

## The Development of Chinese Calligraphy Skill of Students in Chongzuo Preschool Education College Using Problem-Based Learning

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### Abstract

The objectives of this study were 1) to analyze the application and research status of Problem-Based Learning (PBL) teaching method in China. 2) to integrate Problem-Based Learning (PBL) teaching method with Chinese calligraphy teaching. and 3) to study students' satisfaction with Problem-Based Learning (PBL) teaching method. Taking 70 students majoring in Chinese education in Chongzuo Preschool Education College as the total population and 60 students as samples. This study used research instruments including literature review, testing, questionnaire survey, and data analysis to explore the feasibility of integrating PBL teaching mode into Chinese calligraphy teaching for normal students.

The result of this study found that 1) Posttest achievement was statistically higher than pretest. 2) The post test score is significantly higher than the 75% standard. 3) The satisfaction of the students was at the highest level. Overall, Problem-Based Learning (PBL) teaching method was able to significantly improve students' comprehensive abilities such as analytical ability, problem solving ability, autonomous learning ability, self-assessment ability and teamwork ability. Compared with traditional teaching methods, students' learning interest, classroom satisfaction and Chinese writing level were significantly improved.

**Keywords:** Chinese calligraphy, Problem-Based Learning (PBL) Teaching Method, Teaching Method, Satisfaction

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## Introduction

Chinese calligraphy with Chinese characters as the carrier, is an ancient art of writing Chinese characters. In a broad sense, Chinese calligraphy refers to the writing of Chinese characters according to certain methods and rules, so that it becomes a work of art full of beauty. Chinese calligraphy is known as: silent poetry, no line of dance; painting without picture, silent music, etc. In English, “calligraphy” literally means “beautiful words”.

In China, Chinese calligraphy skills are an important skill for students who want to be teachers in the future, so students and schools attach great importance to the study and teaching of Chinese calligraphy. Because most Chinese teaching needs to be demonstrated by handwriting, the quality of teachers' calligraphy will directly affect students' learning experience and teachers' teaching effect. Writing regular and beautiful fonts will help improve teaching ability, improve teachers' personal charm, and set a calligraphy example for students.

As a normal university student in a normal university, having good Chinese calligraphy skill is one of the basic skills requirements. For normal university students, they do not need to pursue the artistic character of Chinese calligraphy, only need to pursue neat, beautiful, easy to recognize, easy to spread convenient, more inclined to practical. Although the Chinese calligraphy course has become a compulsory course for students majoring in teacher education, the effectiveness has not been as obvious as expected. Due to the existence of various reasons, there are still many problems in the Chinese calligraphy ability of students of normal school majors.

Take Chongzuo Preschool Education College as an example, The specific problems are mainly reflected in the following points: First, the writing posture is not correct, including sitting posture and pen holding posture; Secondly, handwriting is casual. Most normal university students have formed their writing habits. Following the writing habits formed when they were children, the problem of font writing is difficult to correct. The third is handwriting errors, mainly reflected in Stroke, stroke order, and structural position. Fourth, Chinese calligraphy need a long-term, systematic and independent learning process, normal college students have insufficient time for curriculum calligraphy practice. Although calligraphy courses offered by most normal

colleges include hard brush, brush and chalk writing, students have too little time for classroom calligraphy practice, and calligraphy teachers cannot give timely feedback to each student in class. Most students rely on after-class practice, and the quality of after-class practice is not guaranteed. Finally, students' participation in class is not high, and they lack interest in class. Although the traditional teaching mode of "teachers and students listen" can make students understand the basic knowledge and skills of Chinese calligraphy to a certain extent, students are more passively accepted, without independent thinking, the classroom atmosphere is dull, and students lack the initiative to learn. If according to the requirements of the students' Chinese calligraphy skill level, from the final examination results of the Chinese calligraphy course of normal university students in recent years, the students' Chinese character writing skill level is not up to the standard. The average score is only 68, a score of 100, rarely reaching the target level (75). 20% of the students fail to complete the calligraphy works within the specified time. 25% of the students failed to accurately write all the Chinese characters, and the writing accuracy was low, with more wrong characters and alteration marks.

