

The Application of Body Rhythm in Music Therapy: Taking the Experience of Children with Autism as an Example

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Abstract: According to statistics in 2021, the number of autistic people in China exceeds 10 million, and the number of children with autism exceeds 2 million. However, there is no major of autism rehabilitation intervention in the domestic education system, and most of the employees receive training only after entering the job. In the new period of the 14th Five-Year Plan, the state has put forward new guidance for the development of the autism industry, and the number of special education institutions and employees has increased rapidly, but at the same time, it is also faced with problems such as the application bottleneck of multiple methods of rehabilitation treatment, and the lack of certification system and standardization construction. Based on the concept of music therapy and the scientific theory needed for the rehabilitation of special children, it explores the integration of the role of music and rehabilitation intervention, combines music elements with body rhythm practice. After long-term planned training, it lays the way for medical rehabilitation, and promotes body coordination, exercise imitation ability and observation ability. Summarize the body rhythm application evaluation system obtained from practice, which provides reference and reference for the service mode and future development of special children.

Keywords: Music rhythm, Music therapy, Autism spectrum disorder, Children.

1. Introduction

Autism spectrum disorder (Autism Spectrum Disorder, ASD), or autism, is a neurodevelopmental disorder typically characterized by interaction disorders and repetitive behaviors in social interaction. Symptoms begin in infancy and are accompanied for life. Currently, the cause is unknown and there is no targeted drug treatment, and its incidence is increasing worldwide. In 2021, the of the 14th Five-Year Plan for the Development and Promotion of Special Education formulated by the Ministry of Education, National Health Commission, China Disabled Persons' Federation and other departments pointed out the guiding ideology of "targeting appropriate integration, expanding the service of learning section, and promoting integrated education"[1]. Special education schools and institutions around the country are also faced with problems such as further improvement of the curriculum and teaching materials system, exploration of diversified education modes and improvement of the professional level of teachers.

Body rhythm, the core content of Dalcroz Teaching Method (The Eurhythmics of Jaques-Dalcroze), refers to the controlled expression of the music with the changes of the speed, rhythm, strength, phrase and other elements of the music heard. This teaching method offers many courses in professional higher music colleges and universities, but it is not popular among school-age teenagers, and it is also rare in the field of special education. In line with the purpose of "The stones of its mountains can be used to attack jade", whether can use the application principle of body rhythm teaching method combined with music therapy, to improve special children muscle movement ability, imitation ability, participation ability, for reference for medical rehabilitation evaluation, have the effect of rehabilitation intervention, become the special education in recent years of new exploration.

2. The Posture Rhythm Conforms to The Idea of Music Therapy

The concept of body rhythm comes from the Swiss educator and musician Emile Jacques Dalcroze (il Jacques Dalcroz), who founded the teaching system, known as one of the "three major teaching methods in the world". He believed that the foundation of learning is the benign combination of body, spirit and emotion. As a 19th-century music educator, Dalcroz's educational ideas embodies a lot of ancient Greek philosophy, He has repeatedly mentioned to Plato (Plato) that people should merge the inner beauty of spirit with the beauty of behavior, Is " the most beautiful, The cutest realm of all time" [2], The views of the French thinker Jean-Jacques Rousseau (Rousseau) and the Swiss educator Festelozzi (J ohan Heinrich Pestalozzi) also influenced Dalcroz, They advocate following nature and conforming to the child's natural curiosity, Use observation, imitation, experience and thinking ability to carry out education. It is believed that man is an indivisible whole, composed of spirit, body and intelligence, and education should conform to the potential of children's talents. Dalcroz's system of teaching is perfectly consistent: music education should be provided for every child, rather than a designed for a few gifted or children with musical potential[3]. This is also consistent with the idea of music therapy for special children. As for the therapeutic utility of music, relevant ideas appeared in ancient Greece as early as 320 BC. Aristotle (Aristotle) believed that the power of music had the catharsis function and value of emotion. Greek doctor hippocrates (Hippocrates), known as the "father of the medicine", because of "four liquid said" affected the subsequent two centuries of medical development, they are blood (Blood), mucus (Phlegm), yellow bile (Yellow Bile), black bile (Black Bile), each liquid ratio different interact with each other, people's health is the result of their balance, two or more kinds of liquid element imbalance can lead to

disease. The role of music also for four liquid theory, such as at the time, some people think that the role of music leads to moral decay or improvement, or strengthen the emotional guidance and catharsis, such as singing hymn, even under the influence of religious environment in the middle Ages, it is still considered to have calm panic medicine. Plato describes music as the medicine of the mind, so only by choosing the music suitable for the current mood and state of patients can it play the role of music therapy [4].

