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# “OBE + PBL” Educational Concept for Cultivating “Live Streaming Sales” Talents in Business English

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**Abstract:** With the rapid development of e-commerce, “live streaming sales” has become an emerging sales model. This paper aims to explore how to build a training model for “live streaming sales” in Business English under the guidance of Outcome-Based Education (OBE) and Problem-Based Learning (PBL) educational concept, which is a new teaching model aimed at cultivating students’ practical abilities and innovative thinking. The research shows that the “OBE + PBL” educational concept can effectively improve students’ professional skills and comprehensive quality, providing new ideas and methods for the training of “live streaming sales” in the Business English major.

**Keywords:** Live streaming sales; OBE; PBL; Practical teaching

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## 1. Introduction

In recent years, with the advent of the 4.0 era of big data and cross-border e-commerce, the traditional Business English major has faced tremendous challenges. Higher education responds to the call of the Ministry of Education for the construction of “four news” in disciplines, accelerating the modernization of education. So many colleges and universities have started to integrate disciplines and enhance intelligence, actively introducing emerging models such as digital teaching, big data, intelligent transformation, and live streaming sales into college teaching models. The Business English major, through the “four new” construction, better combines with new technologies and industries, providing language and cultural support for industrial upgrading, which is a reform that needs to be carried out urgently to meet the needs of the times.

“Live streaming sales” as an emerging sales model, has significant advantages but also comes with many challenges and problems. For example, some hosts in the live streaming process have exaggerated publicity and misled consumers, which undoubtedly damages the trust of live streaming sales in the hearts of consumers<sup>[1]</sup>. This phenomenon reflects the problems in the current training system for live streaming sales. The training of e-commerce live streaming talents should focus on their practical operational abilities. The cultivation of these abilities is often difficult to achieve with traditional teaching methods.

Currently, there is a significant shortage of talent supply in the “live streaming sales” field, and its

professional foundation still needs to be strengthened. Therefore, this paper attempts to introduce the “OBE + PBL” educational concept into the training of college e-commerce talents, focusing on students, adjusting teaching strategies, and strengthening teaching focus to stimulate students’ initiative, to cultivate high-skilled live streaming talents that meet the expectations of enterprises.

## **2. Current status of “live streaming sales” talent cultivation and training models in colleges and universities**

### **2.1. The “live streaming sales” course is novel and interdisciplinary, with a significant talent gap**

Faced with the talent demand expected to reach 21.84 million people by 2025, the establishment of live streaming sales courses is particularly urgent and important <sup>[2]</sup>. Although the education department has been committed to promoting colleges and universities to offer courses that meet the needs of the “live streaming sales” industry, the talents cultivated still cannot effectively match the huge gap in market demand. Courses should not only cover traditional knowledge such as business and marketing, but also integrate interdisciplinary content such as Internet technology, new media operation, and big data analysis, which leads to the bottleneck phenomenon in the process of talent training.

### **2.2. The curriculum setting focuses heavily on theory rather than practical teaching content**

Currently, there are issues in the talent cultivation of live streaming sales in colleges and universities, where the curriculum focuses too much on theory and practical teaching content lags behind market demand. Firstly, although the live streaming sales industry is rapidly integrating new technologies, such as Virtual Reality (VR) panoramic live streaming and 4 K or 8 K high-definition live streaming, college courses rarely involve these advanced technologies, resulting in a significant gap between students’ technical practice and industry needs <sup>[3]</sup>. Secondly, with the standardized development of the industry, China has introduced several policies for guidance and standardization, but these contents are often neglected in college courses, and students lack an understanding of industry standards and regulatory policies. Moreover, as the market’s acceptance and willingness to purchase continue to increase, college courses have not kept up with the latest market trends, leading to a disconnect between supply and demand.

### **2.3. Vague talent cultivation positioning, lacking clear career development path and skill requirements**

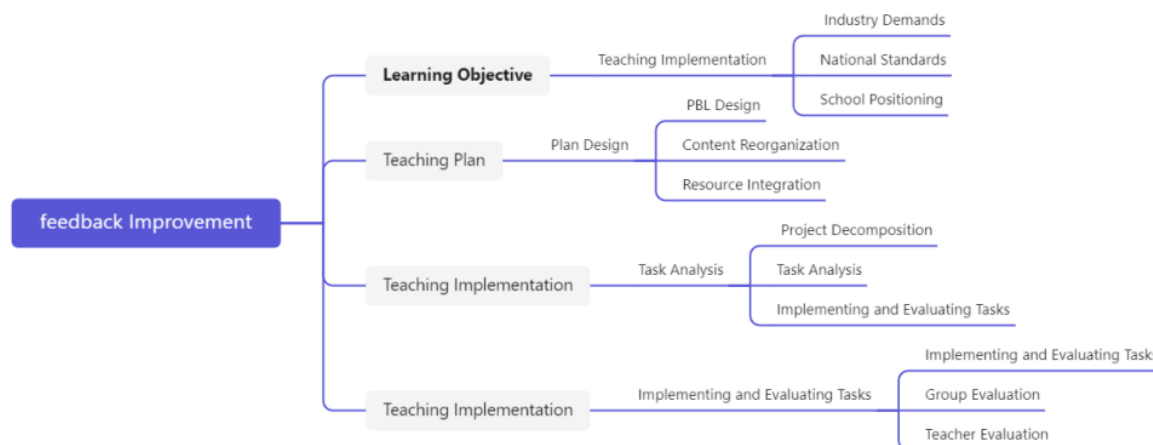
Live streaming sales talent cultivation is facing the problem of vague positioning and lack of a clear career development path. Educators and learners find it difficult to grasp the direction and focus of cultivation, leading to a deviation between students’ school learning content and the actual needs of enterprises <sup>[4]</sup>. Students may feel a lack of theoretical and skill reserves after entering enterprises, resulting in a psychological gap. Additionally, the standardization of the live streaming sales industry is also an indispensable part of talent cultivation.

## **3. Based on the OBE + PBL curriculum practice teaching model construction**

The Outcomes-Based Education (OBE) educational concept is an advanced educational philosophy that emphasizes an education method oriented toward learning outcomes <sup>[5]</sup>. Project-Based Learning (PBL) emphasizes that students’ learning is driven by actual projects or tasks, reflecting the educational thought of “learning by doing, doing while learning.” The OBE educational concept points out the direction for teaching

activities, and PBL provides methods for the design and implementation of teaching activities. By organically combining these two teaching organizational forms, students can both solve practical problems through group cooperation in the classroom and develop their critical thinking.

This paper, in line with the OBE educational concept and integrating PBL project-based teaching, takes real enterprise projects as the carrier and designs the live streaming sales practice teaching into five stages: learning objectives, teaching plans, teaching implementation, outcome evaluation, and feedback improvement (as shown in **Figure 1**).



**Figure 1.** Teaching mode of data analysis practice course based on OBE + PBL

In the design process, the following should be noted. Firstly, based on meeting the requirements of school positioning, professional characteristics, and student development, the formulation of learning objectives should also pay attention to social and industry needs at national professional standards. Secondly, the design of teaching plans should follow the principle of “project-led, task-driven,” taking real enterprise project cases as the carrier, localizing the transformation of projects, optimizing and reorganizing teaching content according to project requirements, and collecting and integrating excellent course teaching resources to provide support for subsequent student cooperative learning. Thirdly, referring to the PBL teaching plan design, in the teaching implementation process, according to the project theme, the teaching content is refined and decomposed into several tasks, and group cooperation is carried out according to the teaching process of analyzing tasks, implementing tasks, and evaluating tasks. Fourthly, the outcome evaluation adopts a multi-faceted evaluation method, taking into account self-evaluation, group evaluation, and teacher evaluation, and carries out evaluation and exchange according to the course assessment and evaluation standards. Lastly, based on the outcome evaluation, determine the degree of achievement of learning objectives, and continuously improve the teaching plan design in the continuous practice process.

## 4. Curriculum teaching model design based on OBE + PBL

### 4.1. Learning objectives

Under the guidance of the OBE educational concept, the curriculum learning needs to be combined with the needs of the industry and enterprises, following the school’s training program requirements, combined with professional characteristics and student development characteristics, to propose feasible and innovative curriculum learning objectives <sup>[6]</sup>. Currently, the school where the author is located has established industrial cooperation with well-known enterprises such as Geely Group. Additionally, in the process of talent introduction, engineers and senior engineers with rich project practical experience have been actively introduced

to enrich the practical training team, which is conducive to effective communication with the industry in the formulation process of the curriculum objectives.

After continuous analysis and refinement, this paper has established the learning objectives of this course from aspects such as “knowledge, ability, and quality” as shown in **Table 1**.

**Table 1.** Learning objectives of live streaming sales practice course based on OBE + PBL

Course objectives	Specific content
A Knowledge Level	A1 Product knowledge
	A2 Market analysis knowledge
	A3 Marketing theory
	A4 New media knowledge
	A5 Communication theory
	A7 E-commerce platform knowledge
	A8 Data analysis knowledge
	A9 Technology application knowledge
	A10 Cross-cultural communication knowledge
	A11 Project management knowledge
	A12 Innovation and entrepreneurship knowledge
	A13 Psychology knowledge
	A14 Brand management knowledge
	A15 Crisis management knowledge
B Skill Level	B1 Live streaming basic skills
	B2 Content creation and planning
	B3 New media application skills
	B4 Product knowledge and market analysis
	B5 Language expression and communication skills
	B6 Marketing promotion skills
C Quality Level	C1 Professional spirit
	C2 Integrity awareness
	C3 Legal awareness
	C4 Social responsibility
	C5 Teamwork skills
	C6 Communication and coordination skills
	C7 Autonomous learning ability
	C8 Innovation and creativity
	C9 Adaptability
	C10 Emotional management skills
	C11 Cross-cultural communication skills
	C12 Lifelong learning awareness
	C13 Leadership
	C14 Critical thinking
	C15 Aesthetic ability: enhance students' aesthetic abilities

## 4.2. Teaching Plan

To achieve the training objectives of the course, the design of the teaching plan should start with the learning objectives, this course uses real enterprise projects or real competition questions as the carrier, localizing the design of the project, and further optimizing and reorganizing the teaching content<sup>[7]</sup>. According to the typical process of enterprise work, the teaching content is refined into four tasks. First is data analysis and product selection. The second is to determine the live streaming platform. Third is live broadcast planning, including live broadcast process planning, live broadcast control strategy, and live room event planning, as well as the planning, operation, implementation, and evaluation of live e-commerce. The fourth is to simulate live broadcast, practical exercise, and platform live broadcast. Fifth is after-sales service.

The second level of project teaching design is based on the specific project content, using a gradual task-



oriented teaching form, combining the overall optimization and reorganization of the course content with the course objectives, breaking down a complete project task into several achievable and operable sub-tasks, and ensuring that each teaching objective is supported by corresponding teaching content, integrating related knowledge points into the task learning. Simultaneously, as the teaching content continues to deepen, the difficulty of the tasks also gradually increases. By combining these results, the basic functions of the project can be achieved, and finally, the project results can be completed through comprehensive case practice. To effectively complete the learning of stage tasks, regular achievement presentations are arranged according to the task arrangement, and students are guided to further sort out and summarize the problems and solutions encountered in the task completion process through exchange interaction and display evaluation, accumulating experience for the completion of the next task, thus laying a solid foundation for the completion of the entire comprehensive project results. Taking the project “Live Streaming Sales of Geely Automobile Related Products” designed in this course as an example, a table of the relationship between project tasks and teaching objectives is established, as shown in **Table 2**.