Based on the above problems, the researcher urgently need to find appropriate teaching methods to change the status quo of Chinese character writing learning among the students of Chongzuo Preschool Education College.

Problem-based learning (PBL) is a kind of problem oriented teaching method, advocates "problem-centered, people-oriented", Its characteristics are that students are in an open problem state, according to the students' current learning level carefully designed questions, students can carry out independent learning and team learning around the problems, promote students to form active exploration ability and cooperation ability, and cultivate students' innovative spirit and practical ability. This teaching mode originated in medical education in the United States in the 1960s, and was gradually introduced into other fields after achieving good teaching results. At present, the PBL education model has been relatively mature in foreign countries, and is widely used in various fields of education. China was introduced to the PBL education model in the 1990s. With the application and development of more than 20 years, PBL teaching mode has had a great influence on China's education and teaching.

Through literature reading and investigation of PBL teaching practice in many schools, PBL teaching mode can effectively stimulate students' interest in learning and solving problems, and students show great enlightening and guiding questions effectively broaden the research ideas, and students develop cognitive ability, independent learning ability and cooperation ability through independent learning and group cooperation. Therefore, the combination of PBL teaching mode and calligraphy teaching is a new way to solve the problem of Chinese calligraphy teaching for normal students majoring in Chongzuo Preschool Education College, which is of great research value.

### **Research objectives**

1. To compare learning achievement on Chinese calligraphy between pre-test and post-test.
2. To compare learning achievement on Chinese calligraphy with the 75% criteria.
3. To study student's satisfaction on Chinese calligraphy using Problem-based learning.

### **Literature review**

Part 1 Theory and concept of teaching and learning Chinese calligraphy.

Part 2 Theory and concept of Problem-Based Learning.

Part 3 Teacher Vocational Skills Training Program for Students in Higher Normal Schools (Ministry of Education of China 1994)

Part 4 Chongzuo Preschool Education College “Chinese Calligraphy Skills Training” curriculum standards.