Both body rhythm and music therapy subjectively follow people-oriented, objectively advocate conforming to nature, and both adopt abstract musical elements to correspond to human emotions. For example, with children as the experience object, when children participate in specially designed music activities, they can express the strength, speed, ups and downs of music to show the inner joys and sorrows, so as to ease the negative emotions and help achieve the goal of healthy development. Both ideas are actively pursuing the association between human body, brain and psychology. Specifically, the emotions of special children change with the movements accompanied by music. The therapist can feel the pleasure and satisfaction of the children as they wave their arms and jump around.

3. The Utility of Body Rhythm and Music Therapy Is Similar

The application concept of Dalcroz teaching method stems from the problem found when Dalcroz was a composition teacher in Geneva: students pay special attention to the training of skills, but are not sensitive to the elements and perceptual understanding of music itself [5]. For professional music students, he carried out training in solfeggio ear training, improvisation and body rhythm. Let the students walk barefoot in the classroom feet, jump, from the experience of the height, speed, strength of music, fully feel the initial experience of music. Together with other teaching sections, Dalcroz has repeatedly applied in the classroom to obtain the teaching method of talent training system — solfeggio ear training, improvisation, body rhythm.

Refeggio (Solfeggio) focuses on cultivating students' "inner hearing" [6]. Dalcroz believes that music should first be understood by the imagination, otherwise the melody will be meaningless, and composition students will not be able to create resonating and moving works. Almost all of the solfeggio ear rhythm can be expressed in combination with the movement of the body.

Improvement (Improvisation) is manifested by a variety of ways, which is reflected in students' free performance of Musical Instruments, impromptu music played by others, or free movements to guide teachers to change their musical accompaniment. The word "Time", which can be interpreted either as "time" or as the "beat" and "time value" of music, is the key word repeatedly emphasized in Dalcroz teaching. Impromptu training adds to the experiential response and prediction to "Time".

Body rhythm (Eurhythmics), the last concept developed in Dalcroz teaching method, is considered as the most core part of the teaching system. Many educators believe that body rhythm has inspired and influenced other teaching methods. The body rhythm focuses on using the sense of balance of the body to express the rhythm and symmetry of the movement in the music, but such an explanation needs to be closely combined with solfeggio and improvisation, which increases

the multiple challenges to hearing, imagination and attention. In intelligence and muscle movement perception music posture rhythm game is by the teacher playing the piano, students according to the music, in the body, respond to music stimulation [7], such as high light melody appear, with clapping corresponding rhythm point, bass long when slow accompaniment, with the foot of movement, the human body is with music echo another instrument, by action show sound and artistic conception, human activity with the speed of the music decided to move speed in space, the perception of the body with further feedback to the brain, get more rich experience and mood.

In body rhythm classes for special children, reaction games are also extremely commonly used, because they have the role of "waking up" the body and replacing the "classroom introduction" link. For special children play music usually be "quantitative" phrases, speed, pitch, the purpose is to let the children according to extremely simple clear music elements to adjust the body strength and balance, for example, in a game song, design a fixed number of "weak, empty" "low, high" music instructions. The change of instructions is also to make children try to change the center of gravity to achieve the purpose of moving limb muscles. No matter whether the experience object is healthy children or special children, the body rhythm is used to stimulate them to respond in the form of music instead of language instructions, so that the perception degree of muscles and nerves is exercised. After periodic training, some special children have a certain ability to identify the judgment of time and the intensity of their voice, which is of great help to the recovery of children. Gao Tian, an authoritative scholar of Chinese music therapy, once commented on the principle of Dalcroz teaching method: "It can adapt to the levels and abilities of various students". He believes that in terms of clinical application, many music education concepts of body rhythm can be applied to music therapy.

Music therapy as a door with psychology, medicine, music and other interdisciplinary of emerging disciplines, was born in the 1940s, modern music therapy into China communication and application has about 30 years, is based on the scientific method, by the means of music for different role, objectively improve interpersonal relationship, promote physical and mental cognition and overcome obstacles, subjective cause empathy, aesthetic and creativity. It's a subject, an art and a communication relationship. Different from music appreciation and music listening, in the clinical practice of music therapy, music elements do not pursue professional aesthetic standards, but follow the principle of "treatment first", and choose music according to the characteristics of the treatment object and the treatment purpose.

Body rhythm game choose music in special children follow their preferences, with beautiful, soothing, rhythm clear style is given priority to, with movement disorders special children appreciate music, the guidance in the music therapist, its role is too auditory simple stimulation, more emphasis on music to children with multiple sensory response, such as treatment object at the end of each phrase, clap the tambourine, its purpose is to treat object involved in the activities, let the brain and nerve affects the muscle to complete an action, achieved the purpose of the action set and make participants feel happy. Thus, functionalizing music is a very important principle of music in the rehabilitation treatment of special children.

