

# The Need Analysis for Developing a Project-Based Blended Learning Model for Painting Courses in Chinese Art Education

Sheng Gao <sup>1\*</sup>, Thanin Ratanaolarn <sup>2</sup>, Sirirat Petsangsri <sup>3</sup>

<sup>1\*</sup> Phd studying, Industrial Education and Technology, King Mongkut's Institute of technology ladkrabang, Bangkok, 10520, Thailand, gaotianwang123456@163.com, ORCID: <https://orcid.org/0009-0004-5668-7814>

<sup>2</sup> Assistant Professor Dr, King Mongkut's Institute of technology ladkrabang, Bangkok, 10520, Thailand, thanin.ra@kmitl.ac.th, ORCID: <https://orcid.org/0000-0003-1612-4852>

<sup>3</sup> Associate Professor Dr, King Mongkut's Institute of technology ladkrabang, Bangkok, 10520, Thailand, sirirat.pe@kmitl.ac.th, ORCID: <https://orcid.org/0000-0002-4828-1740>

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## ARTICLE INFO

## ABSTRACT

To bridge the gap between the demands of students and teachers in conventional art education and the realities of contemporary art practice in China, this research suggests a project-based blended learning model (PjBBL) (Version 2) for creative painting classes. The PjBBL paradigm combines online and in-person studio sessions to provide students more agency and participation in their learning and give instructors more tools to monitor and improve their students' development.

College-level art classes and art teachers participated in blended-method, qualitative, and quantitative research to assess PjBBL's efficacy. In order to examine the influence on student learning outcomes (such as technical skills, creativity, and critical thinking) and teacher satisfaction with the model, the research used pre- and post-test assessments, student surveys, and teacher interview evaluations. Across the board, the results showed that students' learning outcomes improved significantly. Further, the PjBBL model's capacity to meet the requirements of a wide range of students, promote individualization of instruction, and heighten participation in class led to greater teacher satisfaction. In conclusion, by combining traditional and new techniques, this study indicates that the PjBBL adaptation has the ability to reinvigorate art training in China. A greater dynamic, enticing, and a hit studying surroundings may be fostered with the aid of the use of PjBBL, which empowers college students and instructors.

**Keywords:** PjBBL, Educational Innovation, Teacher-Student Needs, Dynamic Learning Experience, Pedagogical Transformation

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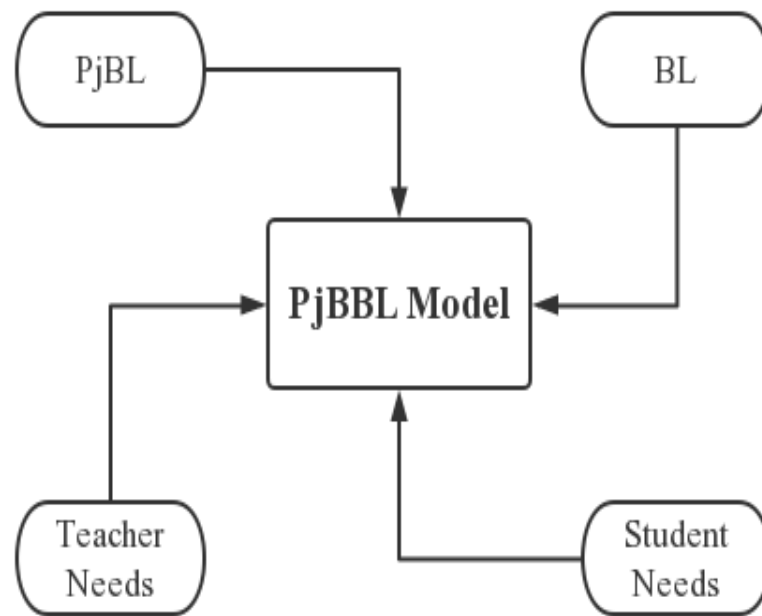
### **Introduction**

