned on.

### 3.3 The effectiveness of the use of exercises using EMI in a complex of rehabilitation technologies

A woman was selected for the study who had or has circumstances that may be the cause of stress. Characteristics of the client: Age is 30 years.

Possible causes of stress in the subject: health problems, deterioration of financial situation, anxiety related to job search.

#### 3.3.1 Methods and materials used:

1. Beck Alarm Scale, BAI
2. Life Satisfaction test
3. The scale of life satisfaction, SWLS in the adaptation of D. A. Leontiev [13]. To conduct the study, the woman had to participate in trainings for two weeks. The experiment was conducted for 14 days. At the beginning of the experiment, the subject described her physical and mental state, and at the end shared her impressions about the trainings.

#### 3.3.2 Results of the study.

Initial observations of the subject: "I'm starting to fall out of the world again, I'm going into thoughts and lately I can just burst into tears. Today I feel tired and terribly overworked."

At the end of the experiment, the stress level decreased by 30 points. Subject's comment: "Probably the most difficult thing is to find time to listen to music, because there are a lot of things that distract. I liked the experiment. Physically, I feel better, today my day was quite free, I am not very tired. Emotionally, everything is more or less, but I hope everything will be fine soon. The simplest and most pleasant thing, of course, was listening to music, a paradise for the ears."

From the results, we see that music therapy is a fairly effective way to deal with stress, but, in addition, it can be concluded that this method is not suitable for everyone, for a visible result, you need to individually study the music and take into account the individual causes of stress, the environment of the individual and his personal capabilities. To consolidate the result, of course, a longer use of the technique is needed, and it is better in combination, for example, with meditation or with physical exercises.

#### Inference:

1. Based on the obtained theoretical knowledge and practical skills of working with an electronic musical synthesizer, a cycle of psychological trainings and exercises using EMI has been developed.

2. The diagnosis of the subject was carried out using psychological techniques, thanks to which it was possible to trace the dynamics of anxiety indicators.

3. The anxiety indicators of the subject decreased by 30 points.

4. The main hypothesis that with the help of music therapy, in particular, EMI, it is possible to reduce anxiety in children and adults has been confirmed.

## IV. THE INFLUENCE OF MUSIC EDUCATION ON THE FORMATION OF SPIRITUAL AND MORAL VALUES OF THE INDIVIDUAL

The most important task of contemporary musical education is the formation of an integral personality in the educational process, freely navigating the dynamic flow of musical art of the third millennium. The training of a musician who not only has a high level of professional competence, but is also ready to realize his creative potential in the artistic space of our time in all its complexity, versatility, intense confrontation of multidirectional trends, requires a constant search for new solutions that enhance the effectiveness of the musical and pedagogical process.

In numerous studies by modern scientists - sociologists, cultural scientists, psychologists - there is an increasing process of dehumanization of being, leading to alienation of the individual, complicating for her the possibilities of social interaction, communication, communication, which, in turn, creates prerequisites for the emergence of various manifestations of antisocial behavior. The formation of a personality capable of conducting a productive dialogue with the outside world, entering into communication that contributes to its formation and development, constant spiritual growth, is the most important task of pedagogy in general and music education in particular.

The famous Asafiev triad - Composer - Performer - Listener - has already laid down a scheme of musical communication, without which the great art - Music - cannot exist, since it represents a special type of communication, as a result of which the "strings of general education" begin to sound, is the ability to empathize, overcoming the boundaries of one's own self, deeply and subtly to feel the spiritual world of another self, to strive to comprehend this world, to be ready to accept it even if it is radically different from one's own.

The implementation of the process of spiritual communication in the artistic space of musical art and education becomes the real embodiment of a humanistic educational paradigm, inspired and imbued with a sense of love and harmony. The process of spiritual communication, the birth of aesthetic empathy, which opens up an immense space for creative and creative activity, forms a sense of belonging in the future professional musician(!!!) to a kind of collective whole. And "the consciousness expressed in the word "we" is the natural basis of every individual self-consciousness, every "I". If we talk about the formation of spiritual and moral values of a person in childhood through music, then we can say the following: the features of musical art, its artistic and figurative nature meet the personal needs of a child as well as possible. This determines the pedagogical potential and importance of the subject of music. Music lessons and extracurricular musical events should be focused not so much on the amount of knowledge, teaching the basics of musical literacy, as on familiarization with musical activity, optimization of emotional and value potential, and the formation of a child's personality. A generally recognized ideal, a social idea of what certain attributes of social life should be, can act as a value. A work of culture or art can also be valuable. At the level of personality, values form the core of its structure, acting as an important source of motivation for human behavior. Thus, we can say that values are socially conditioned and have a dual character: on the one hand, they represent the imprint of social ideals, and on the other, they are individual, because they reflect the life experience of a particular person.

Musical art plays a special, irreplaceable role in education, and this feature follows primarily from the fact that any work of art contains a moral principle in itself. In music, the moral content – the glorification of good and the condemnation of evil – is, one might say, the meaning of its existence, the main force of its influence.