The practical concept of body rhythm and music therapy is common. Sell Gerston (Thayer Gaston), the father of music therapy, believes that "music" is no means of verbal communication, its power comes from its silent connotation; it defines "rhythm" as the organizer and promoter; music can control behavior, such as fast-paced percussion can greatly promote physical activity, and long time slow music is calming the body. The way of exercise and self-expression in music therapy can be realized by the principle and practice of body rhythm and play a therapeutic role.

Dalcroz's rhythm of pace with music therapy. In neurological music therapy (Neurologic Music Therapy), especially in the motor function of training children with cerebral palsy [8], the elements of music provide auditory and tactile feedback to the body and brain, synchronized with the children's action[9]. In sensory mode stimulation (Patterned Sensory Enhancement), for example, space (Spatial), time (Temporal), force (Force) three conditions will pitch, rhythm, volume elements all applied to the concept of movement, the action of treatment objects according to the different combination of music simple change, transformation of elements can be used as movement instruction, assist language to achieve the effect.

4. Application Forms and Steps of Body Rhythm in Music Therapy

First, the form of experience is a collective experience mode. As with group music therapy, this can establish the relationship of multi-level communication in the body rhythm classroom. Group music therapy is for 8 to 12 people[10], which is enough for the therapist to give observation to each member, which is consistent with the physical rhythm class of special children, and it is easy to lose control by adding too many participants. In addition to completing the movements alone, the experimenter adjusted their range of action and observed the responses of their peers when completing the movements together with others. A teacher or a therapist can also focus on each member and have the adjacent members communicate.

Practical operation can be performed in the following steps:

In cooperation with rehabilitation institutions for children with mental disorders, select fixed age groups, classes and teaching hours. The subjects are 5 to 12 years old, 5-12 students in each class, 30 minutes, 2 to 6 times a week. The teaching staff includes 1-2 teachers or therapists, 4 teaching assistants or parents. It is recommended that teachers use Musical Instruments with more piano and wide range as teaching Autism sufferers, and children use Orff small Musical Instruments, such as sand hammer, triangle iron, tambourine, sandbag, and other safer props. Everyone has a musical instrument, which does not need uniform specifications, so that it can be used in the accompaniment of different music and rhythm, increase the freshness of children and arouse curiosity. The teaching site should be flat and spacious, providing enough space for activities.

Please sit down in a circle and sit behind you to help your teaching assistant to ensure that each child can see each other. Since the acceptance ability and reaction speed of special children may be different, it is recommended that no more than two tracks be selected for training to avoid confusing the movements. Each track is introduced by listening, and everyone is required to make movements during the slow performance, such as touching the shoulders with the long

tone and clapping the hands with the short tone. After repeating the track two or three times, observe whether the students can complete the action. If 80% of the members can adapt, they can gradually increase the difficulty and change the instruction, such as using the sound of the instrument, or stamping and clapping to respond to the rhythm point at the same time, or standing to complete the movement. Teachers need to observe the state of experience, speed means difficulty increase, if there are children cannot complete, need to slow down, or deliberately play rhythm point into stress, if the effect is still bad, can join the language instruction, such as "clap, dalai, dalai, dalai" "up, up,", etc., the teaching assistant to assist children to make the right action, to experience the music beat point consistent with action.

Secondly, the audience group of the experience should be as diverse as possible, so that the positive role of music is widely accepted. In addition to children with autism, the parents are also practitioners of body rhythm and music therapy, treatments, researchers, and sometimes even teachers and therapists themselves. Their role needs are more flexible due to individual differences in the children. This is often seen in the body rhythm class in Switzerland: those who dare to improvise, boldly imagine the musical image, roll on the floor, and run disorderly, are often untrained systematically, parents and have no common sense of music and first-time visitors. Parents of special children relieve the pressure in the listening and movement of music, and give more cooperation and attention to the children, so as to better guide the children to actively respond to the music, promote the communication ability of the children, improve the relationship between family members, and more importantly, strive for more common training opportunities for the children and themselves. The music intervention mechanism of parents intervened to explore more possibilities of rehabilitation, which is also in line with the new advocacy of "home-school co-education" in the country for the growth direction of disabled adolescents[11].