A whole lot of change is going on in China's educational system, and it is most important in the artwork schooling zone. Traditional techniques have produced generations of proficient artists, but education institutions need to rethink them because of troubles with student engagement, individualized preparation, and technological integration (Zhou et al., 2021). Another essential factor of artwork schooling, painting instructions, has comparable problems. Developing students' capacity for original ideas, evaluation, and expression is regularly driven to the facet in favour of memorization and technical competence. Thus, Project-based Learning (PjBL) can offer college students a higher knowledge of their surroundings and improve college students' interest in getting to know. However, with the advancement of generations, a single PjBL model can not fulfil college students' learning. Therefore, this research attempts to mix PjBL and blended learning (BL) to create a Project-based Blended Learning model (PjBBL) to create a complete and dynamic educational enjoy for college students. Creating a PjBBL version lets college students actively participate in creating portray tasks. At the same time, online resources and technology can enhance student mastering (Nuris et al., 2018). This teaching version can promote college students' collaboration and vital wondering talents and also can provide college students with possibilities to increase digital literacy and independence in getting to know (Mirete et al., 2020). In building the model, the wishes of instructors and students should be taken into consideration. Meeting the wishes of teachers is critical in training because instructors play an important position in students' fulfilment and improvement, and they directly have an effect on first-rate instructional effects (Nelson & Bohanon, 2019). Students' perceptions of teaching and gaining knowledge of attitudes and responses to specific study room environments and teaching practices have various stages of motivation and mind-set (Sim & Matore, 2022). Teachers effectively meet college students' needs inside the classroom, assist college students in solving issues inside the getting-to-know method, and create a more inclusive and powerful gaining knowledge of surroundings for all students (Suresh et al., 2012).

### **Research Objective**

This article has two research objectives:

- 1) To find the needs of teachers and students in the project-based blended learning model in painting courses.
- 2) To develop a project-based blended learning in painting courses.



**Figure 2.1** Research objective  
(Source: Author)

### Literature Review

#### ***Project-based learning (PjBL)***

Project-based learning is an innovative educational approach that provides students with a rich and engaging learning experience (Almaguer et al., 2015). By solving real-world problems, students develop various skills and transition from passive learners to active content creators (Galvan & Coronado, 2014). A significant advantage of project-based learning is increased student engagement. Through this method, students can actively participate in their learning process. This shift from traditional lecture room teaching to guide manual experiential knowledge of fashions allows college students to learn nearly and apply their understanding meaningfully (Shin, 2018). Project-primarily based learning also can promote powerful verbal exchange among students. In assignment-based gaining knowledge, students can express their opinions, collaborate with peers, and efficiently speak their thoughts and findings, which helps them enhance their interpersonal communicate abilities and prepares them to talk effectively (Owens & Hite).

#### ***Blended Learning (BL)***

The hybrid teaching model is an increasingly more popular approach combining conventional face-to-face and online teaching. This teaching model can integrate face-to-face and online getting-to-know sources and provide college students with more excellent instructional resources. It also can enhance pupil participation and studying effects (Ananga & Biney, 2017). In blended studying environments, instructors can gain precious insights into student development, engagement, and areas for development by means of reading statistics generated from pupil interactions with online getting-to-know systems. These insights can tell choices about online getting to know equipment and resources and inform teaching strategies, interventions, and selections (Chen et al., 2018). Teachers can track and monitor pupil progress in combined mastering surroundings and apprehend their studying behaviors and choices. This knowledge can customize and tailor instruction to fulfil students' needs, improving studying consequences (Rivera, 2017). Therefore, instructors

have to use modern teaching gear and observe combined teaching techniques to enhance the exceptional of their classes.

### ***Teacher Needs***

In designing courses, instructors have specific wishes that have to be addressed to correctly interact with their students and sell an enriching studying revel in (Liu, 2022). Among instructors' wishes, there are 4 factors: 1. Teacher's teaching philosophy; 2. Teacher's coaching strategies; three. Teacher's teaching content material; 4. Teacher's teaching tools (Li, 2021). A teaching philosophy is a guiding framework for teachers that informs their teaching practices, choice-making processes, and scholar interactions. It courses instructors to mirror their exercise, make informed selections, and usually enhance their teaching methods (Pahlevi et al., 2020). In artwork training, the use of effective teaching techniques in portraying publications is essential to strengthening students' master reviews and effects and can better domesticate students' concepts in description (Zhou et al., 2021). Painting publications: The teaching content material is vital in enhancing students' artistic abilities, creativity, and self-expression potential. Rich teaching content material can promote the improvement of college students' cognition, emotion, behavior, and character (Zhang & Liu, 2022), and advanced teaching tools can provide students with a wide range of educational resources and educational opportunities that may not be available in traditional classroom environments (Kryklywy et al., 2021).

