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## Study on cultivating the rhythm sensation of the students majoring in the music in colleges and universities

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### ABSTRACT

The rhythm is the essence of music, the source of the viability of music, and the core element of music. The music rhythm is essential music skills for music learners, and only when the music rhythm is mastered, it is beneficial to improve students' abilities to understand and appreciate the music and to improve the students' music sensibility and music expression. But there have been many shortages about the music rhythm teaching in the current education in music major of the colleges and universities, which have ignored severely to cultivate the students' rhythm. Below, this paper will elaborately analyze how to a detailed analysis of this study is how to effectively cultivate the music rhythm of the college students majoring in music.

### KEYWORDS

Colleges and universities; Music major; Rhythm; Cultivate.



## INTRODUCTION

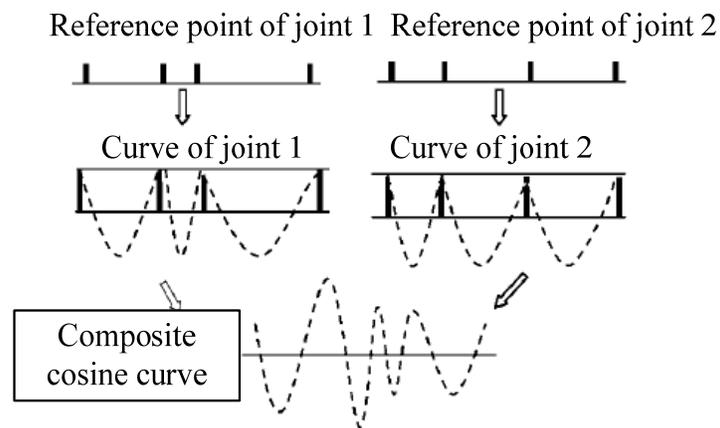
Rhythm is a kind of musical terms, and a fluctuating curve about emotion appeared in the audience thought after the forms of artistic presentation were transferred to the audience. Orff, the famous music educator in the contemporary times, put forward in the thought and practice of music education that “the rhythm is the simplest music material, and also the original power of the music”<sup>[1]</sup>. It can be seen the importance of rhythm in music. How to effectively train the rhythm sensation of the college students majoring in music rhythm is not only the important content of this research, but also the important content of the syllabus of the music education in colleges and universities.

## THE CONCEPT OF MUSIC RHYTHM SENSATION

Rhythm is the most dynamic and unique element appeared in the music. From ancient times to the present, no matter how many changes, the music melody and harmony, and even the modern polyphony, are built on the basis of the rhythm. So someone called the rhythm as the bones of the music, and the rhythm is the soul of music. However, the music rhythm sensation is the comprehensive ability to understand and perceive the relevant factors of music, which is mainly due to the music rhythm that stimulates the excitement of the cerebral cortex to cause a series of psychological reaction, then through the nerve center to dominate the physiological function of human body, and finally to make it cooperate with music rhythm accurately to complete the process of body movements<sup>[2]</sup>.

## THE RHYTHM FEATURE EXTRACTION

To calculate the matching degree of movement and the rhythm of music, the music signals and movement need to be converted into of feature points sequence of the rhythm semantic, that is take the rhythm information of music and action abstraction into the one-dimensional feature point function. Paced action feature extraction required obtaining the curve of motion range, we use the rhythm analysis proposed by Kim et<sup>[13]</sup>. First extracted each joint point of angular velocity curve of motion data, and marked the extreme points of the curve as the rhythm reference point. Since each joints of action segment can construct a cosine curve, in order to fully represent the entire action feature, you need to put a specific point on the curve of joint interest to the user composite, the composite curve obtained by the weighted average for each curve is the overall operation of the curve shown in Figure 1.