The practical operation steps are described as follows:

The first step is to develop the purpose of training, with cultivating social skills and arm movement ability as an example. The second step, to develop training requirements, please parents and children sit opposite the other, parents will put the small sandbag into the hands of children, encourage children to return to the small sandbag in the same way, music starts action, fixed sentence melody indicates the delivery and acceptance. The third step, make the difficulty, primary: put the small sandbag directly into the hands of children, children catch, music using the downward sentence, concise and clear. Advance: parents put the small sandbag to the children, encourage them to reach out to catch, music choose the upward decomposition chord, imitate the intonation "ok?". Advanced order: parents reach out to return to the small sandbag, music upward sentence imitation question "can give me?" "Play the melody, the child take the initiative to deliver the small sandbag to the parents, the parents give affirmation to express" thank you ", the music to choose a harmonious chord to indicate the end.

Finally, the assessment of music therapy, like the assessment of body rhythm, has no "international" standard. According to the individual differences of the treatment objects and the occupational background and clinical experience of the therapists, the assessment content, focus and consideration criteria are different. Evaluation is done through short-term, long-term goals and plans. Set the plan

according to the characteristics of the evaluation object. So the body rhythm team has an "open source" record book to records the characteristics of different degrees and ages and the responses after each activity experience. After a subtle summary and the accumulation of bit by bit, it finally formed a "customized" evaluation form for a child. This "personalized" table can observe the experience of body rhythm or music therapy, the assessment of certain abilities, such as language, movement, coordination, etc. In the content of each investigation, and finally in the phased summary, to

observe the change of scores, so as to judge whether the body rhythm class or music therapy improves the symptoms of the children.

The practice is as follows: with 3 months as a total cycle, divided into initial stage, middle stage, each record including concentration, hearing, response, etc., children's performance is scored according to a certain scoring standard, so as to observe the results of the control body rhythm improvement experience [12].

The purpose and role of the teaching process in a class		
Import the guided listening style (About 2 minutes)	Two children's songs are selected as the musical melody and played respectively	Music replaces language to attract attention and make physical preparation
P art 1 Rapid response (About 10 minutes)	Play the melody at slow speed, play a strong beat, change to medium speed performance, pay attention to the sense of music	Use the melody to greet your companions, move your hands and feet, predict the beat and pitch, and emphasize the sense of rhythm to cause auditory, touch and visual attention
P art 2 Learn the movements (About 10 minutes)	Play the original children's songs, and switch the speed according to the movement proficiency of the experimenter	Tap your hand / shoulder and switch between speed once or twice to keep it fresh and promote muscle movement change
P art 3 Free movement (About 6 minutes)	Children's songs and impromptu music non-stop, volume, rhythm orderly switch	Running, jumping, walking and other movements make the body curl up, rotate, stretch to muscle control, relax.....
End with a steady mood (About 2 minutes)	Play two nursery rhymes, and go back to the speed of the introduction session	Feel the music, relax the muscles, take the rest, the body and the brain

Training time: 10-16 classes

Training objectives: (1) wake up the excitement and increase the leg control force

(2) Singing independently or finishing standing and sitting, to get a sense of achievement

Training steps: (1) teachers and children do two groups of "standing" and "sitting down" together

(2) The teacher plays the children's song "Little Star", and the children listen

(3) The children sit down to listen when the music begins; the children stand up when the music stops

Training results: At first, children can not make movements when listening to music. They can gradually complete the movements with the help of the teacher, but the reaction is slow. Under continuous guidance, children form muscle habits and memories, can respond to the instructions of music, and gradually get faster reaction speed, but also gain a sense of achievement, improve their self-confidence, and can enter the next stage of learning.

Initial assessment forms were obtained according to the scoring criteria:

Rhythm evaluation										
surname and personal name:		level:			recorder:					
stage	frequency of training	1	2	3	4	5	6	7	8	Last and last assessment difference score
	test item									
At the beginning designated time	focus	0	0	1.2	1.5	1.4	1.6	1.7	1.7	+1.7
	auditory response	0	0	1.3	0	1.2	1.7	1.9	1.8	+1.8
	free responding	0	0	1.2	1.3	2.0	2.6	2.7	3	+3

The assessment was completed based on the difference score

code of points	
value	explain
0	Cannot complete the action as required
1-1.9	The teacher is needed to help him complete the action
2-2.9	The teacher verbally prompts you to complete the movements and instructions
3	Ability to complete the actions and instructions independently as required

Today, there are more than 200 schools in the world that offer music therapy majors, and 13 universities in China have opened music therapy majors [13]. China is still facing the situation of uneven qualifications of music therapists and trainers, and there is a great demand for music therapists with clinical experience. Through the research and trial of professional colleges, music rhythm games enrich the learning methods of autism and obtain the experience of rehabilitation intervention on the basis of physical and mental health development. By means of rhythm teaching, music teachers can make up for the shortage of professional music therapists in the class of special children.

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Author Introduction

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