### ***Student Needs***

Students' needs restrict the effectiveness of expert artwork schooling training. Among students' desires are: 1. Knowledge base; 2. Enthusiasm and interest in artwork getting to know; 3. Depth of getting to know; four. Learning initiative and Creativity (Li, 2021). The significance of a strong expertise base for drawing students can not be underestimated. Having a solid know-how base is important for drawing students as it offers them with the necessary gear and understanding to create more meaningful and effective artistic endeavors (Abdellatif et al., 2022); enthusiasm for studying, additionally referred to as gaining knowledge of engagement, Defined as an attitude that results in gaining knowledge of, behavior, and active participation inside the instructional technique (Flores et al., 2019), an mind-set of positive path participation can become motivation for college kids to research and make progress of their research (Yilmaz, 2017); the intensity of pupil learning is a essential factor of training that refers to the volume to which college students interact in and actually understand what they are learning, instead of simply memorizing records or superficial expertise (Rieh et al., 2017); students' gaining knowledge of initiative and creativity Strength performs a vital role of their academic improvement and destiny success (Raman & Ramlogan, 2020). By actively participating in the learning process and demonstrating creativity, students can enhance their understanding of concepts, develop critical thinking skills, and solve problems and complex issues.

## **Methodology**

This study has two phases: the first is to identify the needs of teachers and students, and the second is to design and develop a project-based hybrid teaching model.

### ***Research Design***

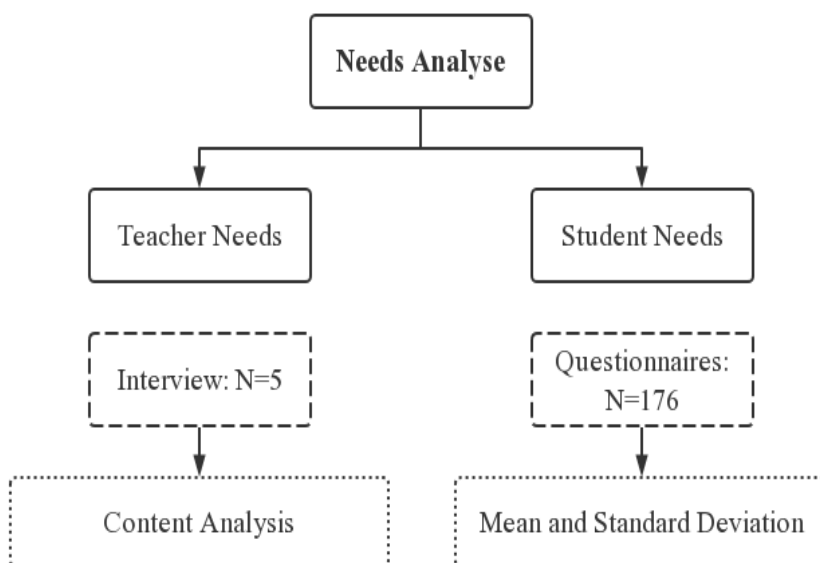
The research adopts a blended method; qualitative research includes interviews and quantitative research, which is conducted through survey questionnaires. A multi-faceted strategy was used to evaluate the PjBBL model. Technical competence, creative capacity, and critical thinking were the domains of the pre-and post-tests that assessed the success of the course. Student responses and in-depth interviews provided

qualitative information about the model's impact on their lives. Using PjBL for differentiated teaching was investigated in terms of its practicability, ease of implementation, and efficacy in teacher evaluations. Results were derived from a thematic analysis of interview and reflection data for recurrent patterns, a comparison of pre-and post-test scores to gauge learning gains, and a summary of instructor evaluations to extract essential themes and insights. This varied data collecting and analysis technique achieved a thorough comprehension of the effects of the PjBBL model on student learning and instructor experience.

**Table 4.1** Participant Inclusion/Exclusion Criteria

Inclusion	Exclusion
Enrolled in an Introductory Painting Course	Enrolled in advanced painting courses or have extensive prior experience
Willing to participate and commit to all classes and assessments	Unwilling to participate or withdraw during the study
No prior experience with the PjBBL model (for the PjBBL group)	Any previous experience with the PjBBL model
No visual or physical limitations hindering participation	Visual or physical limitations restricting participation

**Phase 1 (Analysis): Identifying Teacher and Student Needs**



**Figure 4.1** Requirements Analysis Diagram  
(Source: Kirillova, 2019)

*Needs analyze.*

1) Teacher needs

In this study, teachers' needs include four aspects: teaching philosophy, teaching methods, teaching content, and teaching tools. Through a demand survey in these four aspects, it could be understood that teachers' views on current educational concepts, teaching methods, teaching content, and tools and give relevant suggestions. In response to the needs of teachers, this study adopted the interview method, with a total of 4 interview questions (Appendix 1).

2) Student needs

In this study, student needs include four aspects: knowledge base, enthusiasm and interest in painting

learning, depth of learning, learning initiative, and creativity. Through the demand survey in these four aspects, it could be understood that the current learning status of students to understand students' needs better and further meet students' needs.

