

Experimental Study on the Effect of Yuan Cognition Piano Teaching in Normal Universities

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Abstract

Metacognition is an important viewpoint in the framework of metacognitive theory, which is the main component of learning strategy and plays an important role in the process of successful learning. In this paper, two classes and three classes of 2017 musicology of Hengyang Normal University were selected as experimental subjects to study whether metacognition can play a beneficial role in piano teaching for students and teachers, whether can make the majority of students enhance the interest of learning piano, improve the piano learning performance. After a one-semester metacognitive teaching experiment, the researcher evaluated the effect of the experiment by questionnaire and test.

Keywords

Metacognition; Basic piano teaching in normal universities; Experimental research.

1. Experimental Design

1.1. Experimental Purpose

To explore whether metacognition can play a positive role in piano teaching for students and teachers in music education major of higher normal universities, and whether it can make most students increase their interest in piano learning and improve their performance in piano learning.

1.2. Experimental Hypothesis

- (1) Using metacognition in teaching can effectively improve the piano performance of students in normal universities.
- (2) Using metacognition in teaching can effectively enhance students' self-monitoring learning ability in normal universities.
- (3) Using metacognition in teaching can effectively improve teachers' teaching level.

1.3. Experimental Materials

1.3.1. Theoretical Basis

The main theoretical basis of this experiment is the content of educational psychology and piano teaching method. It includes studies on learning strategies in educational psychology, cognitive strategies in learning strategies, and metacognitive strategies. Research on the basic characteristics and main methods of adult teaching in piano teaching method.

1.3.2. Selected Teaching Materials

The teaching material used in this experiment is "Piano Curriculum", a teaching material for music majors of colleges and universities published by Shanghai Conservatory of Music Press, volume 3-4. In the course of the study, metacognitive learning is infiltrated into the teaching of this set of books.

1.3.3. Inspection Materials

(1) Piano score table before and after the experiment. The piano Score Sheet for the second semester of 2017 of Music Department of Hengyang Normal University; The final piano score sheet of the third semester of 2017, Music Department, Hengyang Normal University.

(2) Score sheet of piano quiz of students in the experiment. Four piano quizzes for students in the experimental class every month. Each test is organized and completed by the students themselves, and each student gives corresponding scores to the piano playing works of himself and others in the previous stage.

(3) Teacher's classroom teaching student rating sheet. This form is compiled by Hengyang Normal University, about the teacher teaching situation score sheet. There are 10 questionnaires, including whether teachers pay attention to updating the teaching content in teaching, whether they can better organize classroom teaching, whether they can cultivate students' consciousness of innovation, whether they can improve students' self-learning ability, and whether they can effectively use teaching AIDS, etc. The test paper is filled in anonymously by the students to assess the teaching level and teaching ability of the teacher. See the table below:

1.4. Subjects and Experiment Time

In this experiment, some students from Class 2 and Class 3 of musicology, Music Department of Hengyang Normal University, grade 2017, were selected as experimental objects, with a total of 35 students. Class 2 musicology is an experimental class (with 19 students), and class 3 musicology is a control class (with 16 students). This experiment was conducted in the first or third semester of sophomore year. Students of both classes have learned the basic piano lessons for one year, and they have mastered the piano skills to a certain extent. Students of both classes have the same level.

1.5. Experimental Variables

1.5.1. Determination of Independent Variables

The independent variable of this experiment is the teaching method that penetrates metacognitive learning strategies in piano teaching in normal universities. The teaching of experimental class is based on metacognitive learning strategy, mainly using teachers to guide students to use planning strategy, monitoring strategy and adjustment strategy in piano teaching, and paying attention to metacognitive monitoring and adjustment training. The control class adopts the traditional piano teaching method, does not carry on the metacognition teaching, does not make the special request to the student's study each link.

1.5.2. Selection of Dependent Variables

The dependent variables of this experiment are piano performance, self-monitoring ability in piano learning process, and teacher's teaching level. Through this experiment, whether the independent variable has certain influence on the dependent variable is tested.

2. Experimental Steps

2.1. Preparation before Experiment (July to September, 2018)

2.1.1. Teacher Preparation

Before starting this experiment, the author collected a large amount of literature data. On the one hand, consult the theoretical research on metacognition at home and abroad, understand the current research status, and grasp the relevant educational concepts; On the other hand, it compares the experience of other researchers in the practice of metacognition. At the same time, I sorted out my teaching notes, increased my metacognitive knowledge, reorganized my piano teaching strategies, and designed my own teaching mode.

2.1.2. Student Preparation

Learning knowledge is an activity process of continuous learning, in which cognitive activities undoubtedly play the most critical role. Metacognition, on the other hand, is to achieve the most scientific learning effect through self-monitoring and constant adjustment of cognition in the process of learning knowledge. Besides teaching students to play the piano, piano teachers also teach students to play the piano, that is, learn to use cognitive strategies to guide piano practice.

2.2. Experimental Process (September 2018 -- January 2019)

2.2.1. Experimental Method

(1) research methods: research on meta-cognition in the education teaching method, learning about metacognitive knowledge mainly through the questionnaire survey questionnaire (everyday memory, memory questionnaire, adult memory scale), a learning log, card method (about a certain content of metacognitive knowledge points card, let the individual arrangement classified, interview method, according to the specific learning situation, ask the individual information related to a particular content metacognitive knowledge), etc. The application of metacognition in piano teaching in normal universities mainly involves observing the individual performance of students, interviewing with students, and reflecting the mastery of the learning situation from the academic performance.