## Conceptual framework

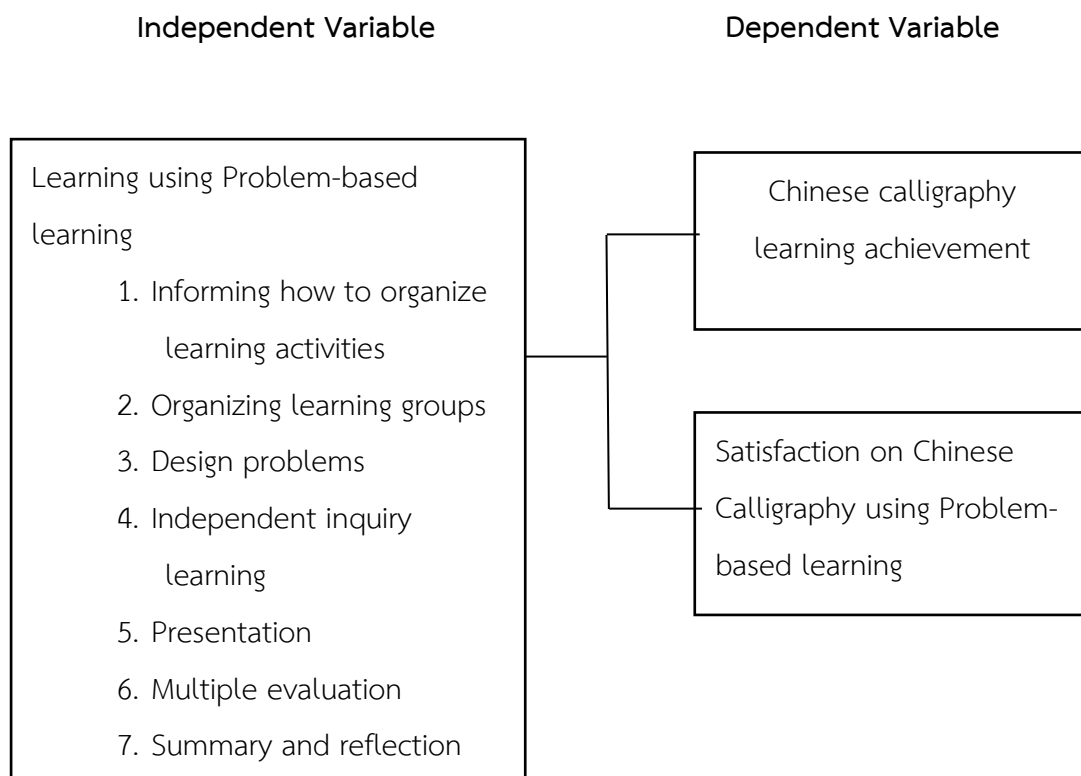


Figure 1. conceptual framework

## Research Hypothesis

1. The post-test learning achievement on Chinese calligraphy was higher than pre-test.
2. The post-test learning achievement on Chinese calligraphy was higher than the 75% criteria.
3. The student's satisfaction on Chinese calligraphy using Problem-based learning was at high level

## Methodology

### Research design

An experimental design One – Group Pretest -Posttest Design (Cambell And Used Stanley, 1969 ) was used to collect data, as shown in Experimental Schemes:

Group	Pre-test	Treatment	Post-test
experimental group	T1	X	T2

#### Symbols Used in Experimental Schemes

T1 refers to Pre-test

X refers to the use of PBL teaching model in conjunction with Chinese calligraphy .

T2 refers to Posttest

#### Population and sample

1. The population were the First-year students majoring in Chinese education at Chongzuo Preschool Education College. Total population (70 students)

2. The samples were 60 First-year students majoring in Chinese education at Chongzuo Preschool Education College, Guangxi Province, who studied in the second semester of the academic year 2022, obtained by Krejcie and Morgan table. 30 students applied PBL teaching method in Chinese calligraphy learning as experimental group; 30 students adopted the traditional Chinese calligraphy teaching method as the control group.

#### Research instruments

1. Chinese calligraphy learning Management Plan with the PBL teaching model for First-year Chinese education major students Chongzuo Preschool Education College.

Create a learning management plan that integrates PBL and Chinese Calligraphy for first-year Chinese language education students in Chongzuo Preschool Education College, Including the following steps: Making lesson plans. Who passed the thesis advisor examined Accuracy already and making recommendations to experts; and consistency of the essence of learning. Learning management process learning materials measurement and evaluation.By using the criteria to consider the suitability of a 5- level scale. experts judged that the learning management program was appropriate,4.51 or above reached the highest level.

2. The test Achievement was built. Propose to an advisor Thesis and making recommendations to the expert. Coverage of the content of the purpose Consistency

between the test and its objectives Appropriateness for testing time The difficulty and the suitability of the question and options. The criteria for consideration of conformity are as follows:

+1 means when you are sure that the test measures the purpose.

0 means when you are not sure whether the test measures the purpose.

- 1 means when you are sure that the test does not measure the purpose.

The Item Objective Congruence; IOC) is between 0.50 - 1.00. the level of difficulty ( the p ) and the authority may bring Saranac ( the r ) by selecting the item with difficulty ranging from 0.20 to 0.80. and the authority to the normally classified item, from 0.20 to 1.00 .

### 3. Satisfaction questionnaire

Create an estimation scale questionnaire using 5 rating scale Set the criteria for interpreting the mean level according to the following criteria (Somnuk Phatthiyathani , 2003 : 37 - 53)

4.51 – 5.00 means satisfaction at the highest level

3.51 – 4.50 means that there is a high level of satisfaction

2.51 – 3.50 means that the satisfaction is at a moderate level.