Likewise, aiming at the needs of students, this study adopts a questionnaire method. The questionnaire has a total of 22 questions. In the knowledge base part, there are 5 questions. In the part of enthusiasm and interest in painting learning, there are a total of 8 questions. In the part of learning depth, there are 2 questions. There are 7 questions in the learning initiative and creativity section (Appendix 2).

#### *Participants*

There were two categories of participants in this part of the study: teachers and students.

The teachers come from the painting major of the Art Department of Lyuliang College in Shanxi Province, China, and 5 teachers were randomly selected.

The students are undergraduate students from the Art Department of Lyuliang College in Shanxi Province, China, majoring in painting. Based on the selection ratio of group size and sample size (Neuma, 2014), 176 students were randomly selected from 366 students to participate in the needs survey.

#### *Research instrument*

This study used two instruments: interview questions and a scale questionnaire (five-point Likert). Teachers' needs were investigated through interviews, and students' needs were investigated through questionnaires.

The researcher designed the interview outline and questionnaire based on the research questions and objectives and invited five experts to evaluate the interview content and questionnaire, respectively, to identify internally consistent questions or measurement dimensions to improve the reliability and validity of the questionnaire. The reliability was evaluated using **Cronbach-alpha**, and the validity was tested using **IOC**.

Through expert testing, the four teacher needs interview questions are valid items ( $>0.5$ ) (Appendix 4). Therefore, these four questions can be used to understand teachers' needs.

After expert testing, 22 questionnaire questions were valid items ( $>0.5$ ) (Appendix 5). Therefore, these 22 questions can be used to understand students' needs.

**Table 4.2** Questionnaire Reliability Table

<b>NO.</b>	<b>Part</b>	<b>Alpha</b>
<b>1</b>	Basic knowledge	0.93
<b>2</b>	Enthusiasm and interest in learning to paint	0.95
<b>3</b>	Learning depth	0.91
<b>4</b>	Learning initiative and creativity	0.94
<b>Total</b>		0.97

There are 4 parts to the questionnaire for students' needs. Four parts in the questionnaire are targeted at students' needs, and each part's **Cronbach's Alpha** is  $>0.9$ . Therefore, the questionnaire is dependable and can be used.

#### *Data Collection*

In response to the needs of teachers, this study adopted the interview method. According to the focus of the interview, the content was recorded, and the conclusions were made.

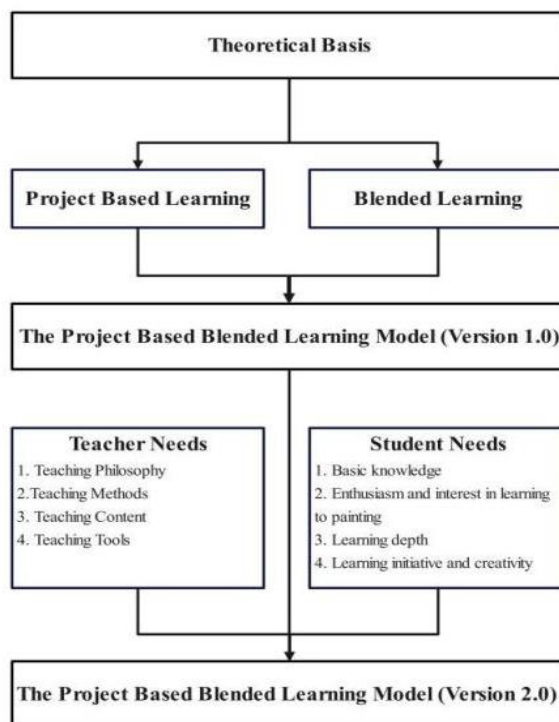
In response to the needs of students, this study issued questionnaires to 176 students through the WenJuanxing platform. An anonymous method was used during the survey process. After the questionnaire was completed, data was collected through the WenJuanxing platform.

*Data Analysis*

In response to the needs of teachers, this study uses the content analysis method to analyze the teacher interview data qualitatively and finally provides the interview conclusions. Given students' needs, this study will conduct a quantitative analysis of students' needs questionnaires, and statistical analysis will be conducted using the mean and standard deviation.

**Phase 2 (Design & Development): Develop a Project-Based Blended Learning Model**

This research stage is mainly about developing a new teaching model, which is divided into two steps: the first step is to construct a new learning model and invite 5 experts to evaluate it; the second step is to analyze the needs of teachers and students and modify according to the demand results from the model.



