

Research on the Chinese Piano Music Teaching Model of “Quadruple Music Intelligence Concept” under the Theory of Cognitive Science

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Abstract: According to the concept of STEAM education and theory of cognitive science, as well as discipline positioning and knowledge structure of piano teaching, the combination of teaching model “Quadruple Music Intelligence Concept” and “EPOM” practice mode was explored and created (namely a teaching and practice model comprising of music information processing, music tone construction, music technique acquisition, music capacity generation; experience-action practice, process-period practice, object-performance practice, music-scheme practice). Furthermore, using mixed, open teaching and interdisciplinary thinking, a “teaching” and “learning” model suitable for Chinese piano works was discussed, for the purpose of promoting the popularization, inheritance and development of Chinese piano works.

1. Introduction

Chinese piano music develops quite rapidly in creation and performance, while the daily teaching of Chinese piano works is far from perfect. This mainly lies in that the western model is basically followed in the selection of teaching materials, teaching methods, degree arrangement and other teaching links, furthermore, Chinese piano works are chosen in a scattered way in teaching, and the systematic teaching method hasn't taken shape. In this regard, in spite of learning to play some Chinese piano works, it is impossible to form a more systematic playing schema and playing method for students like a certain period of playing western piano works or a composer. According to Piaget's cognitive behavior theory, under the original schema no assimilation and adaptation have been available, besides, China hasn't formed its own cognitive system in understanding and mastery of the works.

Teaching of Chinese piano works is often accompanied by the following questions: first, affected by the education of the playing mode of the western piano works for long, students are used to the mode and tonality, harmonic texture of the western works. In the study of Chinese piano works, students cannot understand and sense the creating technique and background of Chinese piano music; second, it is difficult for students to understand and grasp the sound, rhyme, tone, cadence and playing technique of works, due to the lack of systematic contact with Chinese piano music. What's more, the teaching way of western piano works is still applied to teaching, which won't contribute to students' interpretation on the localization of works.

From the culture perspective, the piano, as a western musical instrument that is rooted and highly develops in China, is a powerful tool in disseminating, exchanging and promoting Chinese national music art in the background of “One Belt and One Road” strategy. In such cultural context, the research on teaching of Chinese piano works aims to inherit and carry forward the national works, while improving students' ability to play national works.

In view of the reasons above, it has been of great importance in the popularization and development of Chinese piano works to find out the way to get rid of the traditional western piano teaching mode and explore a mode suitable for the teaching of Chinese national piano works.

2. Present Situation and Reflection of Piano Teaching and Learning in China

2.1 Present Situation of Piano Teaching and Learning

2.1.1 Basic principle of piano teaching

Piano teaching refers to the teaching of piano performance in nature, and is also a teaching process regarding a personalized and creative way of vocalization. In short, the teaching of piano playing is a process of making voice and teaching sound. Methods of vocalization for different piano works are rooted in different cultural environment, emotional background, and so on. In terms of musical cognition, people from different educational backgrounds show difference in reference systems, and thus change on the perspective discussed. For example, the music theorist regards the musical notation as a medium in thinking music deeply; the national musician focus more on culture in talking about music; the music psychologist tends to exploring the relationship between physics and perception; the piano teacher is more concerned with the playing technique and the sensual music in thinking and exploring the volume, tone and interval of playing. While, the piano teacher should combine all the above perspectives and guide students in a comprehensive way to think about the approach of producing a rigorous, scientific and reasonable sound.

From the musicology perspective, the teaching of piano is mainly to study the works through the specific historical style and musical connotation of the music score left by the composer. The historical style and musical connotation include the times (social life, attribute, event, art), background, environment, circumstance, and motivation of the music works. From the perspective of music ontology (also called “music creation”, namely composing technique), the teaching of piano is mainly to trigger the thinking and guiding on the performance by analyzing the music works, for example, analyzing the music structure helps to improve students' understanding for syntax, sentence, process and structure relation of the works, and find out the best way for playing and interpretation.

