

The Aesthetic Education Connotation of Music Courses in the Teaching Difficulties of the Middle Scale

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Abstract: Music can improve human memory and auditory discrimination. Learning an instrument requires patience and will stimulate students' willpower. The original intention of many parents to send their children to learn musical instruments is not only to cultivate their children's aesthetic ability and increase their interest, but also to enhance their children's willpower and concentration. The study of all music, including musical instruments and vocals, is very boring at the beginning. Practice over and over again can exercise students' patience and stimulate students' willpower. The main purpose of this paper is to analyze and study the difficulties in the teaching of the middle scales of the aesthetic education connotation of music courses. This paper believes that in addition to the appreciation class, the teaching content of music education major also needs to learn the skills of performance and singing, theoretical knowledge, music analysis, learning the history of music development in various periods, understanding the inner meaning of the works, and mastering the ability of music teachers to teach. The survey results show that the basic music quality of students is generally not high, and the basic knowledge is relatively weak. Due to the pressure of studying in the college entrance examination, students lack of music cognition and have little contact with the basic knowledge of music. Still have their own views, which requires colleges and universities to comprehensively promote quality education, strengthen the aesthetic education of college students, and promote the all-round development of college students.

1. Introduction

Both music and ideas are necessary elements for the development of human society and are closely linked to our daily life. Music education is one of the important ways to provide quality education to college students, and public music elective courses and various artistic practice activities for non-music major college students in colleges and universities are also effective ways and methods to promote the all-round development of college students. Under the requirements of education reform in the new era, public music education in colleges and universities implements the construction of "course ideology and politics" to make ideological and political education and

public music education more effective and natural combination, and integrate moral concepts, ideals and beliefs into the content and form of music teaching. It can not only improve students' musical literacy, humanistic literacy and ideological and moral literacy, but also shape ideal personality, so as to achieve the educational goal of "cultivating morality and cultivating people" in colleges and universities [1-2].

In a related study, Pendergast et al. investigated middle school students' preferences for various music learning conditions and middle school music curriculum settings [3]. Student preferences for music classroom teacher roles, group size and repertoire, and interest in six different middle school music programs were studied using stratified random sampling. Findings showed that out-of-school music participants and non-participants had stronger preferences for group learning environments and repertoire selection compared to school music participants. Cronenberg believes that general music is one of the many exploratory courses commonly offered in American middle schools [4]. Using an emerging, qualitative approach to content analysis, the authors surveyed 1,316 middle school music teacher respondents about their perceptions of the need for universal music for all middle graders. While music education respondents were divided on this issue, their reasons revealed interesting perspectives about the purpose of music education and the functioning of secondary schools.

This paper mainly analyzes and researches the difficulties in the teaching of the middle scales of the aesthetic education connotation of music courses. Music education courses for non-music majors in colleges and universities are generally general elective courses, and most of the classroom teaching forms are music appreciation courses. Teachers will choose composers of important periods or representative works of art to appreciate and learn. Elective courses Generally, it does not involve too much professional content, and the classroom is mainly taught by teachers, with little practicality. In addition to the appreciation class, the teaching content of the music education major also needs to learn the skills of performance and singing, theoretical knowledge, analysis of musical forms, study the history of music development in various periods, understand the inner meaning of works, and master the ability of music teachers to teach. The courses are divided into major theoretical courses and small professional courses. Improve students' professional quality through systematic music education courses.

2. Design Research

2.1 The Function of Music

Music is an important wealth of human spiritual civilization, and the existence of music can be seen everywhere in our daily life. Regardless of the type of music, it gives each of us the same sensory and spiritual experience. Therefore, whether it is professional music education or public music education, it has the same educational significance for students in terms of function and function [5-6].

Music can broaden the horizons of college students and cultivate noble moral qualities. Music education is that teachers guide and inspire students with contagious musical language, play the role of moral and aesthetic education, integrate artistry and ideology, stimulate students' interest and fighting spirit through music education, and cultivate students' noble moral sentiments. Establish correct values.

Music can stimulate creativity and develop students' intelligence. The 21st century is a period when the times and art are integrated and created together. Today, with the rapid development of science and technology and economic development, the update speed of knowledge is also getting faster and faster with the development needs of the social market. If you want to keep up with the development of the times. With the pace of development, our country must focus on cultivating

high-quality innovative talents with all-round development, and take music education as an important course of quality education in colleges and universities [7-8].