1.51 – 2.50 means having a low level of satisfaction.

1.00 – 1.50 means having the lowest level of satisfaction

### Data Collection

1. Carry out activities according to the learning management plan together with the Chinese calligraphy activity set. Chinese calligraphy by PBL student Chinese education majors first-year Chinese students Semester 2, Academic Year 2022, Chongzuo Preschool Education College, as follows:

1.1 pretest (Pre-Test) by using test achievement. Created by the researcher to test the basic knowledge of students before studying ( 1 hour)

1.2 Inform the method of using the PBL teaching model together with the activity series on the Chinese character writing are as follows: 1 ) Clarify the division of students into a mix of abilities and duties of group members; 2 ) Clarify the details of the content that will be Review previous knowledge and subject matter 3 ) Clarification of group activities , cooperative learning , PBL. 4 ) Clarification of details on Posttest questionnaire

and satisfaction 5 ) clarify the ideas and the advancement to announce the team that scored high praise ( 1 hour).

1.3 Review prior knowledge or necessary skills on the Chinese calligraphy ( 1 hour).

1.4 Teaching practice by teachers explaining the content on Chinese calligraphy and giving all students participated in solving the problem and answering the questions from the teacher's presentation ( 5 hours).

1.5 Divide students into groups Mixed ability by Each group consisted of 1 good learner, 2 moderate students and 1 weak student. Studying Chinese calligraphy for the 1st semester of Academic Year 2022 by the teacher as a group for the students. Then bring the list of students to stick on the board in front of the classroom so that the learners can see the list of which group they are in. ( 1 hour)

1.6 Doing group activities 1 . Each student helps to set a table in groups according to the diagram. Troops already stationed their group; 2 ) Each student in the group of self. Write the name of the group members, along with members of the group said. In planning the work systematically. The group made a note of the discussion of the Secretary of the act. Presentation of the group or the knowledge of students and joint proposal to name their group; 3 ), each group was given Chinese calligraphy works to study and do the job. Quiz of each activity by the group members. Mutual learning within the group. A good student will explain to a weak student. So that all members of the group have equal knowledge. After the class, Members of the group will all be converted to the progress of the group; 4 ) When all groups to do the job quiz of each activity. Then give the teacher answer sheet and a series of tests by the group members exchange each examination ( 4 hours).

1.7 Post-test and satisfaction questionnaire (1 hour)

1.8 Take the score for the test after studying Let's calculate the progress score and announce the results of the group that received high scores to be endorsed and honored. (1 hour)

3. Remove Blank data points were analyzed statistically statistics.

### **Data Analysis**

1. Comparison of Chinese calligraphy achievement of students through the use of PBL with Chinese calligraphy. between pre-test and post-test using t-test.



2. Analysis of satisfaction. Of first-year Chinese students, Chongzuo Preschool Education college students on the PBL teaching model and the activity series on Chinese calligraphy. Using average, Determine the criteria for interpreting the mean level according to the following criteria.

4.51 – 5.00 means satisfaction at the highest level

3.51 – 4.50 means that there is a high level of satisfaction

2.51 – 3.50 means that the satisfaction is at a moderate level

1.51 – 2.50 means having a low level of satisfaction.

1.00 – 1.50 means having the lowest level of satisfaction

## Results

1. Comparison of student achievements between the experimental group and the control group

Table 1 Comparison of student achievements between the experimental group and the control group

group	$\bar{X} \pm S$	T	P
experimental group	84.60±3.885	-4.938	<0.05
control group	78.41±5.396		

From table 1. by comparing the experimental group students and control students of aerobics theory results P 0.05, there were significant differences, thus showed that PBL teaching application in aerobics teaching in colleges and universities for the improvement of theory achievement was very big, control students average score reached 84.6, this was close to the good level.