While it has been proven that exploring the principle from music science (acoustics and physics) and music psychology is most easily neglected in piano teaching. In terms of physical acoustics, all sounds come from vibration. Carl E. Seashore (1938) proposed the music perception model to describe the relationship between physical and perceptual variables in perception of music sound.

Table 1: Music Perception Model Proposed by Carl E. SEASHORE

Physics	Perception	Main line of musicianship
Frequency	Pitch	Tone
Amplitude	Volume	Intensity
Signal form	Timbre	Nature
Time	Length	Time

Elements of “perception” are sorts of subjective feelings, which are generated by specific “physical” stimulation. For example, “timbre” is a complex auditory attribute. In a broad sense, the timbre is entirely different between different musical instruments and different voices; in a narrow sense, the identical musical instrument mainly through the overtone makes different timbres, each overtone has its relative frequency and amplitude, and the relationship between different frequencies and the corresponding intensity is the basis of the timbre perception.

Therefore, based on the principles of physical acoustics and music psychology, as well as the mechanical structure inside the piano, students can be guided to understand and master the touch keys of different heights, angles, speeds and depths in a better way, and the timbre of the piano can be controlled, changed and enriched effectively.

In summary, the piano “teaching” and “learning”, as a very complex dynamic process, is to guide students to obtain scientific, rigorous and persuasive sound (timbre) finally through the input and stimulation of external information about music emotion, human environment, playing technique and music ontology, and a series of psychological, physical and physiological information processing.

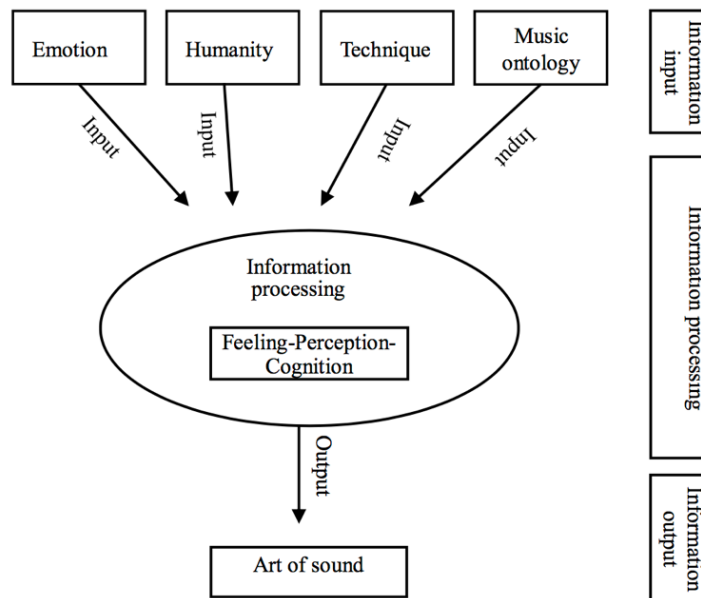


Figure 1: Flow Chart of Piano Teaching and Learning

2.1.2 Innovation reflection on piano teaching

The piano teaching mode, restricted by its subject characteristics, mainly follows the “one-to-one” teaching mode of the western piano teaching, and it has been proven after several hundred years’ experience that it is truly the best means to cultivate the piano teaching music technique and the sense of music. The hands-on and apprenticeship type teaching demonstration allows students to acquire the skills concretely, and well interprets teaching students in accordance with their aptitude. While, there are some constraints and shortcomings, like the personal ability of the teacher, the limitation of theoretical research and professional knowledge, the impromptu and subjectivity in teaching. Hence, scholars have put forward the innovative exploration on the teaching mode, such as the research on the teaching mode of collective piano class, innovation on one-to-one teaching mode and enriching the piano teaching form; all these may help enrich the teaching contents and improve students’ learning ability. As mentioned in the “Basic Principle of Piano Teaching” above, the collective piano class is mainly carried out using the digital piano. However, the digital piano is not conducive to the exploration and study on the scientific and physical sound of the piano, and is thus ignored in this study.