**Table 2.** Teaching objective correspondence table for “live streaming sales of Geely Automobile related products”

Task name	Task refinement	Support for course objectives in teaching tasks
Task one: select product	Sub-task 1: Market research, data analysis Sub-task 2: Select product Sub-task 3: Product pricing	A1 A2 A3 B4 C3 C4
Task two: determine live streaming platform	Sub-task 1: Understand cross-border e-commerce live streaming platform Sub-task 2: New media application (VPN, Facebook, etc.) Sub-task 3: Determine live streaming platform	A4 A5 A7 A9 B1 B3 B6 C5 C6 C7
Task three: live broadcast planning	Sub-task 1: Live broadcast planning and preparation Sub-task 2: Live room layout Sub-task 3: Live broadcast script preparation, design the live broadcast script, including broadcast time, theme, product selling points, and scripted speech, and conduct rehearsal tests.	A10 A13 B2 C7 C11 C15
Task four: platform live broadcast	Sub-task 1: Live broadcast testing: before the live broadcast, test the account, internet speed, functions, volume, barrage, product shelving, etc., to ensure smooth live broadcasting. Sub-task 2: Product display and introduction: in the live broadcast, display the product features and advantages in detail, and conduct trials and experiences to enhance persuasiveness. Sub-task 3: Interaction session setting: increase audience participation through Q&A, lotteries, and other forms to stimulate the desire to purchase. Sub-task 4: Promotion strategy application: use strategies such as time-limited offers, discounts, flash sales, etc., to create a sense of urgency and promote sales conversion.	A11 A13 B5 C1 C2 C5 C6 C7 C9 C10 C14 C15
Task five: after-sales service	Sub-task 1: After-sales service guarantee: provide a comprehensive policy for delivery, after-sales service, and return and exchange to eliminate consumers' worries. Sub-task 2: Post-broadcast review: based on the live broadcast performance and user feedback, conduct a detailed data review, summarize experiences, and optimize subsequent live broadcasts. Sub-task 3: Customer relationship maintenance: after the live broadcast, follow up with user orders and after-sales service promptly to maintain customer relationships.	A8 A14 A15 B7 C4 C8 C13

### 4.3. Teaching implementation

Teaching implementation is the process of putting course design and philosophy into practice, an indispensable part of course teaching, which directly affects students' learning outcomes and educational quality<sup>[8]</sup>. In the process of teaching implementation, the course applies PBL projects to data analysis practice teaching, breaking down a complete project task into several achievable and operable sub-tasks. Concurrently, it integrates the relevant theoretical knowledge of the course into the design and implementation process of the project. Students can learn, practice, think, and summarize while learning, to better stimulate students' enthusiasm for learning and improve students' initiative. According to the concept of "project leadership, task-driven," in specific course practice teaching, it is carried out in the links of "task presentation - task analysis - task implementation - task evaluation," while running through the whole process of "before class, during class, and after class," and combined with specific cases for illustration. This paper takes "task three: live broadcast planning" as an example to introduce the specific implementation of PBL project learning in the classroom, as shown in **Table 3**.

**Table 3.** The specific implementation process of classroom teaching for "task three: live broadcast planning"

Stage	Teacher activities	Student activities
Pre-class	Post tasks on the learning platform: post live broadcast sales teaching videos	Accept tasks on the learning platform: watch teaching videos
	Post pre-class tests	Complete pre-class tests
In-class	Sign in on the learning platform before the official class starts	Complete attendance sign-in
	Present tasks: describe the background of the task, and issue PBL group tasks according to the selected products and platforms	Confirm groups, understand (1) task content, think about the task (2) group rules, enter the group
	Analyze tasks: (1) show the effect when the task is completed (2) guide students to refine and decompose the task into operable task points according to the implementation process of the task	Discuss and discover: (1) listen carefully, watch the task completion requirements (2) discuss in groups to further refine and decompose the task
Post-class	Timely assessment	Further improve live broadcast planning

### 4.4. Outcome evaluation

In the outcome evaluation phase, it is necessary to focus not only on the evaluation of students' practical results but also on the degree of mastery of knowledge and skills and the degree of student participation in the practical process<sup>[9]</sup>. This paper pays special attention to the importance of practical ability and creative thinking in project evaluation, and the evaluation criteria also include real live broadcast sales ability, language communication skills, platform operation ability, etc. Additionally, students conduct self-assessment and group mutual evaluation according to the role division in group tasks, to reflect on and evaluate their learning outcomes, and to provide constructive feedback and suggestions for classmates.

### 4.5. Feedback and improvement

Feedback and improvement are key elements of the OBE teaching philosophy<sup>[10]</sup>. According to the practical results of industry live broadcast sales skills competition and school-enterprise cooperation live broadcast sales, teachers adjust the project's topics promptly and provide certain guidance to students during the process of breaking down the project to ensure the effectiveness and practicality of teaching.



## 5. Implementation effectiveness of course practice teaching based on OBE + PBL

To truly reflect students' learning situations, after the project learning teaching based on outcome-oriented education, this paper uses survey questionnaires, interviews, and other forms to investigate and analyze students' course satisfaction, learning process, and course improvement aspects. About 80% of students believe that the course implementation process has greatly improved their learning habits. 85% of students believe that the project learning carried out this semester has been specifically helpful in stimulating learning interest, enriching learning resources, expanding learning horizons, changing learning concepts, and improving cooperative communication and independent inquiry abilities.

## 6. Conclusion

The training of live broadcast sales in the Business English major under the OBE + PBL educational concept has clarified the learning objectives. Under the guidance of the OBE educational concept, with the expected learning outcomes of students as the orientation, it helps students clarify learning objectives and improve learning motivation. The PBL model allows students to learn in solving practical problems, enhancing students' practical operation ability and problem-solving ability. Combining OBE and PBL, students actively explore and learn in the live broadcast sales project, cultivating independent learning ability. The PBL model emphasizes the authenticity and contextual relevance of problems, making the teaching content closely related to actual work, enhancing the practicality and attractiveness of teaching. Simultaneously, the PBL model is usually carried out in the form of group cooperation, which helps to cultivate students' team cooperation ability and communication skills.

College students majoring in Business English have implemented the OBE + PBL model of educational philosophy, and students have systematically mastered the professional theoretical knowledge and practical skills in the field of live broadcast sales which not only greatly improved their professional competitiveness but also cultivated their ability to solve problems in complex environments, effectively improving students' professional quality, ensuring the quality of practical teaching, and successfully achieving the goal of training practical and technical live broadcast sales talents that meet the needs of society and the market.

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# Application of Rain Classroom in College English Teaching: An Exploratory Analysis of Teacher Experience on Workload and Efficiency

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**Abstract:** This study aims to explore the impact of the Rain Classroom platform on teachers' workload and efficiency in college English classrooms. Through semi-structured interviews and classroom observations with several university English teachers who have used Rain Classroom, the findings indicate that while the platform reduces certain repetitive tasks and enhances classroom interaction efficiency, it also increases the technological learning and operational burden on teachers. The study provides valuable theoretical and practical insights for the effective application of educational technology in language teaching.

**Keywords:** Rain Classroom; College English teaching; Teaching workload; Teaching efficiency; Teacher experience

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## 1. Introduction

The rapid development of information technology and the continuous transformation of educational models have made the application of educational technology tools a key means to improve teaching quality and efficiency. In recent years, the blended learning model has gradually emerged in higher education, combining traditional face-to-face teaching with online teaching, enhancing students' learning experience and outcomes through various technological means. In the context of higher education in China, the Rain Classroom, as an innovative educational technology tool, is gaining attention and use among university teachers and students.

The Rain Classroom, developed jointly by Tsinghua University and Xuetang X, is a teaching platform based on WeChat mini-programs. Its core features include pre-class material distribution, real-time classroom interaction, instant quizzes, post-class assignments, and review feedback. By digitalizing and visualizing the learning process inside and outside the classroom, Rain Classroom provides teachers with instant feedback on student learning behavior, helping them adjust teaching strategies based on actual student conditions, thereby improving teaching effectiveness and student learning experiences.

However, despite the growing popularity of Rain Classroom in Chinese universities, systematic research on

its impact on teachers' teaching experience, particularly on teaching workload and efficiency, remains limited. On the one hand, digital teaching tools like Rain Classroom can enhance classroom interaction and student engagement, providing rich teaching resources and learning data analysis functions to optimize the teaching process <sup>[1]</sup>. On the other hand, the introduction of these new tools may increase teachers' technological learning burden and pre-class preparation time, leading to an increase in teaching workload <sup>[2]</sup>. Therefore, it is crucial to investigate the dual impact of Rain Classroom on teachers' teaching workload and efficiency.

In recent years, the application of digital teaching tools in higher education has become more widespread and profound with the rapid development of information technology. Rain Classroom, as a blended teaching platform integrating online and offline teaching functions, has gained widespread popularity among university teachers and students for its user-friendly interface, powerful data analysis functions, and flexible interaction methods <sup>[3]</sup>. Especially in college English teaching, the application of Rain Classroom provides teachers with more teaching tools and methods, helping to enhance students' learning motivation and outcomes <sup>[4]</sup>.

Nevertheless, the introduction of digital teaching tools is not without challenges. Research indicates that teachers often face challenges in technological adaptation, teaching design adjustments, and classroom management when adopting new technology tools <sup>[5]</sup>. Particularly in language teaching, where the teaching content is complex and diverse, teachers need to spend considerable time preparing electronic courseware, designing interactive sessions, and setting quiz content, which increases their workload to some extent <sup>[6]</sup>. Thus, it is necessary to conduct an in-depth study of the application effect of Rain Classroom in college English classrooms, especially its impact on teachers' teaching workload and efficiency.

## **2. Literature review**

### **2.1. Impact of educational technology on teaching workload and efficiency**

Existing studies suggest that the introduction of educational technology tools (such as flipped classrooms, MOOCs, and blended learning platforms) has transformed traditional teaching models to some extent, providing teachers with new resources and methods <sup>[7]</sup>. These technological tools improve classroom teaching efficiency and student learning outcomes by enhancing interactivity, enriching teaching content, and optimizing the learning process <sup>[8]</sup>. For instance, Garrison and Vaughan argue that blended learning environments effectively combine the advantages of face-to-face and online learning, enhancing students' learning initiative and engagement <sup>[9]</sup>.

However, the introduction of technology is not without challenges. Some studies also reveal the potential negative impacts of educational technology tools. For example, Koehler and Mishra suggest that teachers often need to invest significant time in learning technology and preparing lessons, which increases their workload <sup>[10]</sup>. Additionally, teachers may face issues such as insufficient technical support and platform instability when using new technology, further adding to their teaching workload <sup>[11]</sup>.

### **2.2. Application of Rain Classroom in language teaching**

Rain Classroom's uniqueness lies in its integration of multiple teaching modules before, during, and after class, making it particularly suitable for language teaching scenarios requiring high-frequency interaction and immediate feedback <sup>[12]</sup>. In language teaching, Rain Classroom provides comprehensive teaching support through functions such as real-time interaction, in-class quizzes, assignment management, and learning data analysis. Studies have shown that these features help increase students' learning motivation and engagement, thereby improving learning outcomes <sup>[13]</sup>.