Table 2 Comparison of classroom satisfaction of students in experimental group and control group

		experimental group ( $\bar{X} \pm S$ )	control group ( $\bar{X} \pm S$ )	T	P
degree of satisfaction		93.38±3.81	80.26±6.68	10.58	<0.05

From table 2, after the experiment group students and control group students score P 0.05, shows that after the experiment group students in the difference in satisfaction, overall the experiment group satisfaction is higher than the control group, shows that through the application of PBL teaching method can make the Chinese calligraphy class satisfaction.

## Discussion

1. According to the results of data analysis, the two teaching methods can improve students' scores relatively. No matter the experimental group or the control group, the test scores of pen drawing, font structure and work creation were significantly improved. However, the experimental group using the PBL teaching method was more effective than the control group using the traditional teaching method, and the students' calligraphy level improved more.

2. The application of PBL was able to improve students' learning interest and comprehensive ability of Chinese calligraphy course.

In the subjective aspect, PBL improves the interest of the course, students' satisfaction is increased, and students are more willing to learn Chinese calligraphy. The PBL teaching method implemented in the experimental group can significantly improve students' comprehensive abilities such as analysis, problem solving, autonomous learning, self-assessment and teamwork.

3. Positive feedback was received on applying the teaching model of PBL

As for the innovation of the overall classroom model and the evaluation of the application and integration of PBL method, students and other subjects have high subjective satisfaction and good feedback. PBL teaching method affects classroom

satisfaction,  $P < 0.05$ , the difference is significant, PBL teaching method is beneficial to improve classroom student satisfaction. PBL teaching method can affect students' interest in Chinese calligraphy learning,  $P < 0.05$ , PBL teaching method can stimulate students' interest. Compared with traditional teaching methods, PBL teaching method is more effective in improving students' positive interest and reducing negative emotions. Especially in the final examination results of students, the difference between the experimental group and the control group is particularly obvious.

### Recommendations

1. Due to limitations, this paper only selects 60 students from Chongzuo Preschool Education College as the research objects, with a small sample size, and the research conclusion might not represent the practice of the universal Problem-Based Learning (PBL) teaching method in the whole university stage. In the follow-up, experimental data from more regions and universities should be collected and fully investigated, recorded, analyzed, compared and researched.

2. Students' evaluation model and assessment mechanism need to be innovative. The PBL teaching method should pay attention to the adoption of diversified evaluation methods, and the evaluation of students should be carried out from various perspectives such as themselves, the group and the teacher as much as possible. Diversified evaluation can reflect the embodiment of various comprehensive abilities of students in PBL teaching and the need for improvement from various aspects, and a diversified evaluation index system should be formed in the future.

3. The form of curriculum setting and specific teaching content need to be further scientific. For example, the application of PBL teaching method requires teachers to improve their ability of problem setting. The setting of questions needs to be closely combined with the teaching content, so that students can enhance their understanding and construction of knowledge in the process of solving problems, which will also be a problem that needs attention in the follow-up research. In addition, because the understanding of Problem-Based Learning (PBL) teaching method is not deep enough, the actual classroom teaching situation is relatively unfamiliar, there are still some problems in teaching design and teaching practice.

At present, there are few practical cases of PBL teaching mode in Chinese calligraphy courses, but PBL has unique advantages for Chinese calligraphy teaching. The author believes that the application of PBL teaching in Chinese calligraphy will surely develop gradually and move forward pragmatically in this direction.

### Further research

In the future, interested researchers should adjust the PBL integration into Chinese calligraphy teaching based on the research results, further expand the experimental scope, maximize the advantages of Problem-Based Learning (PBL) teaching method, and contribute to the research of PBL application in Chinese calligraphy classroom.

1. interested researchers should expand the experimental population and the total number of samples, so that more schools, classes and students can participate in the experiment and collect more experimental data.

2. interested researchers should combine with the actual situation of local students, adjust the specific implementation of PBL, and teach students in accordance with their aptitude.

3. interested researchers should try to integrate PBL into the education of other subjects, and study the applicability of PBL.

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