2.2 Theoretical Support for Innovation of Piano “Teaching” and “Learning”

In the 21st century, the teaching innovation of all disciplines should be grounded on the developing characteristics of the discipline, and take the advanced teaching idea into account, to develop the teaching methods and teaching modes that are suitable for this discipline.

2.2.1 Integrate the mixed and mobile type teaching idea under the “Internet+” concept

In 2012, MOOC (Massive Open Online Course) was popular in the world, and it is a teaching mode that completes the “teaching” and “learning” on the virtual Internet; this teaching mode promotes the sharing and spread of high quality data. However, this mode cannot be completely replicated in the piano teaching blindly. SPOC (Small Private Online Course), which combines the face-to-face class in learning, is a more suitable teaching form that subverts the traditional classroom teaching mode and achieves the “student centered” piano playing classroom.

The “Flipped Classroom” (or Inverted Classroom) teaching is a new teaching mode that emerges as the science and technology develops rapidly and the information education becomes increasingly mature. The flipped classroom teaching, which is regarded as a subversive revolution for “traditional classroom”, is mainly characterized by teaching the theoretical knowledge to students in

the form of video before class, guiding students to practice all knowledge in the face-to-face class, and upgrading the knowledge and skills to application.

The in-depth fusion of “Internet+education” contributes to the subversive reconstruction of the classroom teaching reform. With the “student-centered” teaching philosophy, it optimizes the teaching, guides students to “participate in the experience”, “learn actively”, “demonstrate and apply what has been learned”.

2.2.2 Design piano playing course teaching with STEAM teaching idea

STEAM is the acronym of Science, Technology, Engineering, Arts and Mathematics, skills of which are used as a breakthrough point, to integrate various courses macroscopically and thus guide students to explore, criticize and create. STEAM education, with project learning as the main learning style, is a new mode extended based on STEM education, and focuses on the integration of technology, engineering education, art and humanistic education. Besides, STEAM education has the interesting, interdisciplinary, experiential and situational characteristics, and pays attention to the practical teaching, settlement of situational problems and interdisciplinarity.

On the macro level, STEAM, which is the category of integrated curriculum, is trying to find a balance between disciplines in the context of more detailed classification of subject curriculum. In this point, students may learn and master the disciplinary knowledge and skills of other categories, by learning the professional knowledge in the study of single course. While in the course of piano playing, the concept of STEAM is introduced microscopically; the dimension and knowledge of various disciplines are permeated in teaching the piano playing, for example, students may understand, master and improve their piano playing skills via the knowledge about different disciplines, such as physical mechanics, acoustics, aesthetics and history.

2.2.3 Design the teaching process based on constructivism theoretically

In the opinion of Piaget, “knowledge is not passively accepted by the individual by feeling or communication, but is constructed by the cognitive subject through the interaction of new and old experiences.” Learning and playing Chinese piano music is accompanied by the analysis, experience and expression for Chinese native national elements, it is more than depending on the external stimulus, but is also the result of the interaction between the external environment and the inner mentality of the cognitive subject, the learner is the subject of information processing, as well as the active constructor of the meaning of knowledge. As for the role of learning environment for the effective formation of meaning construction, Piaget proposed “situation, cooperation, conversation, meaning construction” as four main elements of Constructivist Learning Environment, and advocated to treat the creation of real situation as the necessary prerequisite for the ultimate goal of “meaning construction” in the learner centered learning under the guidance of teachers. According to the theory of constructivism, the focus is stayed on the way of guiding students to derive nutrients from the national elements, harmonies, tonality and cultures, assimilate and conform to the new schema, thus helping students play the accurate and authentic music.

2.2.4 Create the model foundation based on Xin Ziqiang's “Triple Intelligence”.

The teaching model of “Quadruple Music Intelligence Concept” is established based on the characteristics of Chinese piano works in the cognitive process of students. Xin Ziqiang believes that human has a triple intelligence, which is information processing, knowledge construction and wisdom generation. While the cultivation of “Music Intelligence” in learning the Chinese piano music works is also the same.