**Figure 4.2** Learning Model Design Process  
(Source: Kirillova, 2019).

*Learning Model Design*

The model (version 1) has 6 steps: Building the project, preparation before class, teaching in class, combining online and offline activities after class, offline during class, and grading after class.

**Table 4.3** PjBBL teaching model design (version 1.0)

<b>Step 1: Build the project</b>	
Teacher preparation	
1. Make a teaching plan	
2. Analyze teaching content	
3. Learning resource development and design	
4. Instructional design	
<b>Step 2: Preparation before class</b>	
Teacher activities	Student Activities
online	online

1. Establish online classes.	1. Enter the online class.
2. According to pre-class preparations, issue learning tasks to students.	2. Accept tasks posted online by teachers.
3. Track student learning online.	3. Online learning through resources shared by teachers;
<b>Step 3: Teaching in class</b>	
Teacher activities	Student Activities
Online	Offline
1. Guided answers	1. Ask questions
2. Classroom demonstration	2. Group discussion
3. Supervision, inspection, guidance	3. Watch and learn
	4. Work drawing
<b>Step 4: Combining online and offline activities after class</b>	
Teacher activities	Student Activities
1. Guidance and help	1. Communication and interaction
	2. Application of knowledge
	3. Find information
<b>Step 5: Offline during class</b>	
Teacher activities	Student Activities
1. Display of organizational results	1. Work display
	2. Exchange and discussion
	3. Modify and improve
<b>Step 6: Grading after class</b>	
Teacher activities	Student Activities
1. Rating	1. Reflect

### *Participants*

Invite 5 experts who teach this course and have participated in this research for many years, including blended and project-based learning experts.

### *Research Instrument*

To better measure the teaching model of this study, this study designed a design process evaluation form (Appendix 3) with a total of 17 questions. The evaluation form passed the IOC validity test, and it can be concluded that the 17 questions in the evaluation form are valid items (>0.5); therefore, these 17 questions will be used to understand perceptions of the expert teaching model.

## **Results**

### ***Results of Teacher and Student Needs***

#### *Result of Teacher Needs*

**Table 5.1** Summary of Interview Question 1

#### **What do you think of the current teaching philosophy?**

A and B believed the current teaching philosophy lagged behind the latest educational philosophy. In contrast, C, D, and E believed that the current educational philosophy aligned with China's national conditions and the needs of current Chinese education.

#### **Need to make a change?**

A, B, Zhao E believe that the current teaching philosophy needs to be changed, while C and D believe there is no need for changes.

#### **How to do?**



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Teachers must constantly update their educational concepts and cannot unthinkingly use past educational concepts. Teachers should pay attention to students' differences and cultivate students' innovative thinking and problem-solving abilities. Teachers should continuously strengthen their learning, understand, and use the latest teaching models through independent learning, participation in training, peer exchanges, etc. such as the heuristic education model, project-based learning, blended teaching model, etc. Use the new teaching mode to cultivate students' independent thinking, independent problem-solving, innovation, and other abilities.

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**Table 5.2** *Summary of Interview Question 2*

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**What do you think of the current teaching methods?**

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There are five teaching methods at present: lecture method, discussion method, demonstration method, practice method, and class discussion method. The main body of the classroom is still the center of the classroom, and it does not stimulate students' ability to active learning and collaboration.

**Need to make a change?**

The current educational methods cannot meet the educational needs of students very well; therefore, the current educational methods need to be changed.

**How to do?**

Teachers should improve students' participation in the classroom so that students can actively participate in teaching the course. Moreover, teachers should learn to use modern technical means to expand the channels and methods for students to acquire knowledge.

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**Table 5.3** *Summary of Interview Question 3*

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**What do you think of the current teaching content?**

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Although the current teaching content can meet some educational needs, there are still many problems, such as the teaching content lacks practical knowledge, and it is challenging to cultivate students' ability to solve problems; the teaching content is relatively single, which cannot stimulate students' interest in active learning; The update is slow, the content lags, and the teaching of the latest scientific knowledge to students is lacking.

**Need to make a change?**

The current teaching content needs to be constantly changed with the development of the times to meet the needs of education better.

**How to do?**

The teaching content should be combined with the student's learning interests. The design of the teaching content should be able to stimulate students' interest in active learning. Moreover, the teaching content should be rich enough to improve students' professional ability but also enable students to acquire other knowledge and abilities.

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**Table 5.4** *Summary of Interview Question 4*

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**What do you think of current teaching tools?**

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The current teaching tools have the following problems: 1. There are many teaching tools, but many teachers do not use them, or the frequency of use is low; Learning of new teaching tools.