2.2 There are Problems

Summarizing the teaching situation of several schools and the cultivation of students' ability of solfeggio, the common problems are as follows:

(1) In terms of intonation: Through the study of the whole class, students can basically learn to sing the newly taught songs. However, due to the large number of students in the class, the singing is mostly in the form of chorus, which leads to fewer cases of teachers correcting the intonation. Students are accustomed to singing along with the accompaniment of the piano or songs. Once they are separated from the music, they will be out of tune.

(2) In terms of rhythm: some teachers emphasize the training of rhythm listening and recognition, mostly for teachers to beat the rhythm alone, and students use the word "big" to imitate the rhythm. When dealing with difficult rhythms, most of them are to pick out a certain beat or a certain measure in the difficult rhythm pattern alone, and the students perform mechanical imitation. However, in the later singing practice, there will still be rhythm errors when encountering difficult segments.

(3) Hearing: Students can accurately hear the pitch and melody trend, and experience the emotions of the music, but the sense of stable beat and inner hearing ability are relatively weak. Usually, the more they sing, the faster they sing, and the more emotional they become. Happening. Some schools will let students open the book and read the score while listening to a new song for the first time, so that the students cannot fully focus on listening when they first listen to the song.

(4) Singing state: Some teachers put too much emphasis on the singing state and volume, which led students to sing the phrases into "decomposed phrases" in beats. Or "shout out" to sing the situation.

(5) In terms of musical structure and musical elements: the concept of musical structure is relatively vague, and some middle-aged and senior students are only able to delineate phrases. Students' attention to songs is focused on the melody and illustrations in textbooks. Most students only pay attention to the speed, strength, emotion, singing form and other elements of songs under the guidance of teachers.

(6) Traditional folk music: Students are less interested in Chinese traditional music than popular music, and some students only have a certain appreciation and theoretical foundation for Peking Opera. Regarding the appreciation of Chinese traditional opera or ethnic music, only a very small number of students expressed their appreciation of traditional opera or ethnic music.

(7) In terms of chorus training: For most students, chorus training only exists in the way that all students sing together in the classroom. Only a small number of students can improve their chorus by participating in the school's chorus team, art festivals and a series of chorus competitions. The ability training does not really integrate chorus practice into the usual music teaching [9-10].

2.3 Teaching Methods

In the 21st century, the teaching methods of solfeggio in the United States are mainly divided into four aspects: memory method, imagination method, classification method and comparison method. In teaching, the above four teaching methods are in a step-by-step relationship. It follows that people have a preliminary understanding of music from memory and repetition, use imagination on the basis of full understanding, and have a better understanding of the basic elements of music and music perception. Establish a music system through classification and

comparison. The United States achieves the goal of building a dynamic music education system through four teaching methods [11-12].

Solfeggio has a long history in France, and its teaching method usually combines music history, harmony, musical form and composition technique analysis. Generally, the fixed roll call method is used, and the form of single-voice and multi-voice is adopted.

Italy focuses on the training of sight-singing, pays more attention to the notation of musical score, mode tonality, and musical style, and uses more body rhythm methods.

After absorbing the Orff teaching system in Russia, the teaching of solfeggio is based on the concept of "segmenting and ear training in games", pursuing the synchronization of auditory experience and sound expression. Generally, improvisational sight-singing or singing under the prescribed tonality and rhythm is used.

As the birthplace of the Orff teaching method, Germany pays more attention to the role of rhythm and rhythm in music learning.

2.4 Music Classification based on Music Gene Mining Theory

There are many classification forms of musical scores, and the classification results obtained by musical style, nationality, era, etc. are not the same. The information in musical scores is incomplete and needs to be obtained by mining the musical genes of musical scores.