In terms of the relationship between the subject and the object, information processing (including the settlement of the problem) is the way the player establishes the contact with the Chinese piano music. Students’ piano learning develops in the western piano music thinking mode for long regarding the basic enlightenment, technical training, music expression and so on, so that students’ piano playing schema is the “Western Style Schema”; the learning and infusion of Chinese piano works helps integrate and assimilate into their music knowledge structure; by transforming the

existing “Western Style Schema”, the cognitive subject gets the new schema that integrates the Chinese and Western style, constructs a new “Chinese Style” playing schema, and finally generates the “Music Intelligence” in playing Chinese piano works.

3. Teaching Model Design of “Quadruple Music Intelligence Concept”

Compared with the western piano music, Chinese piano music’s largest characteristics are “scattered, complex and flourishing”. The western music’s development has its own internal logic, that is, the style and skill of piano music works evolves based on the developing characteristics of musical instruments and the inheritance of music styles. While, Chinese piano music with a short developing history covers complex types, and is a miniature of Chinese national music culture to a great extent.

“Scattered and complex” means that the works in the same period express the customs and natural scenery of different nationalities across the country; the all-embracing musical archetype relates to the works imitating or showing the folk ditty music image of the minority nationalities in northern China, and the music works based on the folk music melody of the southwestern ethnics. Therefore, the music style is complex, scattered and disordered.

“Flourishing” means that the composer’s composing technique, sound structure, etc. are rich and colorful, erudite and informed. This involves the works imitating the national instrumental music and vocal music adaptation characterized by the national sound effect, the original works pursuing national sound characteristics based on the national tune and color modal harmony, the works in the pursuit of national phonology with such modern techniques as the twelve-note system and the atonality, and the works created with the original composing techniques of the composer.

Therefore, in the teaching of Chinese piano works, following the single mode of western piano teaching can not help students to effectively establish the concept of national piano works, infuse the national harmony of China, and experience the national arts and humanities. Regarding the problems above, the teaching model of the “Quadruple Music Intelligence Concept” will be designed in this part, based on which the “EPOM” practice mode will be created.

3.1 Teaching Model Design of the “Quadruple Music Intelligence Concept”

According to the specific creating environment of Chinese piano music works, the special background of music learning and the process characteristics of piano skills generation, the author has created the teaching model of “Quadruple Music Intelligence Concept”, which is music information processing, music tone construction, music technique acquisition, music capacity generation.

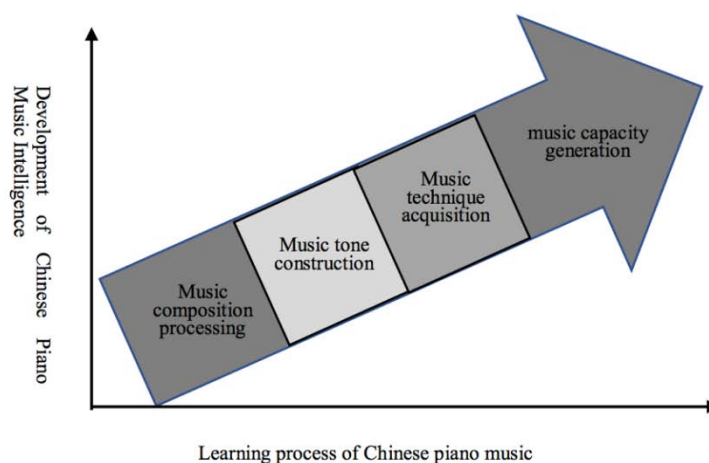


Figure 2: Quadruple Music Intelligence Concept

3.2 Elaboration on the Process of Teaching Model of “Quadruple Music Intelligence Concept”

1) Music information processing: processing of music information. This teaching link focuses on the online learning, and the teaching tasks are made according to the teaching objectives of music by the network teaching platform. Some non-skilled theoretical knowledge are fragmented, and then presented to students by video. Each independent knowledge point is a “teaching element”, many parallel knowledge points constitute a “teaching section”, and a complete repertoire material system if connected according to the knowledge framework. In addition, the teaching resource database of piano teaching repertoire should be established. It is required to shoot independent micro-video for each knowledge point “teaching element”, make the teaching resources in many forms like production of teaching PPT, pre-class theoretical homework, brainstorming questions, post-class test, expanding music audio-visual materials for students to carry out online learning, and performing practice by combining the teaching resources above.