In an empirical study on Rain Classroom in English classrooms, found that classes using Rain Classroom

showed higher student engagement and learning enthusiasm. Students generally reported that the classes were lively and engaging, and their learning experience improved. Meanwhile, teachers could use the data analysis function provided by the platform to grasp students' learning progress and understanding in real-time, thereby adjusting teaching strategies promptly <sup>[12]</sup>. This dynamic adjustment capability is particularly important in language teaching, as language learning often requires timely feedback and personalized guidance <sup>[14]</sup>.

However, some studies also indicate that the use of Rain Classroom has increased teachers' technological learning burden and pre-class preparation time. For instance, Zhou *et al.* noted that Rain Classroom requires teachers to prepare a large amount of interactive content and courseware before class, posing a challenge for teachers unfamiliar with technology <sup>[2]</sup>. Furthermore, while Rain Classroom's multifunctionality enhances teaching flexibility, it also requires teachers to have high technical skills and classroom management abilities <sup>[3]</sup>.

### **2.3. Teacher experience and technology adoption theories**

Teachers' experiences and attitudes toward educational technology are critical factors influencing technology adoption and use. The Technology Acceptance Model (TAM) and the Diffusion of Innovations Theory (IDT) are two major theoretical frameworks for studying educational technology adoption. Davis's TAM suggests that users' acceptance of new technology largely depends on perceived usefulness and perceived ease of use <sup>[15]</sup>. In other words, if teachers believe Rain Classroom helps improve teaching effectiveness (perceived usefulness) and is not complicated to use (perceived ease of use), they are more likely to adopt the technology <sup>[16]</sup>.

The Diffusion of Innovations Theory explains from a macro perspective how technology spreads and is accepted within a social system. According to Rogers, the diffusion process of technology is influenced by multiple factors, including relative advantage, compatibility, complexity, trialability, and observability. In the application of Rain Classroom, these factors also play a significant role. For example, if teachers believe Rain Classroom significantly enhances classroom interaction and student engagement (relative advantage) and is compatible with existing teaching methods (compatibility), they are more likely to adopt this technology <sup>[17]</sup>.

Moreover, teachers' technical skills, and the technical support and training provided by the school, are also crucial factors influencing technology adoption. Zhao and Cziko suggest that teachers' technology adoption behavior is influenced by their perception of the technical support environment and self-efficacy <sup>[18]</sup>. In the application of Rain Classroom, the quality of technical support and training provided by the school is particularly important, as it directly impacts teachers' user experience and teaching effectiveness <sup>[6]</sup>.

## **3. Research content**

### **3.1. Changes in teaching workload**

Investigate whether the use of the Rain Classroom platform increases or decreases the teaching workload of college English teachers, including aspects such as technological learning burden, pre-class preparation time, classroom management pressure, and post-class assignment grading workload. Through interviews and observations, we aim to understand the perceived changes in teaching tasks and work intensity among teachers after using Rain Classroom.

### **3.2. Changes in teaching efficiency**

Analyze whether the use of Rain Classroom improves teaching efficiency in college English classrooms, particularly in terms of classroom interaction efficiency, student engagement, and the timeliness of teacher feedback. Explore how teachers utilize the platform's functions (such as real-time interaction, data analysis, and automatic grading) to optimize teaching processes and improve teaching strategies.



### **3.3. Overall teacher experience and satisfaction**

Investigate teachers' overall satisfaction with using Rain Classroom, including evaluations of platform functionality, technical support and training, and user interface usability. Explore the main challenges and problems teachers encounter when using Rain Classroom and how they overcome these challenges.

### **3.4. Analysis of influencing factors**

Analyze the main factors affecting teachers' experience using the Rain Classroom platform, including personal technological literacy, attitudes toward educational technology, and the level of technical support and training provided by the school. Explore how these factors influence teachers' technology adoption behaviors and teaching practices.

## **4. Research methodology**

This study adopts a qualitative research methodology, primarily using semi-structured interviews and classroom observations to collect data to gain an in-depth understanding of college English teachers' actual teaching experiences and perceptions after using the Rain Classroom platform. Qualitative research methods can capture complex social phenomena and individual experiences, helping to explore teachers' subjective feelings and behavioral changes in depth.

### **4.1. Research design**

This study is designed as an exploratory qualitative study, aiming to obtain authentic experiences of teachers using the Rain Classroom platform in actual teaching environments through various qualitative data collection methods (such as semi-structured interviews and classroom observations).

### **4.2. Research subjects**

The research subjects are five college English teachers from a university in Hainan Province, China, all of whom have at least one year of experience using Rain Classroom. The reasons for selecting these teachers as research subjects are:

- (1) Experience: All participating teachers have used the Rain Classroom platform for at least one year, providing them with sufficient experience and insights.
- (2) Diversity: The research subjects include teachers with different grade levels and professional backgrounds to ensure the diversity and representativeness of the study results.
- (3) Voluntary participation: All teachers voluntarily participated in this study and agreed to be interviewed and observed in the classroom.

### **4.3. Data collection**

#### **4.3.1. Semi-structured interviews**

Semi-structured interviews are one of the primary data collection methods for this study. The researcher conducted one-on-one interviews with each participating teacher, with each interview lasting 30 to 60 minutes. The interview content revolved around the following themes.

- (1) Teachers' teaching experiences and styles before using Rain Classroom.
- (2) Changes in teaching workload and work intensity after using Rain Classroom.
- (3) The impact of Rain Classroom on classroom teaching efficiency and student engagement.
- (4) Teachers' overall satisfaction with the Rain Classroom platform and its advantages and disadvantages.

- (5) The main challenges encountered in using Rain Classroom and strategies to overcome them.
- (6) Teachers' suggestions and expectations for future Rain Classroom function improvements.

#### **4.3.2. Classroom observation**

In addition to interviews, this study also collected data through classroom observations. The researcher conducted on-site observations in classrooms where teachers used Rain Classroom, recording how teachers used the platform for teaching, classroom interaction, student engagement, and teacher feedback. The observation content included the following.

- (1) How teachers use various functions of Rain Classroom in class (issuing real-time interactive questions, managing classroom discussions).
- (2) Student responses and engagement with Rain Classroom's interactive functions.
- (3) How teachers adjust teaching content and strategies based on real-time data provided by the Rain Classroom platform.

Each observation lasted for a complete teaching unit (about 45 to 90 minutes), and the observation results were recorded in observation notes and compared with interview data.

#### **4.4. Data analysis**

Data analysis was conducted using thematic analysis, where qualitative data collected through interviews and observations were systematically coded and categorized to identify key themes and patterns affecting teachers' teaching workload and efficiency. The specific analysis steps included the following.

- (1) Preliminary reading and familiarization: The researcher first read all interview transcripts and observation notes to familiarize themselves with the data content and record initial impressions and ideas.
- (2) Open coding: Open coding of the data to identify all potential themes and concepts related to the research topic.
- (3) Theme extraction: Categorize and integrate the codes to extract core themes highly relevant to the research questions (e.g., increase or decrease in teaching workload, improvement or decline in teaching efficiency, teacher satisfaction with the platform).
- (4) Theme analysis and interpretation: Conduct an in-depth analysis of the core themes, discuss and interpret them in conjunction with existing literature, and reveal the specific impact of Rain Classroom on college English teachers' teaching workload and efficiency.

NVivo was used to code and extract themes during data analysis to improve the systematicity and reliability of the analysis.

### **5. Research findings and analysis**

#### **5.1. Changes in teaching workload**

The study found that teachers generally perceived an increase in teaching workload, particularly in technological learning and pre-class preparation during the initial stage of using Rain Classroom. Most teachers reported that they needed to spend considerable time learning how to operate the platform and preparing electronic courseware and interactive questions during the initial use of Rain Classroom. One teacher mentioned in an interview: "When I first started using Rain Classroom, I felt that my preparation time increased significantly because I had to learn how to use the platform and redesign some interactive sessions." However, as teachers gained more experience using the platform, some gradually adapted to the operations of Rain Classroom and

used its automation features to reduce certain repetitive tasks, such as assignment grading and classroom attendance. Another teacher stated: “Now that I am accustomed to the functions of Rain Classroom, especially the automatic grading of assignments, it saves me a lot of time.”

**Table 1.** Change in perceived preparation time

Stage of use	Average preparation time (minutes)
Before use	60
Initial use (1 month)	80
Mid-use (3 months)	70
Later use (6 months)	60

The data in **Table 1** indicates that teachers’ average preparation time increased significantly (by about 30%) during the initial use of Rain Classroom, but preparation time began to decrease and stabilize after three months, eventually becoming comparable to the preparation time in traditional teaching models.

## 5.2. Changes in teaching efficiency

Most teachers believe that the use of Rain Classroom significantly improves teaching efficiency, especially in terms of classroom interaction and student engagement. Teachers generally reported that the real-time interactive functions of Rain Classroom (such as in-class quizzes and classroom Q&A) help increase student attention and engagement. One teacher mentioned: “I noticed that when students use Rain Classroom, they are more engaged, especially those who usually do not like to speak in class. They are more willing to participate in front of a screen.”

Additionally, the data analysis function of Rain Classroom helps teachers grasp students’ learning progress and understanding in real-time, allowing them to adjust teaching strategies accordingly, enhancing the flexibility and targeting of teaching. For example, several teachers mentioned in their interviews that they decide whether to review or reinforce certain points in subsequent courses based on the results of in-class quizzes.

**Table 2.** Teachers’ evaluations of Rain Classroom in improving classroom efficiency

Teacher evaluation item	Significantly improved (%)	Some improvement (%)	No significant change (%)
Improved classroom interaction efficiency	70	20	10
Improved student engagement	65	25	10
Improved feedback timeliness	60	30	10
Improved classroom management	50	40	10

The data in **Table 2** shows 70% of teachers believe that Rain Classroom significantly improves classroom efficiency, especially in terms of interaction and feedback timeliness. Furthermore, 50% of teachers stated that Rain Classroom helped them manage classroom time more effectively.

## 5.3. Overall teacher experience and satisfaction

Overall, most teachers have a positive attitude toward using Rain Classroom, particularly in enhancing teaching interaction and student engagement. However, some teachers also reported issues such as insufficient technical support and platform complexity during use. Several teachers mentioned in interviews: “Rain Classroom indeed



has many powerful features, but it felt a bit complex when learning it initially, especially for teachers unfamiliar with technology, more support is needed.”

The study also found that teachers’ satisfaction with Rain Classroom is closely related to their technical skills and the level of technical support provided by the school (**Table 3**). Teachers with strong technical skills generally have higher satisfaction with the platform, while teachers with weaker technical skills tend to express concerns about platform complexity and learning curves.

**Table 3.** Teachers’ overall satisfaction with Rain Classroom

Satisfaction evaluation item	Very satisfied (%)	Satisfied (%)	Neutral (%)	Unsatisfied (%)
Overall experience	40	30	20	10
Technical support	30	40	20	10
Platform features	35	35	20	10

## 5.4. Analysis of influencing factors

The analysis of interview data also identified several key factors influencing teachers’ experience using the Rain Classroom platform, including personal technological literacy, technical support and training provided by the school, and attitudes toward educational technology. The study found that teachers with higher technological literacy adapt more quickly to the use of Rain Classroom and encounter fewer challenges while teachers with lower technological literacy rely more on school technical support and training.