(2) Teaching approach: Metacognition mainly monitors an individual's own cognition and has four different learning approaches: the first is the way of self-comprehension; The second way of teaching is to gradually develop metacognitive skills through teachers' occasional instruction. The third way of teaching is to conduct special metacognitive training in order to learn metacognitive habit. The fourth is the teacher's planned and systematic training of metacognition in teaching. In piano teaching in normal universities, most students do not have the awareness of using metacognition to learn the piano, and their self-learning ability needs to be improved. In the experiments, most students adopt the teaching approach of direct and clear guidance from teachers.

2.2.2. Training Content

The author spent one semester on the experimental teaching of piano metacognition, starting with the students' understanding of the embodiment of the three main components of metacognition in piano, and supplemented by the training of other relevant factors, to explore the role of metacognition in piano teaching.

(1) Master piano metacognitive knowledge: It is known from the theoretical research of metacognition that in the learning process, learning tasks and learning objectives are the necessary metacognitive knowledge for students. Make the students know the learning content in advance and make the learning plan according to the goal, this process is the preview process. At the beginning of the third semester, according to the progress of the general course, the author set the semester tasks for the students in the experimental class, including polyphony learning, hand alternations of skill training, the use of broken chords in impromptu playing, grace note playing, sonata form of musical structure, timbre playing and five-finger practice. Through the understanding of the semester tasks, students are required to make their own learning plans according to the teacher's teaching objectives, such as estimating the time needed to practice the piano and the specific time arrangement. Finally, in the process of piano learning, the learning strategies and methods involved in piano learning are guided and taught.

(2) To enhance students' metacognitive experience: Metacognitive experience has two forms: positive and negative. In piano teaching, the most direct and most able to experience emotional changes is academic performance. In order to give students more positive metacognitive experience, I improved the examination mechanism and took a piano quiz once a month. I selected a piece of work that I had practiced in the previous stage and summarized my own

learning situation in the previous stage, so that students could master their own situation in the learning process in a targeted way and reduce exam anxiety.

(3) Improving piano metacognitive monitoring: In the study of learning strategies, the most representative general learning strategies can be divided into: strategies for understanding and maintaining knowledge, problem-solving strategies, and metacognitive monitoring strategies, which shows the importance of metacognitive monitoring. In piano teaching, the author tries to conduct interviews on students from time to time, asking them to sort out and summarize their thinking process of piano learning at a certain stage, and discuss their thinking mode in the process of completing tasks. Students can also be helped to improve their awareness of monitoring by making a checklist.

(4) Enhance metacognitive learning motivation: Learning motivation can keep students in a high state of learning, and it is the source for students to cultivate independent learning and persist in independent learning. In piano teaching, the author gives students positive attribution guidance to help them build confidence in learning and make better use of metacognition.

2.2.3. Cycle Mode

The cyclic model of this experiment is mainly divided into three parts: The first part is the preview and preparation before class; The second part is the classroom teaching content; The third part is the summary after class.

3. Results and Analysis

3.1. Experimental Effect Evaluation

3.1.1. Comparison of Piano Performance between the Experimental Class and the Control Class before the Experiment

As can be seen from the table, at the end of the second semester of freshman year, the overall level of students was relatively average, and there was no significant difference between the scores of outstanding students and those of average students. The piano level of the experimental class and the control class is comparable.

3.1.2. Comparison of Piano Scores between the Experimental Class and the Control Class after the Experiment

After a semester's study, the piano performance of the experimental class is obviously better than that of the control class, especially the number of students with intermediate piano level has been significantly improved.

3.1.3. Comparison of Monthly Test Results in the Experimental Class

Students' monthly test scores have risen steadily, and the number of excellent (90-100) students has risen steadily.

3.1.4. Teachers' Classroom Teaching Student Rating Table

There was no significant difference in students' evaluation of the teaching content, but there were significant differences in the evaluation opinions of teachers' teaching personality and inspiring students' learning ability. Students in the experimental class generally agree with the teachers' teaching thinking mode and are satisfied with their classroom teaching ability, while those in the control class do not have a strong sense of identity.

3.2. Experimental Analysis

This experiment takes the students of music department of Normal University as the research object, and combines piano teaching and metacognition. Due to the limitation of conditions, the results reported are phased results.

As can be seen from the experimental results, after a semester of metacognitive learning, students' piano level has been generally improved, their academic performance and self-monitoring ability have been improved, and teachers' teaching ability has been further innovated. The research analysis is as follows:

(1) The full application of metacognition in piano teaching in normal universities can improve students' academic performance. As can be seen from Table 3-3 and Table 3-4, the piano level of the first two classes of the experiment is not much different, and the academic performance is relatively balanced, while the overall level of the experimental class after the experiment is significantly higher than that of the control class. This indicates that metacognition plays a significant role in piano teaching in normal universities.

(2) The application of metacognition can improve students' self-monitoring ability. As can be seen from Table 3-5, the scores of students in each monthly examination have been improved. It should be noted that the monthly test scores are evaluated by students and teachers do not participate in them. The improvement of scores indicates that students' self-monitoring ability has been improved, and they can adjust their learning style through the feedback of each test, so as to achieve higher learning tasks.

(3) The teacher's idea of guiding students to use metacognition in piano learning in teaching has been affirmed by students and is beneficial to the improvement of teaching methods. As can be seen from Table 3-6, students in the experimental class hold a positive attitude towards the teaching method that teachers use metacognitive guidance and monitoring in class to enrich their piano knowledge and learning ability in class and improve their self-learning ability.

(4) The influence of metacognition on academic performance does not exist in isolation. It is also related to individual differences, learning motivation and other related factors to varying degrees. Research shows that can be carried out in accordance with the teacher's way of thinking positive self monitoring of students, mostly piano degree in moderate or above level, for the result is not ideal student due to the limitation of itself, basic conditions, combined with learning motive is not clear, use metacognitive no enthusiasm, or not at all willing to self-doubt, self-reflection, also cannot produce any role on it.

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