Music information is more than the information of music, and it also incorporates all the information about the work. Each Chinese piano work has a specific national charm, creating background and historical environment. For example, for Combination of Long and Short by Quan Jihao, the information to be collected and processed includes the Korean nationality of the work, the specific meaning of “long and short” in Korean music, the Korean musical instrument - the long drum, the figure pattern of long drum, information about the other related music art of the Korean nationality, and so on, and this may help guide students to dig the traditional musical instruments, national customs and musical style related to the musical composition.

2) Music tone construction: training and construction of musical ability. This teaching link, combining the online and offline learning, stays focus on the team project based learning. In the process of information processing, by combining the “Music Language Experience”, it allows students to feel the real situation, analyze the feeling of the work, and finally show it out through the music information collected in the form of team. For example, Li Yinghai's Parting In Yangguan, known as Weicheng Song, is an adaptation of Chinese zither, originating from Sending off Yuan Er on a Mission to Anxi by the Tang Dynasty poet Wang Wei, it shows that in the fresh and drizzling early morning, the willow twig beside the hostel is green, and a sense of unwilling to part and concern is expressed to the friend, based on this implication a composition of Chinese zither is composed. It has been the essence of the music tone construction of this song about how to reflect the fresh and elegant, simple and pure features of Chinese zither on the piano, how to play the clear and bright overtone, the intangible and fragrant charm with the touch key of the piano.

3) Music technique acquisition: acquisition of music playing technique. This link, mainly about the offline face-to-face class teaching, requires more intervention and guidance of teachers, students may have a better inner hearing and timbre guidance through the early guidance; the requirements of the work are satisfied by taking the teacher's music oriented technical explanation as “stimulus input”, and the new technical “schema” is gained through students' music oriented music skill training. The music “feeling” obtained in the early stage can be stored by short hearing information and used to further perceive the external world, and then the data are processed; the degree of cognition is achieved through the technique practice and the music expression. These skills and knowledge are applied and stored for long. These skills and knowledge are accumulated through teacher's teaching, inquiry, interaction, stimulation, adjustment, re-stimulation and readjustment.

4) Music capacity generation: generation of intelligence and skill. It is stated previously that Chinese piano music is “scattered, complex and flourishing”, in other words, no unified conclusion has been available for the music style, but a macroscopic “schema” of playing Chinese piano work can be gradually formed by studying a complete Chinese piano work, getting used to a good learning paradigm, and obtaining a new playing schema for continuous update, assimilation and adaptation. Music capacity generation is the result of a complex teaching process.

4. Application of the Teaching Model of “Quadruple Music Intelligence Concept”

In the learning and practice of Chinese piano works, the key is about the creation and expression

of the national music elements, that is, melody, rhythm, timbre, charm and other expressing forms. In the long life practice, national music has formed various unique musical expression techniques, including ornamented notes, contrasts, variations and so on; various colorful national artistic techniques present unique artistic effects. China, as a multinational country, has a vast territory and abundant resources, and thus Chinese works are also featured by a multinational and diversified style.

The practical teaching is carried out in teaching regarding that a sophomore of music education major plays Ding Shande's Second Xinjiang Dance Music. This student's skill has reached the level of Czerny Etudes Op.740, No.17, but has a limited contact with Chinese piano works, and only learned Ding Shande's Dance of Morning Breeze, Sun Yiqiang's Spring Dance of Xinjiang style. Therefore, in consideration of the student's certain understanding on the composer Ding Shande and the national music of Xinjiang style, the student is required to play Ding Shande's Second Xinjiang Dance Music. The "Quadruple Music Intelligence Concept" is applied to the empirical teaching.