**Need to make a change?**

Teaching tools need to be constantly changed with the development of the times, and the old equipment must be updated promptly.

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### How to do?

The change of teaching tools requires efforts in several aspects: 1. Educational authorities and schools should replace new teaching equipment in time so that students can use new teaching equipment quickly; 2. Teachers must continue to learn and be able to use the latest teaching equipment flexibly; Teaching tools.

### Result of Student Needs

A total of 176 questionnaires were returned this time, and 176 questionnaires were valid.

Among the 176 students, there are students from 4 grades. Among them, the most considerable number is from juniors, accounting for 47.16%, and the smallest is from seniors, accounting for 2.84%. The details are as follows:

Among the 176 students, there are students from 4 majors. Among them, the Chinese painting major has the most considerable number of students, accounting for 40.34%, and the sculpture major has the smallest number of students, accounting for 9.66%.

**Table 5.5** Statistics of questionnaire (N=176)

No.	Question	Mean	SD
1	Basic knowledge	3.09	0.62
2	Enthusiasm and interest in learning to paint	3.74	0.79
3	Learning depth	3.47	0.80
4	Learning initiative and creativity	3.55	0.80

From the average point of view, the highest is 3.74, and the lowest is 3.09, which shows that students are more recognized for their passion for painting and learning, but their recognition of basic knowledge is low.

From the perspective of standard deviation, the highest one is 0.80, and the lowest one is 0.62, which shows that students have less disagreement on basic knowledge and more significant disagreement on the depth of learning, initiative, and creativity in learning.

### The Development Outcomes of PjBBL Models in the Context of Painting Courses

The third chapter highlights the design of the PjBBL model (version 1.0) based on the learning model, experience, and literature research. The following chapter combined the 1.0 version and optimized the model according to the needs of teachers and students.

### PjBBL model (Version 1.0)

In the first version, the researchers designed an evaluation form containing 17 questions, which 5 experts evaluated. The specific results of the evaluation form are as follows:

**Table 5.6** Version 1 Course Design Statistics (N=5)

No.	Question	Mean	SD
1	I think this model is reasonably arranged in the pre-preparation part of the teacher.	3.80	0.45
2	The model is reasonably arranged in the pre-class online part.	4.00	0.71
3	I think the model is reasonably arranged in the offline part of the class.	4.00	0.00
4	I think the model is reasonably arranged in the online and offline parts after class.	4.20	0.45
5	I think the overall design flow of the model is sound.	4.20	0.45

6	I think this model fits the bill for project-based learning for students.	4.60	0.55
7	I think this model fits the bill for blended instruction.	4.40	0.55
8	I think this model can enhance students' interest in learning.	4.20	0.45
9	I think this model can improve students' ability to learn actively.	4.40	0.55
10	I think this model can improve students' learning attitude.	4.20	0.45
11	I think this model can improve students' drawing skills.	4.40	0.55
12	I think this model allows teachers to understand the needs of students better.	4.20	0.45
13	I think the learning platform in this model applies to all learners.	4.40	0.55
14	I think the model is a student-centered teaching model.	4.20	0.45
15	I think the model ended up getting good feedback from students.	4.40	0.55
16	I think the model is convenient for teachers to operate.	4.40	0.55
17	I think this model will be liked by students.	4.40	0.55
<b>Total</b>		4.26	0.49

Experts believe this model meets the requirements of student project-based learning, with the highest average of 4.60. Experts believe this model has a low evaluation of the teacher's preliminary preparation part, with an average of 3.80, the lowest value.

From a standard deviation perspective, the highest value is 0.55, and the lowest is 0.00.

Therefore, this study adopts this teaching model and conducts classroom design based on this teaching model.

### **PjBBL model (Version 2.0)**

This version of the model adds to the needs of teachers and students based on version 1.0. Through previous research and analysis, the needs of teachers and students are as follows:

**Table 5.7** *Teacher and Student Needs*

<b>Teacher Need</b>	<b>Student Need</b>
1. Teachers should constantly update educational concepts, strengthen learning, and integrate the latest teaching concepts into the classroom.	1. Classroom teaching should satisfy students' initiative and creativity in the learning process so that students can better use their imagination.
2. Teachers should improve students' participation in the classroom and make students the main subjects of classroom learning. Moreover, teachers should learn to apply modern technological means to expand the channels and methods for students to obtain knowledge.	2. The content of the class cannot be limited to textbooks. Students must use their time in and out of class to actively learn more art knowledge.
3. When formulating teaching content, teachers must understand students' interests in advance. The teaching content must be able to stimulate students' interest in active learning. Moreover, the teaching content must be rich enough and cannot be limited to textbook knowledge.	3. In classroom teaching, students' interest and enthusiasm for painting should be stimulated so that students can gain a sense of satisfaction in the process of painting.
	4. In the classroom, students' basic knowledge should be improved, and the difficulty of students' learning should be gradually increased from shallow to deep.