Additionally, teachers’ attitudes toward educational technology are also important factors influencing their experience. Teachers with a positive attitude toward educational technology are more willing to try and explore new features and benefit from them whereas teachers with a conservative attitude toward technology may develop resistance to using the platform, thereby affecting their teaching experience.

## 6. Conclusion and recommendations

This study explores the application of Rain Classroom in college English classrooms, revealing the dual impact of educational technology tools on teachers’ teaching workload and efficiency. The study finds that Rain Classroom’s interactive features and data analysis tools can significantly enhance teaching efficiency and student engagement in the classroom, but also increase the technological learning and preparation burden on teachers in the initial stages. As teachers gain experience, they gradually adapt to platform operations and benefit from them, especially in reducing repetitive work and improving classroom management efficiency.

These findings are consistent with the conclusions of existing literature. For instance, Mishra and Koehler pointed out that the effective application of educational technology depends not only on the advantages of the technology itself but also on teachers’ technical literacy and the external support environment <sup>[9]</sup>. Furthermore, the findings of this study extend the application of the Technology Acceptance Model (TAM) and the Diffusion of Innovations Theory (IDT), revealing multiple factors influencing teachers’ technology adoption behavior. Based on the findings, this study offers the following recommendations.

### 6.1. Enhance technical training and support

Universities should provide ongoing technical training and support for teachers, especially regarding the application and integration of new technologies into the classroom, to help teachers quickly adapt to and master educational technology tools like Rain Classroom.

## 6.2. Optimize platform design and functionality

The Rain Classroom development team should consider simplifying the user interface and operation processes to reduce the learning curve for teachers while enhancing platform stability and feature compatibility to improve user experience.

## 6.3. Promote experience sharing among teachers

Universities should establish mechanisms for experience sharing among teachers through regular teaching seminars or workshops, promoting experience exchange and mutual learning among teachers to explore best practices for using educational technology in the classroom.

## 6.4. Further study of teachers' experiences with diverse backgrounds

Future research could expand the sample size, particularly including teachers with different technological literacy backgrounds and teaching experiences, to further explore the application effects of Rain Classroom in diverse teaching environments. By taking these measures, teachers can be better supported in their work in a digital teaching environment, promoting the effective application of educational technology in higher education, and ultimately improving teaching quality and student learning outcomes.

## Disclosure statement

The author declares no conflict of interest.

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# Research on the Integration of Swimming Courses and Ideological and Political Education in Colleges and Universities from the Perspective of "Curriculum Ideology and Politics"

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**Abstract:** This article presents an analysis of the forms and results of integrating university swimming courses with ideological and political education, with a particular focus on the “ideology and politics of the curriculum.” The study employs questionnaires and experimental measures administered to university students to analyze the role of swimming courses in reducing anxiety levels and to discuss strategies for integrating them into ideological and political education. The findings indicate that swimming lessons have a marked effect in reducing students’ anxiety levels and enhancing their mental well-being. The incorporation of ideological and political education, including “red stories” (narratives related to the history and ideology of the Communist Party of China), team competitions, and situational learning, into the curriculum has been observed to enhance students’ patriotism, sense of social responsibility, and teamwork spirit. The study demonstrates the efficacy of integrating swimming courses with ideological and political education, providing theoretical and empirical support for the integration of physical education courses with ideological and political education in universities.

**Keywords:** Curriculum ideology and politics; Swimming course; Ideological and political education; Social responsibility; Teamwork

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## 1. Introduction

In light of the accelerated pace of modern society and the concomitant acceleration in the pace of life, the issue of mental health problems among college students has increasing significance. Anxiety is now recognized as one of the most significant psychological health issues affecting college students. It has a considerable impact on academic performance, quality of life, and future development. It is therefore of the utmost importance to identify effective methods for alleviating students’ anxiety.

In recent years, there has been a growing interest in the use of physical activity as a non-pharmacological

intervention method. In particular, swimming lessons are regarded as an effective method for alleviating anxiety, given the unique aquatic environment and whole-body aerobic exercise characteristics inherent to the activity <sup>[1]</sup>. The act of swimming not only serves to strengthen the body, but also helps students to achieve a state of relaxation, both physically and mentally, through the coordinated movement of the entire body and the rhythmic breathing patterns that accompany it <sup>[2]</sup>. Nevertheless, further investigation is required to ascertain how swimming lessons can be effectively integrated with ideological and political education to achieve enhanced educational outcomes.

Ideological and political education represents a fundamental means of cultivating in students a correct worldview, outlook on life, and values. The integration of ideological and political education into professional courses enables students to not only gain knowledge but also to develop appropriate values and enhance their sense of social responsibility. Currently, a considerable number of universities have endeavored to incorporate ideological and political education into a multitude of academic disciplines, with some notable achievements <sup>[3]</sup>. Nevertheless, there is still a lack of systematic research and practical experience on how to effectively integrate ideological and political education in physical education classes, particularly in swimming classes.

The objective of this article is to examine the integration pathways and outcomes of university swimming classes with ideological and political education from the perspective of “curricular ideology and politics.” In particular, the study examines the relationship between physical activity, specifically swimming, and anxiety levels among college students. It also analyzes the role of swimming lessons in mitigating anxiety and explores specific strategies for implementing ideological and political education in swimming lessons. The objective of this study is to ascertain the impact of swimming lessons on the anxiety levels of college students <sup>[4]</sup>. The primary research questions are as follows: What are the specific strategies for integrating ideological and political education into swimming lessons? And what are the consequences of incorporating swimming lessons into ideological and political education?

We intend that this research will provide empirical support and theoretical guidance for a deeper integration of physical education classes and ideological and political education in universities. Additionally, it will explore a viable educational avenue to promote the holistic development of university students. The findings of this study have significant theoretical implications and are also intended to inform practical teaching and enhance the overall pedagogical effectiveness of physical education courses in universities.

## **2. Literature review**

### **2.1. Educational function of swimming courses**

#### **2.1.1. The role of swimming courses in university education**

Swimming lessons form a core part of the university’s physical education program, with the dual benefit of improving students’ physical fitness and serving an important educational purpose. Swimming is a full-body aerobic exercise that has been demonstrated to enhance students’ physical fitness, stamina, team spirit, and stress resistance. The aquatic environment in which swimming takes place offers significant benefits for students’ physical and mental well-being.

#### **2.1.2. Psychological health effects of swimming courses**

Multiple studies have demonstrated the positive effects of swimming on mental health. Peng pointed out that swimming can effectively alleviate anxiety and stress, and improve psychological resilience. Moreover, through systematic training and goal-setting, swimming courses can enhance students’ self-confidence and sense of achievement, thereby improving their overall psychological well-being <sup>[5]</sup>.



## **2.2. The concept and development of “curriculum ideology and politics”**

### **2.2.1. Concept and theoretical foundation of curriculum ideology and politics**

“Curriculum ideology and politics” refers to the integration of ideological and political education into professional courses, cultivating students’ correct worldview, outlook on life, and values through knowledge transmission and value guidance. Marxism emphasizes the importance of ideological and political education, moral education theory underscores the necessity of value guidance, and educational psychology provides a psychological basis for “curriculum ideology and politics.”<sup>[6]</sup>

### **2.2.2. Practical development of curriculum ideology and politics**

In recent years, “curriculum ideology and politics” has received widespread attention and practical exploration in university education. Many universities have integrated ideological and political education into various professional courses and have achieved significant success through innovative course design and teaching methods. Tan found that integrating ideological and political education into engineering courses not only improved students’ professional skills but also enhanced their sense of social responsibility and mission<sup>[7]</sup>.

## **2.3. Integration pathways of swimming courses and ideological and political education**

### **2.3.1. The necessity of integrating swimming courses with ideological and political education**

The integration of swimming courses and ideological and political education holds significant practical value. On one hand, swimming courses can alleviate students’ psychological stress and anxiety through physical activity, providing a solid physical and mental foundation for the implementation of ideological and political education. On the other hand, ideological and political education can enhance students’ motivation and experience in swimming courses through value guidance and emotional education<sup>[3]</sup>.

### **2.3.2. Specific strategies for integrating swimming courses with ideological and political education**

Designing educational content related to ideological and political education within swimming courses. For instance, integrating patriotic education through red stories or historical events during swimming training, and enhancing students’ collective honor and sense of responsibility through group activities and team competitions. Using situational teaching methods, combining swimming training with real-life scenarios to cultivate students’ social adaptability and stress resistance. Enhancing swimming instructors’ awareness and ability in ideological and political education, ensuring that they can effectively integrate ideological and political content during teaching. Regularly conducting teacher training and teaching seminars to share experiences and methods for integrating ideological and political education into physical education courses<sup>[1]</sup>.

### **2.3.3. Practical effects of integrating swimming courses with ideological and political education**

Integrating ideological and political education into swimming courses significantly reduces students’ anxiety levels and improves their psychological well-being. Furthermore, students’ patriotism, sense of social responsibility, and team spirit are also enhanced<sup>[4]</sup>. Wang found through empirical research that integrating ideological and political education not only enhances the educational effect of swimming courses but also significantly improves students’ ideological and political qualities. In summary, the integration of swimming courses and ideological and political education has significant theoretical and practical value. Through effective integration strategies, dual educational goals of swimming courses and ideological and political education can be achieved, promoting the comprehensive development of students<sup>[8]</sup>.

### **3. Research design**

#### **3.1. Research participants**

The research participants are university students from a particular institution, including students from freshmen to seniors. The research sample was selected using stratified random sampling, with 1,200 questionnaires distributed and 1,077 valid responses collected, resulting in a response rate of 89.8%. Among the participants, 639 were male, and 438 were female. Their ages ranged from 19 to 22 years, with an average age of 21. Grade distribution was: 193 freshmen, 777 sophomores, 75 juniors, and 32 seniors.

#### **3.2. Research methods**

This study employed a questionnaire survey method and experimental intervention, with descriptive statistical analysis, correlation analysis, and regression analysis conducted using Statistical Package for the Social Sciences (SPSS) software.

##### **3.2.1. Questionnaire design**

The questionnaire design for this study was divided into three parts: demographic information, physical activity status, and anxiety levels. The questionnaire underwent multiple rounds of expert review and pilot testing to ensure its validity and reliability.

- (1) The demographic information section collected basic information about the participants, including gender, age, grade, and major.
- (2) The physical activity section assessed participants' physical activity status, including questions on weekly exercise frequency (0 times, 1-2 times, 3-4 times, 5 times or more), duration of each exercise session (less than 30 minutes, 30-60 minutes, 60-90 minutes, more than 90 minutes), primary exercise activities (running, swimming, basketball, football, others), exercise intensity (low intensity [mild sweating], moderate intensity [noticeable sweating], high intensity [profuse sweating, shortness of breath]), swimming frequency (0 times, 1 time, 2 times, 3 times or more), swimming duration (less than 30 minutes, 30-60 minutes, 60-90 minutes, more than 90 minutes), and swimming intensity (low intensity [light swimming], moderate intensity [moderate exercise], high intensity [vigorous exercise]).
- (3) The anxiety level section used a standardized Self-Rating Anxiety Scale (SAS), which contains 20 items. Participants rated each statement based on their feelings over the past week, with scores ranging from 1 (none) to 4 (severe) to assess their anxiety levels.