**Figure 1: Action curve complex process**

## CONSTRUCTION OF ACTION-MUSIC MAP

During automatic choreography and music, generally take the form of operation diagram and music figure respectively store and organize the operation and the music data, i.e., the segmentation of music data and the motion data by the beat, each fragment after segmentation was regard as a node for operation diagram and music chart. Thus, the problem of automatically choreography and music is converted to traversal issue in the action figure and the music charts. that the rhythm match model by the action and music to calculate all the potential extent of the action and match music clips portfolio, and then select the path with the highest matching level of input action or music data as an automatic choreographer or music output. However, due to the large cost of calculation process for the match degree of movement and music, and therefore we need to build the paced action - music map to efficiently search the data to determine the candidate action or music. Shown in Figure 2

Action diagram Mapping table Music charts

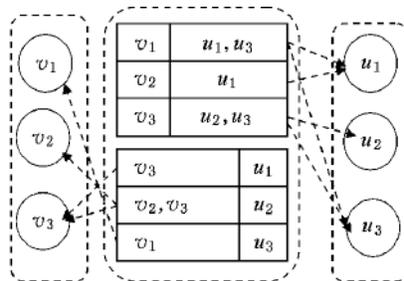


Figure 2 : Action - music map

THE CONTENT OF CULTIVATING THE MUSIC RHYTHM SENSATION

The cultivation and training of the sense of meter

Meter is the value to show fixed unit and the organization form of the rule of the strength in music, and it is also the main characteristic of rhythm, while the sense of meter is the perception of the meter. Actually, the ability to master the sense of meter is the ability to accurately grasp the relationship between meters. The sense of meter involves both the continuity and uniformity of the meter, and at the same time, it is also related to the different combinations of the values. The cultivation and training of the sense of meter is the foundation of training the students' rhythm. The German opera founder Weber once said that "the meter for music should be like the pulse for the people's life. Even they are the same instruments, but due to in different people's hands they can bloom different kinds of vitality"<sup>[3]</sup>. Therefore, in cultivating and training the students' music rhythm sensation, the primary task is to establish the accurate and stable sense of meter. Music meter sensation contains nodular and homogeneous sense, so it is closely connected with the speed. Besides, the music sense of meter is also closely linked to the value of note around the unit meter, and the meter is the alternation of the unit meter connected by the stress. In training students' sense of meter, students feel the role of meter in music by listening to and appreciating music with different meter features, for example, enjoying some music tracks with the characteristics shown in the following TABLE.

TABLE 1 : The role of meter in music

Time signature	Features of meter	of	Music tracks
2/4	$\downarrow \downarrow$ > strong weak		Athletes March, Military March, Radetzky March, and Avanciermars, etc.
3/4	$\downarrow \downarrow \downarrow$ > strong weak	weak	The Blue Danube Waltz, The Story of the Vienna Woods, The Sound of the Spring Waltz, The Artist's Life, etc.

In music teaching, the purpose of training the students' sense of meter is mainly to make students correctly grasp the stress of music meter, then cultivate students' sense of rhythm and meter, and ultimately enable students to accurately grasp the different characteristics and their music images shown by all kinds of meters.

The cultivation and training of the sense of speed

The sense of speed mainly refers to the ability to keep the identified speed in the music works neither speed up nor slowly for a long time. In cultivating the rhythm sensation of college music majors, the cultivation and training of the stable sense of speed is particularly important to the cultivation of student's sense of rhythm. Although the structure of the music rhythm will not change according to the different speed, for a fixed speed to keep the right rhythm, if the rhythm is slightly faster or slower, it will cause the rhythm of the whole music works in chaos. Whether it is a complete music work or a simple singing practice, it has a relatively fixed music speed. So, speed is one of the main ways of performance of music works. For the same composition, the emotion and meaning expressed by different music speed are also different. For example, the music scores of the main melody in Funeral March are shown as Figure 3.



**Figure 3 : The music scores of the main melody in Funeral March**

For such a theme, if under the situation that just the speed was increased but its rhythm was not adjusted, then the original feelings that this music expressed would disappear with it.