The formation of the value-semantic sphere of personality continues throughout life. Its content can change under the influence of many factors, since socialization can occur both in conditions of spontaneous influence on the personality of various circumstances of life in society, sometimes having the character of multidirectional factors, and in conditions of upbringing, i.e. purposeful personality formation. Based on the worldview, worldview and self-awareness of the nation, folk musical education contributes to the enrichment of the musical and life experience of the individual, his socialization at all age stages.

Knowledge of modern innovative approaches to the organization of general music education can be useful both in terms of developing the necessary musical and educational technologies, and in relation to creating a new generation of

standards for higher and special musical and pedagogical education.

It is necessary to agree with J. Blacking that music is a product of group behavior and therefore, undoubtedly, relies on certain laws created by society. But at the same time, she has the ability to create a new community, unite people in a single spiritual impulse, form a new cultural space, a new unique artistic reality. This is the most important function of music as an art form.

Such an artistic reality is undoubtedly "the creation of new intuitive, intellectual meanings, emotional states", aesthetic empathy that is born in the artistic space of culture, since "art is able not only to ascend to the basic values for this culture, but also to produce its own spiritual meanings, generate new values."

It can be confidently stated that the formation of spiritual and moral values is one of the most important tasks of modern music education, because, thanks to this, there is a need to communicate with the "Other" as a communication partner, a desire for spiritual community is born, conditions are created for a deep understanding of musical art as a way of transmission "from heart to heart" (M. Kagan) the most subtle movements of the human spirit. Namely, this is an indicator of the highest efficiency of the entire musical and pedagogical process.

Thus, it can be argued that music is one of the accessible, interesting and most important types of activity, which has a huge educational and developmental potential and contributes to the development of their creative abilities, the formation of horizons, the education of aesthetic interests, tastes, needs and, in general, personal development.

One of the most debatable issues today is the problem of the introduction of information technology (hereinafter IT) and music and computer technologies (MCT) into music theory and practice, since teaching music, especially performing and creative courses, requires direct "live" communication between the student and the teacher. Creativity as a component of the formation of a teacher's personality should be present at all stages of its formation, become a leading system-forming component of the educational process. To form the creative personality of a music teacher, readiness to implement the artistic and pedagogical process as creativity, to lay the foundations for the creation of a creative laboratory of a teacher-musician is an urgent task of musical and pedagogical education.

One of the main directions of IT application in the educational process is associated with the emergence of music and computer technologies and electronic musical instruments. A striking example with a wide range of applications is Make Music Final, a program for musical notation. It allows you to maximize your creative potential. The sounds range from orchestral instruments to choirs, from brass jazz instruments to marching drums, folk instruments from all over the world are presented here. This program can be used in the process of teaching special musical and methodological disciplines.

Of course, when a composition is born from a set of blank samples or from rhythmic elements of certain genre patterns, this kind of "creativity" can only be a kind of intermediate stage on the way to comprehending the basics of real art. But here,



too, the creative nature is able to overcome cliches, to extract for itself – either intuitively or meaningfully – certain laws, rules of composing technologies, so that as a result a music lover can grope his creative techniques. Working in sequencer programs such as Cakewalk and Cubase gives much more scope for compositional imagination. Later versions of these software products, designed for powerful high-speed computers, integrate various functions of sequencer MIDI editors, multitrack digital audio studios, and virtual synthesizers.

Another area of application of IT in music education is: the study of the theory and history of music, methods of teaching music and some other courses of historical and theoretical orientation. Thus, advanced pedagogical experience in using IT has been accumulated in a number of institutions. For more than 20 years, the education and methods laboratory *Music Computer Technologies* of the Herzen State Pedagogical University of Russia has been working on the introduction of new information technologies in the field of education. There is a search for teaching techniques and methods that, with the help of music and computer technologies, would make it possible to increase the effectiveness of the educational process.

#### V. CONCLUSION

The role of emotions in a person's life is exceptionally great. Mental experiences, especially so-called negative emotions - sadness, grief, longing, despondency, anger, fear, hatred - weaken the normal activity of the nervous system and the entire human body. They can cause serious diseases and the onset of premature old age. The famous Russian surgeon Pirogov, attaching great importance to the mental and emotional factor, noted that the wounds of the captured soldiers heal much worse than those of the victorious soldiers.

The positive role of emotions is not directly associated with "positive" emotions, and the negative role is not associated with "negative" ones. The latter can serve as an incentive for a person's self-improvement, and the former can be a reason for complacency. A lot depends on a person's determination and the conditions of his upbringing. Scientists' opinions on the meaning of emotions and the functions they perform differ. However, the main function of emotions is undoubtedly their participation in the management of human and animal behavior.

Music is an effective tool for changing human emotions. These issues are considered in more detail in a number of scientific studies, among which we highlight the work by A. I. Fedotchev *Musical-computer technologies in the development of methods for correcting stress-induced human states* (2020) [14], as well as publications [15-19].

The key component of the *Music Therapy* program using an electronic musical synthesizer is the intensification of creative activity, the meaning of which is not in the final result, but in the process itself, which contributes to the involvement of children and adults in the creation of an electronic project, encourages them to think, reason like real musicians, thereby activating artistic imagination, emotional and imaginative thinking, creative motivation expressed in the need to create.

Students become accomplices in the creative process by creating artistic images.

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