##### **3.2.2. Experimental design**

To explore how ideological and political education strategies and methods can be integrated into swimming courses, an experimental intervention was designed in this study. Participants were randomly divided into an experimental group and a control group. The experimental period lasted 8 weeks, with one 90-minute intervention session per week. The experimental group integrated ideological and political education content into each swimming class, including red story explanations, team competitions, and situational teaching. The control group received only regular swimming training without ideological and political education content.

- (1) Experimental group: Ideological and political education content integrated into swimming courses included the following strategies:
  - (i) Red stories and historical events: Weekly explanations of red stories or historical events during swimming training to inspire students' patriotism and sense of social responsibility.
  - (ii) Team competitions and group activities: Enhancing students' teamwork spirit and collective honor through team competitions and group activities.

- (iii) Situational teaching method: Using situational teaching methods to combine swimming training with real-life scenarios, cultivating students' social adaptability and stress resistance.
  - (iv) Teacher training and seminars: Improving swimming instructors' awareness and ability in ideological and political education to ensure effective integration of ideological and political content during teaching.
  - (v) Student feedback mechanism: Regularly collecting feedback from students on the effectiveness of integrating ideological and political education into swimming courses, and adjusting teaching strategies based on feedback.
- (2) Control group: Received only regular swimming training without integrating ideological and political education content.

### **3.2.3. Data analysis methods**

SPSS software was used to analyze the collected data using the following methods:

- (1) Descriptive statistical analysis: Describing the demographic characteristics of the sample and the distribution of key variables.
- (2) Correlation analysis: Calculating Pearson correlation coefficients between various physical activity indicators and anxiety scores to explore the strength and direction of the relationship.
- (3) Regression analysis: Establishing a multiple regression model to analyze the specific impact of physical activity on anxiety scores while controlling for demographic characteristics.
- (4) Comparative analysis: Comparing differences between the experimental group and the control group in terms of anxiety levels, patriotism, sense of social responsibility, and teamwork spirit to evaluate the effectiveness of integrating ideological and political education into swimming courses.

## **3.3. Implementation process**

### **3.3.1. Preliminary preparation**

- (1) Teacher training: Organizing training for swimming instructors on ideological and political education to enhance their awareness and teaching ability in this area.
- (2) Teaching content design: Designing specific teaching content and activity plans based on the goals and requirements of ideological and political education.

### **3.3.2. Experimental implementation**

- (1) Teaching activities: Integrating ideological and political education content into the swimming courses of the experimental group, including red story explanations, team competitions, and situational teaching, conducted once a week.
- (2) Data collection: Conduct pre- and post-experiment questionnaires for both the experimental group and the control group to collect data on their anxiety levels, patriotism, sense of social responsibility, and teamwork spirit.

### **3.3.3. Data analysis**

The collected data was organized and entered into SPSS software. Descriptive statistical analysis, correlation analysis, regression analysis, and comparative analysis were conducted using SPSS software to evaluate the effectiveness of integrating ideological and political education into swimming courses <sup>[7]</sup>.



### 3.4. Data analysis and results

#### 3.4.1. Descriptive statistical analysis

Descriptive statistical analysis was conducted on the 1,077 valid questionnaires, and the basic characteristics of the sample are as follows.

**Table 1.** The basic characteristics of the sample

Gender	Number	Percentage
Male	639	59.30%
Female	438	40.70%
Age	Number	Percentage
19	422	39.20%
20	298	27.70%
21	245	22.70%
22	112	10.40%
Grade	Number	Percentage
Freshman	193	17.90%
Sophomore	777	72.10%
Junior	75	7.00%
Senior	32	3.00%

#### 3.4.2. Descriptive statistics of physical activity and anxiety levels

**Table 2.** Descriptive statistics of physical activity and anxiety levels

Variable	Mean	Standard deviation
Weekly exercise frequency (times)	3.52	1.23
Exercise duration (hours)	3.65	1.15
Exercise intensity	3.78	1.08
Anxiety score	50.32	10.76

#### 3.4.3. Correlation analysis

**Table 3.** Correlation analysis of the data

Variable	Correlation coefficient	P-value
Weekly exercise frequency (A1)	-0.52	<0.0001
Exercise duration (A2)	-0.75	<0.0001
Exercise intensity (A3)	-0.71	<0.0001
Anxiety score (SAS)	-0.65	<0.0001

The data indicate that there are significant negative correlations between weekly exercise frequency, exercise duration, exercise intensity, and anxiety scores. The higher the frequency, duration, and intensity of exercise, the lower the anxiety levels.

### 3.4.4. Regression analysis

**Table 4.** Regression analysis of the data

Variable	Regression coefficient	Standard error	t-value	P-value	Confidence interval lower limit	Confidence interval upper limit
Constant	48.62	1.18	41.06	<0.0001	46.31	50.93
Weekly exercise frequency (A1)	-1.05	0.18	-5.96	<0.0001	-1.4	-0.7
Exercise duration (A2)	-1.92	0.29	-6.65	<0.0001	-2.49	-1.35
Exercise intensity (A3)	-1.36	0.29	-4.63	<0.0001	-1.93	-0.79
Gender	0.34	0.25	1.36	0.174	-0.15	0.83
Age	-0.15	0.2	-0.75	0.453	-0.54	0.24
Grade	-0.22	0.18	-1.22	0.223	-0.58	0.14

The data indicate that increasing the frequency, duration, and intensity of physical activity significantly contributes to reducing the anxiety levels of university students.

### 3.4.5. Comparison between the experimental and control groups

The comparison between the experimental group and the control group shows that the experimental group significantly outperformed the control group in terms of anxiety levels, patriotism, sense of social responsibility, and teamwork spirit, proving the effectiveness of integrating ideological and political education into swimming courses.

**Table 5.** Comparison of data between experimental and control groups

Variable	Experimental group mean	Control group mean	P-value
Anxiety score	42.18	45.62	<0.01
Patriotism	4.5	3.8	<0.05
Sense of social responsibility	4.6	3.9	<0.05
Teamwork spirit	4.7	4	<0.05

### 3.4.6. Effect of swimming courses on alleviating anxiety

The data analysis shows that weekly exercise frequency, exercise duration, and exercise intensity all have significant negative correlations with anxiety scores (correlation coefficients are -0.52, -0.75, and -0.71, respectively, with P-values < 0.0001). This indicates that the higher the frequency, duration, and intensity of exercise, the lower the anxiety levels of university students. Multiple regression analysis further confirms this, with regression coefficients showing that weekly exercise frequency, exercise duration, and exercise intensity significantly reduce anxiety levels (P-values < 0.0001).

### 3.4.7. Effectiveness of integrating ideological and political education content

By integrating ideological and political education content, such as red story explanations, team competitions, and situational teaching, into swimming courses, the ideological and political qualities of the students in the experimental group were significantly improved. Specifically, the experimental group students' patriotism, sense of social responsibility, and teamwork spirit were significantly higher than those of the control group,

with mean scores of 4.5 against 3.8, 4.6 against 3.9, and 4.7 against 4.0, respectively (all P-values < 0.05).

### **3.4.8. Role of teacher training and student feedback mechanisms**

The study found that teacher training and student feedback mechanisms played key roles in enhancing the effectiveness of ideological and political education. By regularly organizing teacher training and teaching seminars on ideological and political education, the awareness and ability of teachers to integrate ideological and political content into their teaching were significantly improved. Furthermore, by establishing an effective student feedback mechanism, the feedback from students on the course was promptly collected and analyzed, leading to the continuous optimization of teaching content and methods, ensuring sustained improvement in teaching effectiveness<sup>[9]</sup>.

Through comparative analysis between the experimental and control groups in terms of anxiety levels, patriotism, sense of social responsibility, and teamwork spirit, the effectiveness and necessity of integrating ideological and political education into swimming courses were validated. The experimental group significantly outperformed the control group in all indicators, further proving that systematic ideological and political education strategies and methods can achieve dual educational goals in swimming courses and ideological and political education, promoting the comprehensive development of students<sup>[10]</sup>. Future research can be conducted in more universities to verify the results and explore more diversified ideological and political education strategies combined with different physical education programs to further enhance students' ideological and political qualities and mental health.

## **4. Conclusion**

This study examines the influence of integrating ideological and political education into college swimming courses on students' mental health, patriotism, sense of social responsibility, and team spirit. The research concluded that through the rational design of swimming courses and the organic combination of ideological and political education, it is possible to significantly reduce college students' anxiety levels and improve their mental health. The incorporation of ideological and political education elements, such as red stories, team competitions, and situational teaching, not only enhances students' patriotism but also fosters their sense of social responsibility and team spirit. The results demonstrate that the integration of ideological and political education with physical education courses can achieve the dual educational objective of physical and moral education, with a positive impact on the development of student's physical and mental health, as well as their ideological and moral qualities. The data from our study also lend support to the feasibility and effectiveness of this integration, demonstrating its wide applicability and promotional value in the education of college students.

In conclusion, the integration of swimming lessons with ideological and political education represents a novel and valuable approach to college education. It enables students to develop their bodies and minds holistically while providing a robust foundation for their ideological and political qualities. The findings of this study provide a robust theoretical foundation and practical guidance for more effectively integrating ideological and political education into physical education courses in the future. They also offer valuable insights for future research and practice.

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# Discussion on Teaching Reform of Engineering Cost Major in Higher Vocational Colleges

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**Abstract:** As a comprehensive subject, the engineering cost major in higher vocational colleges pays attention to the innovative reform of teaching. This paper starts with the job demand of engineering cost, analyzes the vocational ability orientation of the engineering cost major in higher vocational colleges, discusses the teaching status of the engineering cost major based on the current situation, and then expounds on the ways and practices of the teaching reform of the major in higher vocational colleges given the existing problems in the teaching of the engineering cost major. The teaching reform of engineering cost majors is one of the topics that many teachers are carrying out, and it is an effective way to promote the teaching progress of the major in higher vocational colleges.

**Keywords:** Higher vocational school; Engineering cost major; Practice teaching system

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## 1. Introduction

In recent years, the new vocational education reform has begun to develop towards the mode of cultivating professional talents with vocational ability as the core. In this mode of vocational competency-based training, vocational skills and abilities are the basic teaching units, and the final teaching evaluation is no longer based on the evaluation of grades, but on the proficiency of students in certain vocational skills <sup>[1,2]</sup>. The competency-based training mode takes the ability requirements of the society for professional talents as the standard, and focuses on improving students' skilled use of vocational skills, basic cognition of theoretical knowledge, and responsibility awareness of work attitude, which can not only meet the training objectives of vocational and technical talents stipulated by the state, but also lay the ability foundation for vocational and technical talents to go out of the society <sup>[3,4]</sup>.

Curriculum teaching reform has also become the focus engineering cost specialty in higher vocational colleges, especially based on diversified teaching mode, which is the basis for achieving good teaching results <sup>[5,6]</sup>. Under the tide of its teaching reform, it is the whole idea of teaching reform to carry on the all-around teaching orientation according to the talent training mechanism in the market demand <sup>[7,8]</sup>. Moreover, the key point of

the reform lies in the deepening of its teaching, to better adapt to the needs of the reform of engineering cost specialty in higher vocational colleges<sup>[9,10]</sup>. Only by carrying out teaching reform we can provide an impetus for the progress of engineering cost teaching and promote the development of engineering cost majors in higher vocational colleges<sup>[11,12]</sup>.