4.1 Music information processing

In the study of national piano works, the musical instruments, tone, charm, dance and other category of arts of each nationality shall be combined for integration and mutual learning, so as to process the special expression means of music works.

In the information processing stage of learning the work, the student is guided to watch the related teaching video by platform, complete the relevant theoretical work, collect the background of various composers to create this work, and the information and music idea of the Uyghur music. By video learning and search on various resources, the following information are obtained: 1. the music material of the work is a wonderful Xinjiang music melody offered by a Xinjiang friend while Mr. Ding Shande took part in the "China National Literature Figure and Artists Conference" in 1953; 2. The work mainly imitates the rhythm of the Xinjiang hand drum, expresses the national minority's rough, bold, enthusiastic, lively music characteristics in the music with this rhythm, and thus depicts the cheerful and enthusiastic festival atmosphere of Xinjiang people in singing and dancing; 3. The most typical rhythm of the Xinjiang hand drum is "Dong DaDa DongDa, Dong DaDaDa DongDa"; 4. The student is guided to selectively listen to the folk song of Xinjiang, such as the Uyghur folk song "Laili Guli", feel the rhythm of the hand drum of weakened rhythm type and four consecutive semiquaver at the beginning of the work, and the rhythm of the rhythmic stress that appears on the dotted eighth note then; 5. The application of weakened rhythm type (weak beat) in the Uyghur music is explored, through information inquiry, music listening and the existing knowledge reserve it is proven that the weak beat is a distinctive rhythm characteristic of Uyghur music, and is related to the voiced sound in the Uyghur language from the linguistic perspective, and then the characteristic concept of the linguistic has gradually evolved into the weak beat rhythm in music.

4.2 Music tone construction and music technique acquisition

Piano works of different nationalities differ greatly concerning the musical characteristics and charm. According to the early information processing and music characteristics of the musical composition, the technical features needed for music expression are summarized for music tone construction.

In music tone construction and music technique acquisition of learning the work, the student is guided to integrate the music art information collected into the practice and to construct the technical ability and music expression. First, in reading the music, the student finds that the rhythm of the right hand of the first two sections of the music's introduction runs through the whole music, completely summarizing the basic tone of the whole dance, vigorous, free and easy, cheerful and rushing, and imitates the drumbeat of Xinjiang hand drum with the right hand's syncopated rhythm. In the past piano teaching, playing the tautophony of consecutive semiquaver emphasizes more on the first sound, the following semiquaver should be played with the inertia of the wrist and arm, and playing too loud should be avoided. However, four consecutive semiquavers can not be played in this way in this music. The student has been aware of the point through the early information

processing, it should depend on the flexibility of the wrist, the support of the finger joint, the control ability of the first joint of the fingertip, and the heavy sense of the forearm, to play the mounting rhythm of semiquaver, and then lay the stress on the eighth note that follows closely. Second, for the first part behind the music introduction, the student, through the information restructuring and exploration for the rhythm, understands that the treble melody depicts a girl wearing Uygur clothes is singing and dancing under the accompaniment of the hand drum. Therefore, it is unanimously agreed by the author and the student that the fluctuation of the right hand's melodic line should change on intensity, and the finger's singing touch key shows the warm and jubilant characteristics. For staccato of alto and bass voice, when playing, the finger should stick to the key as much as possible, the first joint of the fingertip should be flexible and tuck back quickly, the wrist and arm should relax, the syncopated rhythm should be played in an accurate and clean way, to imitate the sound effect of the hand drum.

4.3 Music capacity generation

After the input and processing of information, the construction of musical information and the processing of musical techniques, the musical intelligence is finally learned and generated and the technique of expression of the work is acquired. From the perspective of system theory, the learning activity is a complex system, which includes many mutually connected, mutually affected and interactional factors, involving the factors of the students' subject and the learning environment. Therefore, it is necessary to constantly adjust and control the relevant factors in the learning system in an active, scientific and rational way during learning, in this way they may positively promote the learning activities congruously.