Here, the method of machine learning is used to realize music classification, and through the theory of music gene mining, music genes are extracted, and then the training process is realized. Because different musical genes have different abilities to map related musical attributes. Therefore, each musical gene should have a weight that measures the ability to map the relevant musical features. Reporter genes also vary according to different classification systems. For example, when we judge the age of music, the gene of the music should be an important reference point; when we judge the region, genetics should be the main reference point; recommendation should be the main recommendation factor. Therefore, the weights of each bar gene, rhythm gene and melody gene in each music genre must be calculated separately. Among them, the weight calculation formula is shown in formula (1).

$$w_{k_l^a}(d) = \frac{tf_{k_l^a}(d) \log(N / n_{k_l^a})}{\sqrt{\sum_{i=1}^m (tf_{k_l^a}(d) \log(N / n_{k_l^a}))^2}} \quad (1)$$

Among them, d is the music part, d=1 is the western part, d=2 is the Chinese part, and d=3 is the rock part. We chose the gene type, when a=1 is a rhythm gene, a=2 is a rhythm gene, a=3 is a melody gene, and kal is the lth gene aa. Tfkal(d) represents the frequency of kal genes in d-type songs, N is the number of song branches, m is the total number of a-Type genes in d-type songs, and nkal is the number of kal gene branches.

When classifying musical scores, the same method is also required to calculate the three eigenvectors of musical scores. The calculation formula is shown in formula (2).

$$w_{k_l^a} = \frac{tf_{k_l^a}}{\sum_{i=1}^m tf_{k_l^a}} \quad (2)$$

a is the selected gene type, and kal is the l-th type a gene. Tfkal represents the frequency of gene kal in the music, and m is the total number of a-type genes in the music.

Finally, the similarity value is calculated from the three eigenvectors of the musical score and the three eigenvectors of each song, and the category to which the musical score belongs is determined by comparing the similarity values. The similarity calculation process is shown in formula (3).

$$E_a^X(d) = \sum_{i=1}^m (w_{k_i^a} \cdot w_{k_i^a}(d)) \quad (3)$$

X is the document to be classified, a is the selected gene type, kal is the l-th class a gene, m is the total number of class a gene in the music of class d and X. wai is the weight of the ith component of X in gene a, and Wkal(d) is the weight of the ith component of the selected category in gene a. When the gene kal exists in X, and the gene kal does not exist in the d-type musical score, then Wkal(d)=0, otherwise Wkal=0.

3. Experimental Study

3.1 The Following are Several Methods for Correcting Intonation In Primary School:

(1) Practice the pentatonic scale. The reason for adopting the pentatonic scale is that most of the folk music in our country is pentatonic and easy to be mastered by the students. Therefore, before each class, you can spend 3-5 minutes to do the practice of singing the pentatonic scale while playing a fixed rhythm, such as low Grade students can use the rhythm pattern of the combination of eighth and quarter notes in the textbook (as shown in Figure 1). Middle and senior students can add dotted and syncopated rhythms on the existing basis. According to the student's ability, the rhythm pattern can be simple or combined into complex forms. This method can quickly respond to the relationship between intervals while correcting the intonation, so as to achieve the synchronization of mouth and hand, and exercise polyphonic thinking.

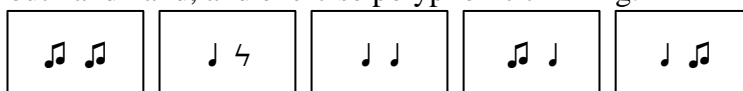


Figure 1: Sing the pentatonic scale with rhythm cards

(2) Continuous sound practice. When the middle and senior grades practice the same tonic key, they can use the "move do" bass practice, that is, play the sustain note of d on the piano (the d is used as the bass at this time), and sing the high pitch of the desired interval; Sing low" or "play low and sing high", play the root note or high pitch of the interval on the piano, and students sing the interval by themselves. In chord practice, play the root note of the chord and sing the root note, third note, and fifth note. Similarly, you can also play the fifth note and sing the root note, third note, and fifth note. In this process, students are trained to listen carefully to the sound of the piano and at the same time compose carefully according to the sound of the piano, so as to meet the requirements of accurate singing.

(3) Three degrees of practice. The easiest way for lower grade students to sing accurately is the minor third, so all interval construction practice should start with the third.

(4) For the problem of inaccurate s, the pentatonic scale can be used for training. The relationship between drm pairs is a major second, m to s is a minor third, be careful when singing, do not sing "too big", the mouth shape is slightly contracted like an "O" shape, and the feeling sound is three-dimensional, And singing in a low voice, pay attention to "sing accurately and beautifully".