## **2. Vocational ability analysis of engineering cost positions**

The demand for engineering cost professionals is mainly concentrated in construction units, construction enterprises, engineering cost consulting firms, engineering supervision companies, and real estate development companies. Each type of organization has different requirements for the skills of engineering cost staff. Generally, professionals in this field should possess comprehensive knowledge of engineering and social sciences, such as economic management, along with extensive practical experience. Engineering cost professionals should be capable of formulating construction investment plans, preparing investment estimates, developing construction drawing budgets, drafting bidding documents, managing project claims, conducting project settlements and reviews, and performing technical and economic analyses. They should also be proficient in project cost information management. As the economy and technology continue to advance, the scope of the construction cost profession is expanding into other sectors. This growth not only increases employment opportunities but also broadens the responsibilities and skill requirements for these professionals. Consequently, there are higher expectations regarding the professional expertise and comprehensive qualities of those working in this field.

## **3. Vocational ability focus on the engineering cost major at higher vocational colleges**

From the perspective of vocational abilities required for engineering cost positions, the engineering cost major in higher vocational colleges should focus on the all-round development of students. Graduates should possess a high level of comprehensive quality, developing morally, intellectually, and physically to meet the demands of frontline engineering cost management. They should have strong professional ethics and be capable of performing as cost professionals. This includes being skilled in construction quantity calculation, pricing, and cost management under both quota and list pricing models, making them high-quality application-oriented talents.

Teachers play a crucial role in cultivating students' comprehensive qualities, focusing on developing their noble ideological and cultural values, moral character, and a strong sense of social responsibility. This holistic approach ensures that students not only excel academically but also possess the ideological consciousness needed to navigate the complexities of their professional roles.

In terms of professional knowledge, students in the engineering cost major must master key concepts and skills related to civil construction, decoration, and building materials. They should be familiar with construction processes and contract law relevant to project cost management. Additionally, a solid understanding of the basic theories and methods used for preparing budget estimates is essential for their success in the field.

Practical skills are equally important. Students must develop proficiency in professional map reading and the use of specialized software for project management. They need the ability to prepare detailed budgets and settlements for various projects, conduct independent technical and economic analyses, and evaluate the economic costs of engineering projects. Furthermore, they should be able to handle project bidding, negotiate contracts with partners, manage contracts efficiently, and adapt to project risks as they arise.

To meet the demands of the engineering cost profession, students must also acquire essential core



competencies. These include the ability to organize and manage project construction, resolve unexpected technical issues, accurately evaluate project costs and bids, and monitor project progress effectively. Graduates should be versatile and capable of performing a variety of roles in the construction industry, such as construction worker, budget clerk, supervisor, or quality inspector. The combination of these skills and qualities ensures that students are well-prepared to meet the evolving needs of the industry and excel in their professional careers.

## **4. Current teaching situation of engineering cost specialty in higher vocational colleges**

### **4.1. Single teaching mode, particularly a lack of practical training**

The teaching of engineering costs in higher vocational colleges typically alternates between theory and practice. However, the current approach primarily focuses on theoretical instruction, where teachers deliver content and students passively absorb it. As a result, students often remain in a passive learning state. Additionally, the lack of hands-on practical training leads to a gap between students' theoretical knowledge and their practical skills, which is one of the major issues in the current teaching of the engineering cost major and a key focus for educational reform. To address this, engineering cost instruction must integrate theory with practice, allowing students to learn theory through practical application and use theory to guide their practical work.

### **4.2. Incompleteness of teaching content, particularly the lack of practical relevance**

The engineering cost curriculum is primarily focused on hands-on operations, making the practical applicability of the teaching content crucial. However, the current teaching platform for the engineering cost specialty is insufficient, leading to a disjointed learning experience for students. Additionally, the teaching content lacks innovation and fails to incorporate modern elements and the latest concepts in engineering cost education. This results in a disconnect between what students learn and the realities of the industry, preventing them from effectively applying their knowledge in real-world situations.

### **4.3. Lack of teachers**

The engineering cost major in higher vocational colleges covers various fields, particularly those grounded in physics and mathematics, which necessitate high standards for teachers' professional quality. In teaching these subjects, instructors must possess strong practical skills, in-depth professional knowledge, and effective teaching abilities. Currently, however, many teachers in the engineering cost specialty at higher vocational colleges lack practical teaching experience and innovative approaches. This deficiency is one of the most significant challenges facing the reform of engineering cost education in these institutions.

## **5. Teaching reform and practice of engineering cost major in higher vocational colleges**

### **5.1. Cultivate students' professional abilities through inquiry-based teaching**

Currently, the engineering cost major in higher vocational colleges emphasizes the development of students' practical abilities, particularly through practical teaching platforms where students engage in independent research. This approach enhances their professional skills to some extent. The program values an open teaching environment, especially in architectural design courses, where students' understanding of architectural structure and current developments is crucial. Traditional teaching methods have somewhat limited the cultivation of

these abilities. Therefore, by utilizing inquiry-based teaching platforms, students take an active role in learning course content, with teachers addressing students' specific interests and learning needs. This open, practical teaching environment underscores the students' central role and facilitates organized, research-oriented learning. Such an innovative approach significantly enhances the development of students' professional abilities.

### **5.2. Market-oriented teaching to enhance practicality**

Market-oriented teaching for the engineering cost major in higher vocational colleges can significantly enhance the practicality of education by making students' professional skills more targeted and relevant. To achieve this, effective planning and design of course content and class arrangements should be based on current market demands. Additionally, tailoring teaching to students' interests and individual characteristics can improve their "social survivability."

Market-oriented teaching reform emphasizes the innovative development of teaching content, focusing on its practical applicability. This approach diversifies teaching objectives and makes learning more targeted. By aligning teaching content with the dynamic market, educational programs can better integrate with market needs, which is a key aspect of reforming the engineering cost major in higher vocational colleges. This alignment also serves as a robust strategy to adapt to market changes.

### **5.3. The improvement of teaching structure in the engineering cost major**

The engineering cost major in higher vocational colleges is a comprehensive field. Therefore, effective teaching reform requires refining its teaching structure, particularly ensuring its completeness. A well-rounded teaching structure is fundamental for achieving meaningful reform in this major. A complete teaching structure is reflected in the curriculum design and planning of each professional course. It involves creating a coherent framework that supports the development of a robust professional training mechanism. Additionally, school-enterprise cooperation plays a crucial role in expanding and enhancing the teaching structure. It provides opportunities to diversify teaching methods, particularly by integrating practical teaching platforms, which can significantly improve teaching effectiveness. In summary, a complete and well-organized teaching structure is essential for successful teaching reform. This includes tasks such as discipline construction and development, which are integral to the reform process.

### **5.4. Strengthening teacher development, with a focus on practical teaching abilities**

Teaching engineering costs in higher vocational colleges emphasize practical teaching methods, necessitating the creation of well-designed practical teaching platforms that align with the course content. To support this, teachers must possess strong professional qualities to effectively build and manage teaching environments. Therefore, enhancing teacher development and improving teacher's practical teaching abilities are crucial to meet the demands of curriculum reform. This includes strengthening their overall skills to ensure they can deliver effective and relevant instruction.

## **6. Conclusion**

The engineering cost major in higher vocational colleges encompasses a range of fields, requiring diverse teaching methods and content. A key focus of teaching reform is market-oriented approaches, which aim to deepen the reform process and shape the direction of the major's development. Through a series of teaching reforms, the engineering cost major has already achieved notable results. It is anticipated that ongoing reforms will further advance the development of this major in higher vocational colleges.



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# Research on the Current Situation and Enhancement Strategies of the Integration of Civics and Political Elements in the Vocal Music Classroom of Guangzhou University

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**Abstract:** The purpose of this paper is to explore the current situation of integrating the Civics and Political elements in the vocal music classroom of the School of Music and Dance of Guangzhou University, and to put forward corresponding countermeasures. Through questionnaire survey and interview method, the feasibility and effect of integrating Civics and Political elements in vocal music classrooms both online and offline were analyzed. It is found that although most students have a positive attitude towards the integration of Civics and Political elements, there are still problems of low popularity and insufficient in-depth understanding by students. The article concludes with countermeasures to innovate the integration path, strengthen Civics and Political education, and enhance the teachers' education ability. This study not only provides useful practical experience for the curriculum of Civics and Political elements in music education but also provides a reference for the construction of the curriculum in other art majors.

**Keywords:** Curriculum civics; Vocal music classroom; Civics elements; Online and offline teaching

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## 1. Introduction

In recent years, with the deepening of the reform of higher education in China, curriculum ideology and politics, as an important strategy to integrate ideological and political education into the teaching of professional courses, has become an important part of higher education. Its core concept is to integrate ideological and political elements such as socialist core values and patriotism education into students' learning and life through the teaching content and form of professional courses, to realize the effect of "silently" educating people <sup>[1]</sup>. As a part of art education, the vocal class of Guangzhou University College of Music and Dance not only focuses on cultivating students' professional skills but also shoulders the task of improving students' ideological and political quality. The teaching content and art form of the vocal classroom can lead students' thoughts and silently shape their values, and then help them establish a correct worldview, outlook on life, and values <sup>[2]</sup>.

In the actual teaching process, how to organically integrate the elements of ideology and politics into the vocal music classroom still faces many challenges. For example, how to ensure that the integration of Civics and Political elements does not appear to be hard and abrupt while maintaining the professional teaching effect, how to find the most suitable entry point for Civics and Political education in diversified teaching forms, and how to improve students' interest and acceptance of Civics and Political elements are all problems that need to be solved urgently. Therefore, this paper conducts an in-depth investigation and analysis of the current situation of the vocal music classroom in the School of Music and Dance of Guangzhou University, explores the effects and problems of the integration of the Civics and Political elements, and puts forward the corresponding improvement countermeasures based on this study, intending to provide useful references for the construction of Civics and Political elements in the curriculum of art majors in colleges and universities.

## 2. Literature review

Local and international scholars have made certain achievements in the study of Civics and Political elements thinking in the curriculum. Domestic research mainly focuses on how to integrate the elements of Civics and Political thinking into the teaching of various professional courses, to realize the educational goal of "cultivating morality and educating people." In recent years, with the continuous promotion of Civics and Political elements in the curriculum, the Ministry of Education and other relevant departments have issued a series of policy documents to encourage college teachers to incorporate it into their professional courses. For example, the *Opinions on Strengthening and Improving Ideological and Political Work in Colleges and Universities in the New Era* clearly stated that it is necessary to "promote a high degree of integration between the traditional advantages of ideological and political work and information technology, to enhance the sense of the times and attractiveness." In this context, how to integrate the elements of ideology and politics into music education, especially in vocal music classrooms, has become the focus of many educators' research <sup>[3]</sup>.

In other countries, although there is no clear concept of "Civics and Political Thinking in Curriculum," similar educational concepts have existed for a long time. For example, some Western countries pay great attention to cultivating students' sense of social responsibility and humanistic spirit in art education, emphasizing that art education is not only the teaching of skills but also the education of students' humanistic qualities and social values. Through these studies, it can be seen that there is a certain consensus both locally and internationally on the integration of Civics and Political elements in art education, that is, art education should serve society and cultivate well-rounded talents with a sense of social responsibility and moral literacy.