During music capacity generation of national works, it is often found that students often encounter certain obstacles and bottlenecks in grasping the rhythm, timbre and charm of Chinese piano works. By learning the Second Xinjiang Dance Music, students, in the following learning of national works, can be more sensitive to the unique artistic conception of “virtual-real synthesis, virtuality from the heart” in Chinese style piano works; thereby, they improve greatly both in the technical ability of the finger and the ability of music organization.

To sum up, the “Quadruple Music Intelligence Concept” is a teaching mode based on the mixed teaching method and the integrated teaching form under the STEAM concept. Artistic creation is the process of acquiring skills and knowledge, finding problems, auditions and literature from auditory observation, promoting interaction between teachers and students, guiding students to think and study actively through the mixed teaching method and the “student centered” principle. Through the STEAM concept, students are encouraged to make use of interdisciplinary integration, thinking and practice, and cultivate creativity, innovation and hands-on ability for in-deep learning.

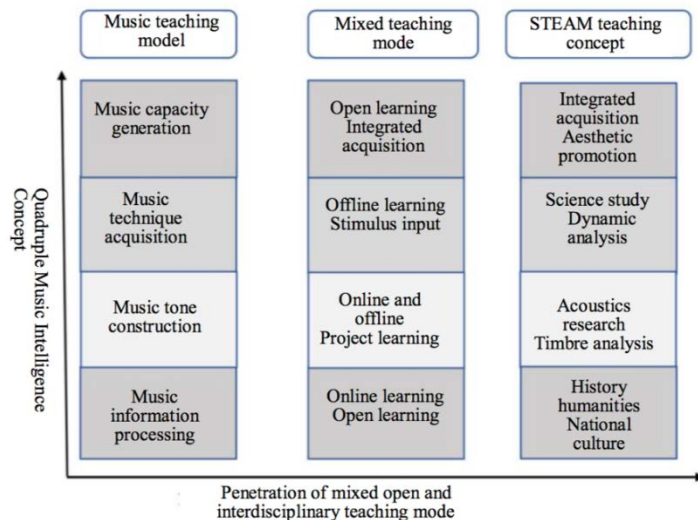


Figure 3: Relationship between Quadruple Music Intelligence Concept and Mixed Open and Interdisciplinary Teaching Mode

5. Construction of the “EPOM” Practice Mode under the Background of the Teaching Mode “Quadruple Music Intelligence Concept”

Piano practice is a process of repeated practice. Under the background of the teaching mode “Quadruple Music Intelligence Concept”, the key for such teaching mode is to study about how to combine the “teaching” with “learning”, “learning” with “practice” of Chinese piano works, present the national charm, timbre and technique in a perfect way.

In the Chinese piano music literature, the great majority of works are adapted from national musical instrument works or express the national sentiment and charm. These works, based on Chinese traditional culture, express the national characteristics. Piano, as a western musical instrument, comes from outside the Chinese culture, and is completely different from the traditional Chinese musical instruments and national music in style characteristic. Therefore, it is of significance in exploring the nationalization of piano regarding how to play the Chinese national style piano music with a western musical instrument, expressing the national phonology via the integration with the traditional music, imitating the unique timbre of different national instruments on the piano, and referring to the playing technique of national instruments.

According to the characteristics of Chinese piano music, the author created the “EPOM” practice model, which comes from the mathematical learning theory based on “APOS” constructivism proposed by Dubinsky (2000). The core of “APOS” is to guide students to learn mathematical knowledge in social clues, analyze mathematical problem situations, and construct their own mathematical thinking. Inspired by this theory, the “EPOM” mode is created, and focuses on guiding students to learn the piano playing skills and music expressions in the timbre and charm of national folk music (including national instrumental music), analyze the charm situation of music performance, and construct the musical skill and music connotation.