2) Analyze the basic theory in the song

Good sight-singing ability is not only the control of pitch, but also the expression of musical emotions. The style of music needs the support of music theory. Before singing, students should be

guided to sort out key signatures, time signatures, speed, dynamics, expression terms, phrase structure and other elements, so that students can develop good reading habits and learn better Music works are the basis for the cultivation of musical literacy.

3.2 Pictures and Physical Display

To attract the attention of lower grade students in the form of displaying cartoon pictures and real objects, and more intuitively express the relationship between the length and the length of the notes. For example, the left side of the seesaw is a big friend, and the right side is two children. The weight of the two children can reach the same weight as the big friend. For example, when teaching quarter notes and eighth notes, prepare a big bell and two small bells. The big bell represents one beat (♩), and the two small bells together represent one beat (♫). Through two methods, students can intuitively see that the duration of two eighth notes is equal to one quarter note, as shown in Figure 2.

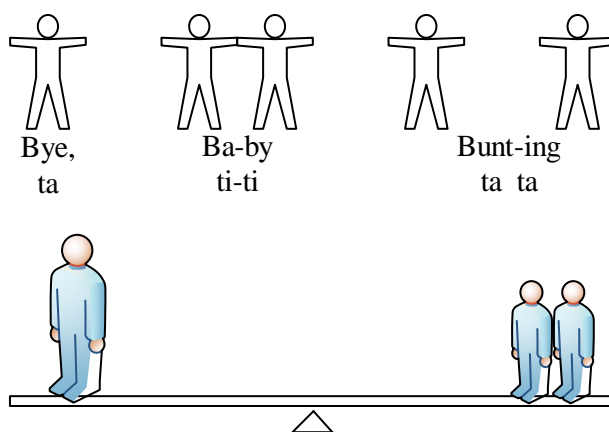


Figure 2: Relationship between 3-2ta and titi

The above methods are to first isolate the typical rhythm pattern in the song, use onomatopoeia, pitch or rhythm syllables set according to certain rules, students read and memorize the rhythm for many times, and finally introduce the Kodály rhythm reading method, so that the original boring and single concept explanation becomes vivid and easy to understand, and students establish the concept of time value based on this, and enhance the perception and listening of rhythm, so that they can accurately grasp the rhythm in the work. At the same time, the rhythm reading method makes the rhythm training more challenging, and the rich training mode can greatly improve the students' interest in learning, improve their attention and reaction ability, and enrich the teaching methods in the classroom.

3.3 PNC Algorithm

Step 1: Create three sets of nodes with all notes, durations, and zones and their probabilities.

Step 2: Find two unmarked minimum nodes for each group respectively, mark them and connect them as left and right branches to a new node, the probability of the new node is the sum of the two nodes.

The third step: Repeat the second step until all symbols are connected into a binary tree, that is, a total of 3 binary trees.

Step 4: For these three trees, the path from the root of the tree to each symbol node is the code of the symbol. When passing through a left branch, the code adds a 0, and when passing through a right branch, the code adds a 1. .

Step 5: Read the notes of the score in sequence, select the code value corresponding to the note, the code value corresponding to the duration, and the code value corresponding to the sound zone, connect them, and regard it as the final code value of the note.

Step 6: Connect the seed code values of all the notes in sequence. When all the notes are recoded, the algorithm ends.

The first four steps in the algorithm are the part of the code value determination, and the last two steps are the compression process. Because each small code segment ends with 0, when all code values are connected in sequence, there is no need to add an identifier to distinguish the code segment.

4. Experiment Analysis

4.1 Analysis of Music Genres that Students Like

By asking students about their favorite music, we can understand the aesthetic tastes of current students. In the ninth question of the student interview, related questions are involved. From the comparison in Table 1, it can be clearly seen that no matter in the lower grades, middle grades or upper grades, the number of students who like popular music accounts for the majority, this is because their access to music has become more and more channels, not just Limited to books, more from the rich online world, such as film and television dramas, cartoons, etc. This is like a double-edged sword, which has advantages and disadvantages for students: on the one hand, it can enable students to increase their knowledge, broaden their horizons, and accumulate experience; on the other hand, it is not particularly perfect in the screening of information, and various resources The good and the bad are mixed, and it is easy to have a bad influence on the growing students. Therefore, when teaching music in the classroom, teachers should be able to mobilize their emotions according to students' hobbies, start with their interests, and progress layer by layer, so as to better establish a healthy and artistic aesthetic taste, as shown in Figure 3.