Specifically in the field of music education, research at the domestic and international levels has also provided many useful experiences and theoretical support <sup>[4]</sup>. For example, some scholars suggest that through the analysis of the historical background and creative background of musical works and their ideological content, students can be guided to understand and feel the ideological values embedded in them, thus realizing the purpose of Civics and Political education. Additionally, collective activities such as choral singing and vocal performance in music education are also considered to be an important way to carry out collectivism education and cooperative spirit cultivation <sup>[5]</sup>. These studies provide an important theoretical basis and practical reference for the integration of Civics and Political elements in the vocal music classroom.

Based on the review of relevant literature, it can be seen that although the research on the integration of Civics and Political elements into art education has made a lot of progress, it is still weak at the practical level, especially for the vocal music classroom in colleges and universities. Therefore, this study attempts to further explore the current situation and problems of the integration of Civics and Political elements through

an empirical investigation of the vocal music classroom in the School of Music and Dance of Guangzhou University, to provide new perspectives and ideas for related research.

### 3. Research methods

This study adopted the questionnaire survey method and sample interview method to systematically explore the current situation and problems of the integration of Civics and Political elements in the voice classroom by taking the voice majors of the College of Music and Dance of Guangzhou University as the research object. The questionnaire survey was designed with quantitative data, covering a wide range of questions about students' acceptance of the integration of Civics and Political elements, their preference, evaluation of classroom effects, and their knowledge of Civics and Political elements. These questions aimed to gain a comprehensive understanding of students' attitudes toward the Civics and Political elements of the course and their feelings about their experiences in actual teaching.

To obtain a deeper and more specific understanding, this study also selected students of different grades and different learning stages for in-depth interviews using sampling interviews. The interviews included students' specific feelings about the integration of Civics and Political elements in the vocal music classroom, their opinions and suggestions on the existing teaching methods, and their expectations for future classroom improvement. Through this qualitative research approach, this study was able to supplement the details that could not be captured by the questionnaire survey, further enriching the understanding of the research questions. In addition, this study interviewed some of the vocal music course teachers to obtain teachers' practical experiences and difficulties in integrating the elements of Civics.

Data were collected and analyzed using a combination of quantitative and qualitative methods. Quantitative data were analyzed using statistical software to reveal students' general attitudes and tendencies in Civics integration, while qualitative data were collated and summarized through content analysis to reveal students' and teachers' deeper perceptions of and suggestions for Civics and Political elements integration.

### 4. Findings of the study

#### 4.1. The effectiveness of integrating Civics and Political elements into the vocal music classroom

From the results of the questionnaire survey, most of the students have a positive attitude towards the integration of Civics and Political elements into the vocal music classroom. 90% of the students think that Civics and Political elements include establishing morality, pursuing truth, goodness, and beauty, carrying forward the Red Spirit (the legacy of revolutionary ideals and patriotism), correct values, and promoting excellent traditional culture. More than 70% of the students believe that the integration of Civics and Political elements helps to improve their ideological and political literacy and sound personality.

As shown in **Table 1**, when asked how well the vocal teachers did in integrating the Civics and Political elements into the classroom, 62.7% of the students gave their teachers a score of 7 or more for integrating the course into the vocal classroom. This shows that the teachers have successfully integrated it within the classroom, and the students have felt the integration of the Civics and Political elements. The students generally believe that the vocal classroom is not only a place for skill training, but also a classroom for learning how to be a human being and how to do things. Through the analysis of the background of the musical works, the creative intention, and the ideological content it contains, students can understand and appreciate the connotation of the musical works more profoundly to enhance their own ideological and moral cultivation subtly. Additionally, the

spirit of cooperation and collectivism in vocal performance also makes students resonate with the content of ideological and moral education emotionally and cognitively.

**Table 1.** Evaluation table of vocal music teacher's integration of Civics and Political elements into the classroom

Score	0 to 2 points	3 to 4 points	5 to 6 points	7 to 8 points	9 to 10 points
Number of people	10	15	83	103	79
Percentage	3.4%	5.3%	28.6%	35.5%	27.2%

## 4.2. Current problems with the integration of Civics and Political elements

However, despite the overall positive attitude of students towards the integration of Civics and Political elements, there are still some problems in the actual teaching process. Firstly, the problem of Civics and Political elements popularity. Although most students agree with the value of the course education, some students have reservations about the integration. Some even say that the appearance of Civics and Political elements in the vocal classroom seems to be rigid, which affects their interest in learning specialized knowledge. This suggests that the method and timing of integrating Civics and Political elements have a significant impact on students' acceptance.

According to the questionnaire survey, as shown in **Table 2**, 48.6% of the students rated their preference for the integration of Civics and Political elements into the vocal music classroom with a score of less than 7. It can be seen that nearly half of the students do not like the integration of Civics and Political elements in vocal music courses.

**Table 2.** Student's preference for integrating Civics and Political elements into vocal music classroom

Score	0 to 2 points	3 to 4 points	5 to 6 points	7 to 8 points	9 to 10 points
Number of people	19	30	92	86	63
Percentage	6.5%	10.3%	31.8%	29.7%	21.7%

Secondly, there is the issue of students' lack of in-depth understanding of Civics and Political elements. The survey shows that although most students' understanding of the course remains at the surface level, they perceive the integration of Civics and Political elements as merely a simple instillation of political theory, lacking a deeper comprehension and awareness of Civics education. This cognitive bias leads to students' resistance to the learning process, which in turn affects the effectiveness of Civics and Political elements. According to the questionnaire survey, as shown in **Table 3**, 57.6% of students scored their understanding of the Civics and Political elements course below 7 points while only 10.3% of students scored between 9 and 10 points. This indicates that very few students have a strong understanding of the Civics and Political elements course. Civics and Political elements education is not only the responsibility of schools and teachers but also involves the active participation of students.

**Table 3.** Degree of understanding of the Civics and Political elements course

Score	0 to 2 points	3 to 4 points	5 to 6 points	7 to 8 points	9 to 10 points
Number of people	30	22	115	93	30
Percentage	10.3%	7.6%	39.7%	32.1%	10.3%



Lastly, some teachers encounter difficulties in integrating Civics and Political elements into their teaching. For instance, they struggle with balancing the teaching of professional skills with Civics and Political elements within the limited classroom time, and with seamlessly integrating these elements into vocal music class. The lack of systematic training in Civics and Political elements course often leaves teachers feeling overwhelmed, which impacts the overall effectiveness of the integration process.

## **5. Problem analysis**

### **5.1. Low popularity of integrating Civics and Political elements into the vocal music classroom**

Some students are resistant to the integration of Civics and Political elements, primarily because they perceive the course as overly politicized, which conflicts with the freedom and creativity inherent in art education. This cognitive bias leads to negative attitudes in the classroom, impacting the overall effectiveness of teaching. Furthermore, some students lack interest in Civics and Political elements, believing they have limited practical significance and fail to resonate with their daily lives and learning. As a result, the integration of these elements can seem superficial and fails to truly engage students.

### **5.2. Insufficient depth of students' understanding of Civics and Political elements**

Most students' understanding of Civics and Political elements remains superficial, with the belief that Civics education is merely an indoctrination of political theories and lacks relevance to real life and career development. This limited understanding causes students to focus primarily on improving professional skills, neglecting the role of Civics and Political elements in shaping their outlook and values. Additionally, some students see little correlation between Civics and Political elements and vocal music classes, failing to recognize the intrinsic connection, which further contributes to their indifferent attitude toward these elements.

### **5.3. Teachers' difficulties in integrating Civics and Political elements**

Teachers face challenges in balancing time and content when integrating Civics and Political elements into the vocal music classroom. Given the extensive content and complex skills required in the vocal music course, teachers often struggle to incorporate Civics and Political elements within the limited available time. Moreover, some teachers lack experience in seamlessly combining Civics and Political content with professional instruction, which impacts the effectiveness of the integration.

## **6. Suggestions for countermeasures**

### **6.1. Innovative integration path**

To increase the appeal of Civics and Political elements, innovative integration strategies can be employed, including online and offline approaches and organizing thematic concerts. For example, in vocal music teaching, contemporary hot topics can be incorporated to create or select music works with strong social responsibility themes. By leveraging the emotional power of music, educators can guide students to reflect on social issues and develop correct values. Additionally, utilizing the Internet and new media to disseminate and discuss Civics and Political content through online platforms can enhance the interactivity and relevance of civic education <sup>[6,7]</sup>.

### **6.2. Strengthening Civics and Political elements**

Improving students' understanding and recognition of Civics and Political elements requires increasing the

depth and difficulty of the course in the teaching design. Through the opening of special lectures on Civics and Political elements and increasing the difficulty of the examination of the course, students can be guided to deeply understand and think about the contents, so that course education can be transformed from mere theoretical indoctrination to a kind of internalized value identity<sup>[8]</sup>. Furthermore, by organizing social practice activities, students can experience and verify the practical significance of the contents of Civics and Political elements in practice, to enhance the effectiveness of the course education<sup>[9,10]</sup>.

### **6.3. Enhancing teachers' ability in Civics and Political elements**

To improve teachers' proficiency in Civics and Political elements, schools should implement regular training and teaching seminars. These initiatives will help teachers master the theories and methods associated with the curriculum. By engaging in case studies and experience exchanges, teachers can learn from successful practices and enhance their skills in integrating Civics and Political elements. Moreover, schools should encourage teaching innovation, allowing teachers to explore effective ways to combine Civics and Political elements with vocal music instruction and develop distinctive models of Civics and Political education.

## **7. Conclusion**

The vocal music classroom at the School of Music and Dance of Guangzhou University has made notable progress in integrating Civics and Political elements, leading to improvements in students' ideological and political literacy as well as their personal development. However, several issues remain that need to be addressed. The effectiveness of integrating Civics and Political elements into the vocal music classroom can be further enhanced through innovative integration strategies, strengthening course content, and improving teachers' instructional abilities. Moving forward, schools should continue to explore and refine the implementation of the Civics and Political elements curriculum to ensure a more natural and profound integration into vocal music teaching, thereby providing stronger support for student's overall development.

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## **Disclosure statement**

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# Research on the Relationship between Urban and Rural Educational Resources Allocation and Educational Equity

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**Abstract:** This comprehensive study delves deeply into the relationship between the allocation of educational resources in urban and rural areas and educational equity. It takes the unbalanced distribution of educational resources between urban and rural regions as its starting point and employs quantitative analysis and field research methods to explore this complex relationship. The findings reveal that the uneven allocation of educational resources has a significant negative impact on educational equity, resulting in a substantial disparity between urban and rural students in terms of access to high-quality education. Policy attention deviation, an imperfect management mechanism, and insufficient investment in education are identified as the key reasons for this unbalanced allocation. Consequently, this study recommends that policymakers increase investment in rural education, reform the management mechanism, and optimize resource allocation to promote the realization of educational equity. The results of this research hold great significance for understanding the unequal distribution of urban and rural educational resources and providing valuable references for policymaking.

**Keywords:** Allocation of educational resources; Urban and rural education equity; Policymaking

**Online publication:** September 26, 2024

## 1. Introduction

In the current stage of education development, the issue of the allocation of educational resources between urban and rural areas has become increasingly prominent, giving rise to significant concerns regarding the imbalance of educational resources and the fairness of education. Specifically, students in urban areas have access to a greater quantity of high-quality educational resources, while students in rural areas face limited opportunities to receive such quality education. This disparity in the allocation of educational resources not only deviates from the concept of fair education but also has a profound impact on the harmonious development of society. Therefore, by analyzing the imbalance of educational resources and exploring the relationship between educational equity, this study aims to provide supporting countermeasures and constructive suggestions for improving educational policies, promoting educational equity, and reducing the gap between urban and rural education.