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4. Teachers must learn new teaching software or teaching tools in a timely manner and apply them in the classroom as early as possible.
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The model has been optimized and designed according to the needs of teachers and students, as follows:

1. Based on theoretical research, the six steps in this model are further clarified.
2. According to students' needs, add students' independent learning activities in classroom activities to improve student's interest and enthusiasm for learning.
3. According to the needs of the students, when formulating the project, the painting project should be formulated according to the students' painting interests.
4. According to the everyday needs of teachers and students, teachers should promptly introduce new teaching software into the classroom and continuously enrich classroom methods.

**Table 5.8** *The PjBBL model (version 2.0)*

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**Step 1: Build the project**

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Teacher preparation

1. Make a teaching plan
2. Analyze teaching content
3. Learning resource development and design
4. Instructional design

**5. Explain the project-based blended learning method to students and let students understand the teaching model of project-based blended learning.**

**Step 2: Preparation before class**

Teacher activities

online

1. Establish online classes.
2. According to pre-class preparations, issue learning tasks to students.

**3. Upload and share rich teaching resources by searching for learning resources.**

4. Track student learning online.

Student Activities

online

1. Enter the online class.
2. Accept tasks posted online by teachers.
3. Online learning through resources shared by teachers.

**4. Think and ask questions as you learn; summarise the problem.**

**Step 3: Teaching in class**

Teacher activities

Online

1. Guided answers
2. Classroom demonstration
3. Supervision, inspection, guidance

Student Activities

Offline

1. Ask questions
2. Group discussion
3. Watch and learn
4. Work drawing

**Step 4: Combining online and offline activities after class**

Teacher activities

1. Guidance and help

**2. Give advice to students**

Student Activities

1. Communication and interaction
2. Application of knowledge
3. Find information

**Step 5: Offline during class**

Teacher activities

Student Activities

**1. Modify work.**

2. Display of organizational results

1. Work display

2. Exchange and discussion

3. Modify and improve

**Step 6: Grading after class**

Teacher activities

Student Activities

1. Rating

1. Reflect

**Discussion**

This research shed light on the need to cater to the individual necessities of teachers and college students to enhance the fine of education supplied in painting guides. Consistent with the literature review that trainer and student needs considerably have an effect on instructional outcomes (Nelson & Bohanon, 2019), the results highlight the critical significance of satisfying these desires in impacting pupil achievement and increase.

The findings endorse that understanding and addressing the unique necessities of teachers and college students may also lead to a more prosperous and tasty studying revel (Mayne & Dixon, 2020). This discovery highlights the price of adapting pedagogical tactics, resources, and academic materials to meet these requirements.

The design and implementation of the PjBBL version in this study present a singular method of art training. Literature critiques assist the declare that PjBBL is an effective way to get college students involved inside and outside of the school room (Almaguer et al., 2015). The model's use of PjBL and BL follows research that has shown that combining in-magnificence and online education improves student engagement and retention (Ananga & Biney, 2017).

This finding is consistent with the literature overview's emphasis on updating one's pedagogical practices to mirror the most recent thinking in schooling and to make use of the most up-to-date technology gear to develop students' horizons in terms of ways and where they acquire facts (Shin, 2018; Chen et al., 2018). Given the focal point of the studies on responding to converting educational paradigms and capitalizing on technological advances to decorate coaching, this finding indicates that the challenge-primarily based combined getting-to-know approach is consistent with those dreams. This method aligns with the literature's cognizance of lively learning and pupil-focused coaching paradigms (Galvan & Coronado, 2014) because it integrates mission-primarily based getting-to-know methodologies with art educational fabric to offer students meaningful, firsthand getting-to-know studies. Thus, that is consistent with claims made within the literature that assignment-based total learning improves college students' ability to speak and paint with others (Owens and Hite).

The findings also endorse that the concept can be used outside the realm of portraying training and can be used in other fields of work. To that quit this finding is steady with the consensus in scholarly literature (Ananga & Biney, 2017) that combined mastering models may be carried out to a huge sort of publications and superior over time with technological advances. As the sector of schooling continues to increase in terms of generation and pedagogy, so should the version's practicality.