Table 1: Survey on the types of songs that students like

	primary level	middle school	Senior grades
Popular music	50%	65%	80%
folk music	25%	15%	10%
classical music	5%	10%	5%
other	10%	10%	5%

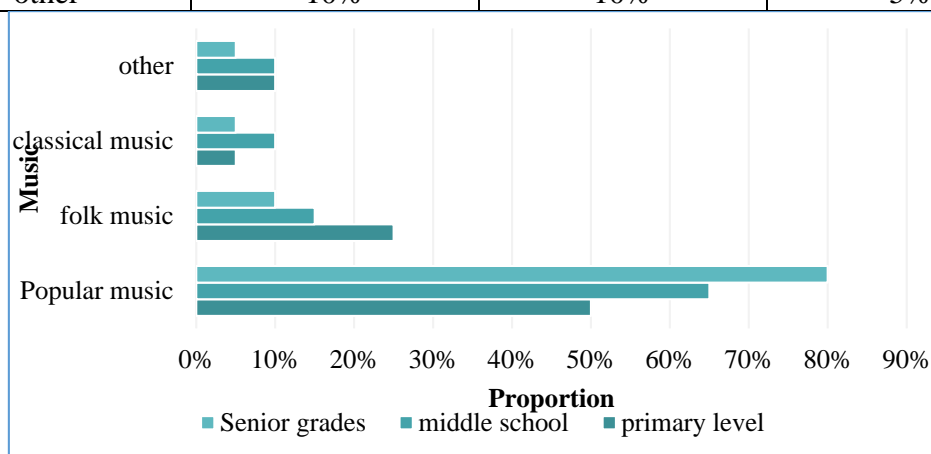


Figure 3: Analysis of the Survey of Students' Favorite Song Types

4.2 Basic Music Quality

A survey on the musical quality of college students shows that 68% of the students have little understanding of music, 15% of the students can understand simple music scores, 12% of the students have systematically learned some basic theoretical knowledge of music, and 5% of the students can master it. a musical instrument. (see Table 2)

Table 2: Basic music quality

Happening	proportion
hardly understand	69%
Recognize simple sheet music	13%
systematically learned music knowledge	12%
master a musical instrument	6%

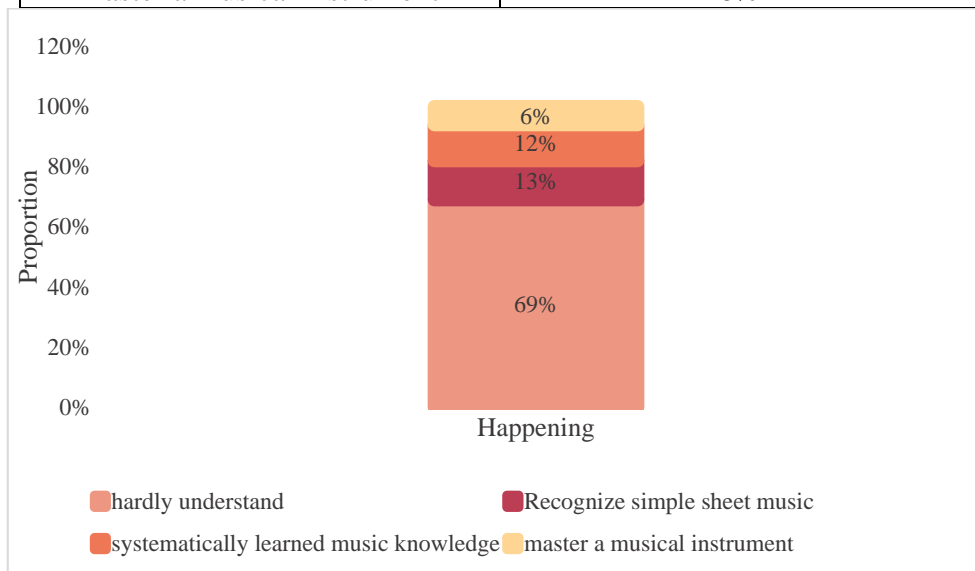


Figure 4: Analysis of basic music quality

As shown in Figure 4, In addition, according to the students' knowledge of staff and notation, 19% of the students knew the notation, 22% of the students knew the numbered notation, 6% of the students knew both, and 53% of the students did not know. For the understanding of musicians, some students still only know some household names. 46% of the students did not know the four famous Chinese opera performers; 37% of the students did not know Beethoven's Fifth Symphony, also known as the Symphony of Destiny.