The basic speed terms of music works and the interpretation are shown in TABLE 2 below:

**TABLE 2 : The basic speed terms of music works and the interpretation**

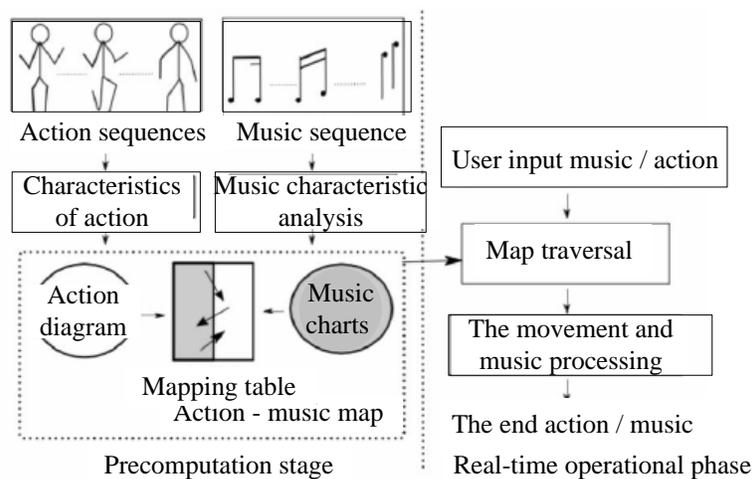
Terms of Speed (in Chinese)	The number of meters per minute	Expressed meaning
Grave	40	Slow, heavy and solemn
Largo	46	Slow and broad
Lento	52	Slow
Adagio	56	Calm and slow
Larghetto	60	A bit slow
Andante	66	Walking speed slightly slower
Andantino	69	A little faster than andante
Moderato	88	A moderate speed
Allergretto	108	Slightly faster
Allegro	132	Fast
Vivace	160	Rapid and vivace
Presto	184	Rapid
Prestissimo	208	Very fast

When cultivating the stable sense of speed of the college music majors, we can effectively use the metronome to fix some speed to train, and in addition, we can also use the student's own physiological rhythms such as walking, running and so on to establish a relatively stable sense of speed. However, what should be paid attention to is that because the metronome is mechanized, but music is created by human, so we cannot constraint the music due to the usage of the metronome.

### **The cultivation of the sense of rhythm**

If the rhythm is the life of the music, then the movement of the rhythm is the life of the rhythm. In the rhythm training of the college music majors, cultivating the students' keen sense of rhythm holds an important place, so in cultivating the students' rhythm, it should also pay attention to training students' keen sense of rhythm. In the cultivation of the students' sense of rhythm, teachers can effectively use some visual rhythm characteristics and combine with the students' body movements to cultivate students' sense of rhythm. Besides, it will be easy for some people who contacted with music or learned music to feel the sense of the rhythm and movements of music when they follow the music, but it is very difficult to represent them, especially the phenomenon is more outstanding during being played, and in order to be able to fully play the note song on the music scores, the players lose the movement of the rhythm, which eventually leads to the entire play lose the sense of rhythm.

Build complete the action - the music map can be easily used for automatic scoring and automatic choreography and other occasions. Figure 5 shows an automated workflow of choreography and music system, which includes pre-computation and real-time operation. In the run-time phase, directly traverse the map can generate the candidate results of automatically soundtrack or choreographer. To further improve the rhythm matching relationship of the operation and music, to conform the user's quality requirements, but also the candidate movement and the music processing.



**Figure 5 : System workflow**

Learning music and grasping the rhythm of music need to be perceived by people's body, and all kinds of singing or performing activities at the same time are also achieved through the actions taken by the tracheas of the human body. Therefore, the father of the body rhythm Dalcroze put forward that "the perception of the music, especially of the rhythm and strength element, not only relies on hearing, but also more depends on the muscle motion perception. It is human's body that achieves the perfect combination between body and mind".<sup>[4]</sup> So, the music rhythm is mainly represented by the mutual actions that your own body cooperates the human organs. Thus, for the music majors, the performance of each song should not excessively emphasize on the instrument or music skills, but use your heart to feel the real rhythm of music. Only when grasping the sense of rhythm of each song, you can express music works perfectly.