Aligning with the literature's consciousness on addressing teacher and pupil needs, the venture-based combined learning model proposed in this research offers a viable approach for improving the same old

artwork education and other expert courses. There is substantial potential for this paradigm to improve coaching and learning by means of addressing the wishes of both teachers and college students. This model can be applied not only to painting classes but also to other professional classes. With the development of science and technology, this model will be continuously improved with the development of science, and the feasibility of this model will also continue to improve.

### Conclusion

In conclusion, student learning outcomes in technical skills, creativity, and critical thinking were significantly improved when the PjBBL paradigm was used in painting classes. This result proves that the paradigm promotes a more active and exciting learning environment while successfully addressing issues with conventional art instruction. Significant improvements were seen in both groups' pre-and post-test scores, demonstrating the promise of PjBL even in a minimal period. The model's adaptability to different student demands via individualized instruction was also highlighted in teacher assessments as very easy to implement.

However, the limitations of this study need to be recognized. Additional research in various settings is required to confirm the study's generalizability, as it was only conducted at one institution. Also, a need exists to find out how PjBL affects students' growth and creative processes in the long run. Lastly, it is important to include technology infrastructure and teacher training for a larger-scale deployment to be effective.

This research highlights the potential of PjBBL to revive art education in China despite these constraints. Thus, to facilitate the widespread use of this novel strategy, future studies should investigate its lasting impacts, broaden the area of the investigation, and resolve the requirements for training and infrastructure.

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**Appendix 1**

No.	Question Outline 问题大纲
1	What do you think of the current teaching philosophy? Need to make a change? How to do?
2	What do you think of the current teaching methods? Need to make a change? How to do?
3	What do you think of the current teaching content? Need to make a change? How to do?
4	What do you think of current teaching tools? Need to make a change? How to do?

**Appendix 2**

Grade:		Class:		Major:		
<b>Basic knowledge</b>						
NO.	Questions	Score				
		1	2	3	4	5
1	I think my drawing fundamentals are pretty good.					
2	I think my cultural foundation is pretty good.					
3	I can understand deeper academic issues.					
4	I think I have a good reserve of knowledge.					
5	I think I have a good cultural reserve.					
<b>Enthusiasm and interest in learning to paint</b>						
NO.	Questions	Score				
		1	2	3	4	5
1	I especially love painting.					
2	I am very passionate about learning to paint.					
3	I am very interested in painting.					
4	I am engrossed in my painting studies.					
5	I will continue to improve my learning standards.					
6	I will take the painting class very seriously.					
7	I can absorb the content taught by the teacher in class very well.					
8	I have a lot of fun when I paint.					
<b>Learning depth</b>						
NO.	Questions	Score				
		1	2	3	4	5
1	I have a complete and reasonable study plan.					
2	I have my own learning system and learning methods.					
<b>Learning initiative and creativity</b>						
NO.	Questions	Score				
		1	2	3	4	5
1	I will take the initiative to learn about painting.					
2	I will take the initiative to ask questions to the teacher.					
3	I will take the initiative to visit the painting exhibition.					
4	I will take the initiative to discuss painting with my classmates.					



5	I will take the initiative to learn about painting-related news.					
6	I think I have good creative thinking ability.					
7	I think my work is very creative.					
<p>Note:</p> <p>5=strongly agree</p> <p>4=agree</p> <p>3=neutral</p> <p>2=disagree</p> <p>1=strongly disagree</p>						

### Appendix 3

NO.	Question	Score				
		1	2	3	4	5
1	I think this model makes good use of project-based learning methods.					
2	I think the model is well organized in terms of hybrid instruction.					
3	I think this model can be well applied to professional painting courses.					
4	I think the model is reasonably arranged in the online and offline parts after class.					
5	I think the overall design flow of the model is sound.					
6	I think this model fits the bill for project-based learning for students.					
7	I think this model fits the bill for blended instruction.					
8	I think this model can enhance students' interest in learning.					
9	I think this model can improve students' ability to learn actively.					
10	I think this model can improve students' learning attitude.					
11	I think this model can improve students' drawing skills.					
12	I think this model allows teachers to better understand the needs of students.					
13	I think the learning platform in this model applies to all learners.					
14	I think the model is a student-centered teaching model.					
15	I think the model ended up getting good feedback from students.					
16	I think the model is convenient for teachers to operate.					
17	I think this model will be liked by students.					
<p>Note:</p> <p>5=strongly agree</p> <p>4=agree</p> <p>3=neutral</p> <p>2=disagree</p> <p>1=strongly disagree</p>						