1) Experience-Action Practice. In this stage, the students should be guided to understand and recognize the timbre and charm of the national piano works. For example, a large number of periods in Wang Jianzhong's *Hundreds Birds Worshipping The Phoenix* describe a variety of twitters, which are timbre imitation of the suona, sheng and drum-Chinese national musical instruments, in which the playing techniques of the suona include portamento, trill, staccato, tongue rolling, and so on; in the introduction part of the music (section 9-12 of the work), the left and right bass appears alternately in the form of four or five intervals of harmony, imitating the sound characteristics of sheng playing. Therefore, it is necessary in playing the piano to use touch keys with different fingers, and use colorful techniques to imitate the timbre and charm of drum, sheng and suona in music. Furthermore, the students should be guided to think about the corresponding sound relations and technical links of different timbres and national instruments in piano works, and perceive the timbre and techniques of national instruments for further stimulus and transformation through various “movements” (i.e. transplanting the techniques of national instruments into the piano).

2) Process-Period Practice. A higher-level understanding is the process concept of the performer's internalization, which is internally driven. Once understanding the timbre features and specific technical points to be expressed in the music, the students will imitate and practice methodically and operationally, in order to achieve the desired results of practice.

3) Object-Performance Practice. If a student practices and transforms this “process” as a whole, the process may become his psychological “object” (or “objective”). At this time, students can play their works to express all kinds of timbres and charms. When the concept enters the object state, it presents a static structural relationship, which is called an “entity”, and is easy to grasp the nature of the music as a whole; this is a complete understanding.

4) Music-Scheme Practice. A new schema structure may emerge while the individual integrates and refines the activities, processes, objects and the original schema of the students; this structure can be used to solve a series of difficulties in the timbre, charm and technique in national piano works.

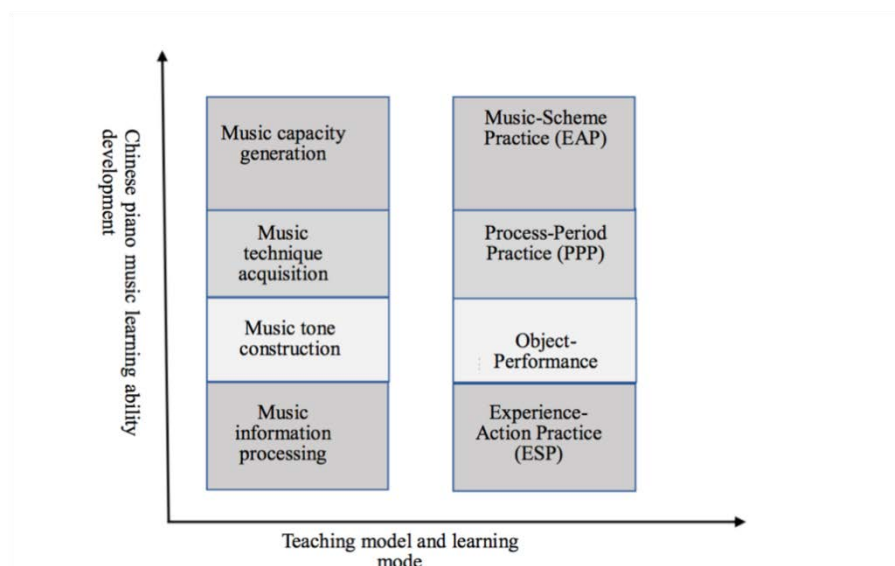


Figure 4: Relationship between Quadruple Music Intelligence Concept and EPOM

6. Conclusion

The “Quadruple Music Intelligence Concept” teaching model and the “EPOM” practice mode, constructed in this paper, explore the essential elements of guaranteeing the effective teaching, and analyze the implementation process. Combining the students' learning characteristics and the teaching status of Chinese national piano works, a reasonable and diversified teaching process for teaching is provided based on the teaching experience. What's more, a set of method and strategy to improve the learning, teaching and playing of Chinese native piano works are explored to promote the scientific and systematized development of Chinese national piano education.

In conclusion, the reform of Chinese national piano teaching has a long way to go. For the purpose of contributing more to the popularization of Chinese piano works, guiding the teaching of this field with the “Quadruple Music Intelligence Concept” teaching model and the “EPOM” practice mode needs to be further studied.

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