## THE SUGGESTIONS FOR STUDENTS' MUSIC RHYTHM TRAINING

### Stimulating students' interest in the activities of music rhythm

Interest is the best teacher. In cultivating the sense of rhythm of the college music majors, only when grasping the students' interest and making them have the learning orientation, it can effectively improve students' learning efficiency. For example, in teaching, the concept of rhythm is abstract and is difficult to understand, but students are very sensitive to rhythm, and the rhythm is in our learning life, so if teachers want to make students understand the rhythm and be interested in the rhythm, they can take the life as the starting point. Such as the animal sounds, the transportation sounds as well as the voice of nature, all these sounds have very visual rhythm, and it is easy for students to find this rhythm, to imitate this rhythm, and to show this rhythm. Then, after being introduced the theory knowledge of the rhythm to students, they can easily understand it, and at the same time can also lay the foundation for the cultivation of the students' sense of rhythm.

### Creating an environment for students to listen to music

Music is an auditory art. Listening to music is mainly the premise to establish good music listening habits and develop the music ability. Marx once said that only music can cause the music feeling, and for those who cannot appreciate music, even if the most beautiful music does not make any sense<sup>[5]</sup>. It also shows that only by constantly strengthening the hearing training, it can effectively cultivate the students' music feeling. So in cultivating the college music majors' sense of rhythm, creating an environment for students to listen to music is especially important. For example, creating an environment to listen to music in music teaching in colleges and universities can improve the quality of the equipment, and configuring stereo equipments with good timbre for students. Good stereo equipment is the most perfect interpretation of a song, and the stereo with good quality can much more stimulate the students' enthusiasm for music. For example again, in relatively relaxed classroom, the teacher should take the student as the main body, fully understand the students' fond of music types, and find a good starting point to teach with emphasis. It is best to choose a few representative music that everyone is familiar with in order to let the students overall grasp the light and shade of the music sound, the speed and the rhythm, and finally can let students make a free discussion to talk about their feelings, or let the student sing or take the corresponding rhythm to make the students gradually establish the sense of rhythm.

### Strengthening the rhythm training by the movements of the body

The body action plays an important role in training students' sense of rhythm. Music rhythm mainly depends on the speed, strength and height of the sound to express, and these rhythms can be grasped not just relying on auditory sense or thinking, but needing to perceive with feelings, and then conveying to the brain through the auditory nerve and making the corresponding responses, such as muscle relaxation, pulse metering and mental pleasure and so on. Rhythm is the process of movement, so if students want to grasp well the rhythm of music, they also must through a certain body actions to establish

the sense of rhythm, in which the most performance is metering with hands, shaking heads or body and so on. For example in the teaching, in order to improve the interest and enthusiasm of the students to practice, teachers can choose a few interesting music repertoire with relatively obvious strong or weak rhythm, and do the action together with students, in order to effectively make students to experience the changes of the strength as well as the speed of the rhythm by the body action. But in the process of training students rhythm, what should be paid attention to is that must let students play freely, guide students to use all parts of the body to express the music rhythm. Besides, in the process of training, if finding the inconsistency between the body action and the rhythm, teachers should guide timely to enable students to achieve the organic unity of form and rhythm, and then enables the student to utilize the body actions show the sense of music rhythm and represent the sense of movement of the music itself.

### CONCLUSION

To sum up, the cultivation of the sense of rhythm is the process that the different levels, a variety of methods and all kinds of methods combine organically with each other, and the cultivation of the sense of rhythm does not happen overnight, which needs us planned, purposeful and unremitting training. Only in this way can we grasp the sense of music rhythm gradually, and can improve our ability to understand, appreciate and express the music.

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