According to the survey, the basic music quality of students in the three colleges and universities is generally not high, and the basic knowledge is relatively weak. Due to the pressure of studying in the college entrance examination, the students lack of music cognition and have little contact with the basic knowledge of music. However, due to the improvement of the overall quality of today's college students, They still have their own views on music, which requires colleges and universities to comprehensively promote quality education, strengthen the work of college students' aesthetic education, and promote the all-round development of college students.

4.3 Analysis of Classification Results

A test set of 60 scores not included in the training set was classified. In order to show that sentences have a better effect on mapping musical attributes than words or phrases, the 60 pieces of music in the test set are classified by the same classification method. The correct rate statistics results under the classification method. (see Table 3).

Table 3: Correct rate of test set classification results

frequent pattern scale	6 notes	SSMiner	music gene
western classical	54%	64%	100%
Chinese nation	82%	83%	96%
rock	66%	71%	87%
all	66.7%	72.5%	94.2%

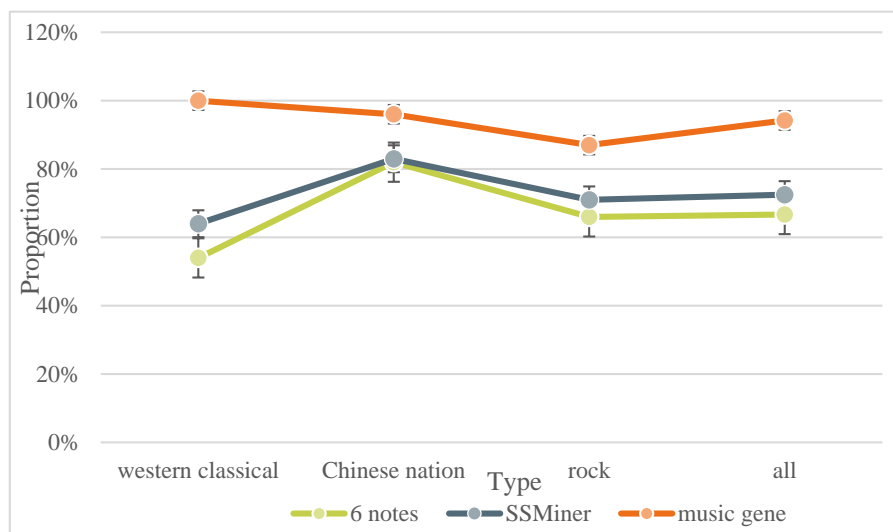


Figure 5: Analysis of the accuracy of the test set classification results

It can be seen from the figure 5 that the classification accuracy rate of music genes as frequent patterns is the highest, and the music genes mined by this method have the ability to map music attributes. The classification of the music depends on one or more of Ex1(d), Ex2(d) and Ex3(d). It shows that the reference values selected during the comparison of different types of tracks are not the same. For example, in the classification and comparison of rock tracks, the rhythm gene becomes the decisive factor. If $Ex2(3) > Ex2(1)$ and $Ex2(3) > Ex2(2)$, it means that the track belongs to rock. The reason for this is that there is uncertainty in the melody of rock music, but the rhythm is very strong, generally belonging to the heavy metal rhythm, so the determining factor lies in Ex2(d).

5. Conclusions

Music education is one of the important ways for schools to implement aesthetic education. It not only provides students with basic knowledge and skills, but also enables all students to feel and experience the emotion and meaning of musical compositions through a clear musical image. Resonate with him in thought, and subtly enhance the beauty and human ability of students. Therefore, the effective implementation of aesthetic education in music classroom teaching is particularly critical. As the disseminator of culture, music teachers must establish the concept of aesthetic education, improve their theoretical level, carry out aesthetic education training, and

continuously improve their aesthetic literacy. Students gain beauty from beautiful and classic music, form their hobbies for beauty and art, cultivate healthy and noble aesthetic tastes, and enrich their spiritual life.

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