## **2. Current situation and problems of urban and rural education resource allocation**

### **2.1. Current situation of unbalanced allocation of educational resources**

The unbalanced distribution of urban and rural educational resources has emerged as a major challenge in the contemporary education landscape. Empirical data indicates that in urban areas, schools are abundant, with a strong teaching force, and comprehensive educational facilities. In contrast, rural areas are confronted with a shortage of teachers and outdated educational infrastructure<sup>[1-3]</sup>. For instance, when considering educational hardware, urban schools are equipped with modern teaching equipment and a rich supply of high-quality book resources.

In contrast, rural schools often have small classrooms and antiquated equipment. In terms of educational software, urban schools offer a diverse range of elective courses and extracurricular activities, while rural schools, due to limited conditions, are unable to provide similar educational opportunities. This significant imbalance in the allocation of educational resources between urban and rural areas directly leads to a pronounced gap in education quality and learning opportunities, which in turn has a profound impact on students' development opportunities and future competitiveness<sup>[4-6]</sup>.

This situation demands a thorough analysis of its underlying causes and the identification of a rational solution. The unbalanced allocation of urban and rural educational resources is not merely an internal issue within the education sector but also involves multiple aspects of regional development imbalance. Only through in-depth research and systematic analysis can effective improvement measures be formulated to achieve balanced development in the allocation of urban and rural educational resources and the realization of educational equity<sup>[7-9]</sup>.

### **2.2. Causes of urban and rural education resource allocation problems**

The factors contributing to the unbalanced allocation of urban and rural educational resources are complex and intertwined. The lack of policy attention leads to a lack of targeted and long-term planning in the allocation of educational resources by the government. Without clear policy directives, the allocation of resources may be haphazard and fail to address the specific needs of rural areas. The imperfect management mechanism results in low efficiency in resource allocation. For example, there may be issues such as unclear responsibilities, duplication of efforts, and lack of coordination among different departments, which hampers the effective utilization of educational resources. Additionally, insufficient investment in education directly affects the conditions and quality of education received by rural students. Limited financial resources mean that rural schools may struggle to upgrade their facilities, attract and retain qualified teachers, and provide a comprehensive educational experience<sup>[10-12]</sup>.

These causes interact with each other, exacerbating the unbalanced allocation of urban and rural educational resources. To address this issue, a comprehensive approach that addresses policy, management, and investment aspects is essential. By improving policy attention, enhancing the management mechanism, and increasing investment in education, the fairness and quality of rural educational resource allocation can be improved<sup>[13-15]</sup>.

## **3. Correlation between educational resource allocation and educational equity**

### **3.1. Impact of uneven allocation of educational resources**

The unbalanced allocation of urban and rural educational resources has a direct and profound impact on the realization of educational equity. In urban areas where educational resources are relatively abundant, there are strong teaching teams, complete teaching facilities, and a vibrant academic atmosphere. This provides urban



students with more and better learning opportunities, enhancing their learning ability and competitiveness. In contrast, rural areas face a shortage of educational resources, insufficient teachers, simple teaching facilities, and uneven educational quality. As a result, rural students lag behind urban students in knowledge acquisition and ability training <sup>[16–18]</sup>.

The uneven allocation of educational resources also significantly affects students' choices and development opportunities. Due to the superior conditions of urban schools and higher teaching quality, many rural families often choose to send their children to urban areas to study, aiming to provide a better development environment. This leads to a reduction in the number of students in rural schools and limits the development of rural education, further widening the imbalance in the allocation of urban and rural educational resources.

In essence, the uneven allocation of educational resources directly impacts the educational opportunities and development prospects of urban and rural students, aggravating the unequal phenomenon of urban and rural education equity. It is imperative to promote the balanced allocation of urban and rural educational resources through policy adjustments and resource optimization to lay a solid foundation for the realization of educational equity <sup>[19,20]</sup>.

### **3.2. Analysis of the impact of policy attention, management mechanism, and educational input**

The unbalanced allocation of educational resources is closely related to policy attention, management mechanisms, and educational input. The lack of policy attention often leads to the distribution of urban and rural education resources favoring urban areas, intensifying the urban-rural education gap. When policymakers do not give sufficient consideration to the needs of rural education, resources are more likely to be concentrated in urban areas, leaving rural schools struggling to meet the educational needs of students.

The imperfect management mechanism allocates resources that lack openness and transparency, increasing the risk of corruption and mismanagement. Without a clear and efficient management framework, resources may not be allocated fairly and rationally, further exacerbating the imbalance.

Insufficient education investment directly affects the shortage of teachers, hardware facilities, and other educational conditions in rural schools. Limited financial resources mean that rural schools may not be able to provide a quality education comparable to urban schools.

To address these issues, policymakers are advised to increase investment in the field of rural education, improve the allocation mechanism of educational resources, and ensure the fairness and transparency of resource allocation. Only when policy attention is adequate, the management mechanism is sound, and education investment is sufficient can the allocation of urban and rural education resources be gradually balanced, thereby promoting the realization of education equity.

## **4. Research on improving urban and rural education resource allocation strategies**

### **4.1. Strategy analysis of increasing investment in rural education**

The lack of investment in rural education is a crucial factor contributing to the unbalanced allocation of urban and rural educational resources. To address this situation, policymakers should adopt a comprehensive range of strategies. Firstly, financial support for rural education should be significantly increased to ensure a more equitable distribution of funding between urban and rural areas. This can be achieved through increased government allocations, the establishment of special funds, and the mobilization of social resources.

A special subsidy mechanism can be established to focus on improving the infrastructure and teaching equipment of rural schools. This could include providing modern classrooms, updated laboratory equipment,

and access to digital learning resources. By targeting these areas, the gap between urban and rural educational facilities can be narrowed.

Governments at all levels should be encouraged to set up special plans for the development of rural education. These plans could focus on supporting the construction of rural teaching teams, improving the quality of rural education and teaching, and providing professional development opportunities for rural teachers.

Furthermore, enterprises, social organizations, and other forces should be encouraged to participate in the cause of rural education. Through partnerships and donations, these entities can contribute to the improvement of rural educational resources and jointly assume responsibility for the allocation of rural educational resources.

By implementing these measures, the investment in rural education can be effectively increased, alleviating the problem of unbalanced allocation of urban and rural educational resources and ultimately achieving the goal of educational equity.

## **4.2. Research on strategies for reforming management mechanisms to promote educational equity**

Reforming the management mechanism is a crucial step in promoting the equity of urban and rural education. A sound evaluation mechanism should be established to regularly assess the allocation of educational resources and promptly identify problems and inequities. This evaluation should cover aspects such as the adequacy of resources, the fairness of distribution, and the effectiveness of utilization.

The mechanism for allocating funds for urban and rural education should be improved to ensure an equitable distribution of resources. This could involve setting clear criteria for resource allocation based on factors such as student population, educational needs, and regional characteristics.

Moreover, strengthening the construction of teaching teams is essential. This can be achieved through regular training programs and incentive mechanisms to improve the quality of teachers and teaching levels. By providing professional development opportunities and rewards for outstanding performance, teachers in rural areas can be motivated to enhance their teaching skills and dedication.

An information disclosure system should be established to ensure transparency in educational resource allocation. This will enable all parties in society to be informed about the allocation of educational resources, promoting public opinion supervision and social participation. Transparency can help prevent mismanagement and ensure that resources are allocated in a fair and reasonable manner.

Finally, strengthening the supervision and assessment of educational administrators is necessary to encourage them to achieve tangible results in promoting educational equity. By holding administrators accountable for the fair allocation of resources and the improvement of educational quality, the management of educational resources can be optimized.

By reforming the management mechanism, the original rigid and inefficient mechanisms can be broken, promoting the fair allocation of resources and further advancing the realization of urban and rural education equity.

## **5. Policy suggestions and future research directions**

### **5.1. Policy suggestions for optimizing the allocation of urban and rural educational resources**

At present, in response to the unbalanced allocation of urban and rural educational resources, a series of policies and measures should be implemented to optimize resource allocation and promote education equity. Firstly, investment in rural education should be increased. This includes improving the teaching facilities and teacher

quality of rural schools to narrow the gap between urban and rural education resources.

Secondly, the educational management mechanism should be improved by establishing a sound evaluation system and supervision mechanism. This will ensure the fair distribution and rational use of educational resources, preventing waste and abuse.

Thirdly, strengthening the training and support for rural teachers is crucial. By improving their teaching level and work enthusiasm, the all-round development of rural students can be promoted.

To optimize resource allocation, it is necessary to ensure the rational allocation and utilization of educational resources, improve the utilization efficiency and teaching quality of educational resources, and further enhance the overall level of urban and rural education.

These policy suggestions will help alleviate the problem of uneven distribution of educational resources between urban and rural areas, promote the realization of educational equity, and provide an important reference for China's education reform and development.

## **5.2. Implications for future research**

Future research can be conducted from the following aspects: Firstly, the impact of different policies on the allocation of urban and rural educational resources can be deeply explored. This includes analyzing the specific effects and influencing factors of policy implementation. For example, studies can examine how policies such as educational funding allocation, teacher recruitment and deployment, and curriculum development affect the balance of educational resources between urban and rural areas.

Secondly, by combining domestic and foreign case studies, the current situation and reform experiences of urban and rural educational resource allocation in different countries or regions can be compared. This can provide valuable references for China's urban and rural educational resource allocation reform. By learning from the successful experiences and lessons of other countries, China can develop more effective policies and strategies.

Thirdly, further research can be conducted on the deep reasons behind the unbalanced allocation of urban and rural educational resources. This could involve in-depth analysis at the policy, social, and institutional levels. For example, studies can examine how historical, cultural, and economic factors contribute to the disparity in educational resource allocation.

Finally, quantitative and qualitative research methods can be used to explore the substantive impact of urban and rural educational resource allocation on educational equity from multiple dimensions and perspectives. This will provide more targeted suggestions for future policy formulation and reform measures. By using a combination of methods, a more comprehensive understanding of the relationship between educational resource allocation and educational equity can be achieved.

## **6. Closing remarks**

This study has conducted an in-depth exploration of the relationship between the unequal allocation of urban and rural educational resources and educational equity. It has identified several problems in the allocation process, including unfair policy attention, an imperfect management mechanism, and insufficient investment in education. These issues seriously restrict the reasonable allocation of educational resources and the realization of educational equity in rural areas. Therefore, it is recommended that policymakers increase investment in rural education, reform the educational management mechanism, and optimize the allocation of educational resources to correct the allocation deviation and effectively promote the realization of educational equity. This study provides a deeper understanding of the unequal allocation of urban and rural educational resources, offers

a basis for relevant policy formulation, and also points out a direction for future research.

## Disclosure statement

The authors declare no conflict of interest.

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# The Reflection and Practice of Excellent Traditional Agricultural Culture in the Cultivation of Professional Qualities at Agricultural Colleges and Universities

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**Abstract:** The excellent traditional agricultural culture is an important cultural heritage of the Chinese nation, encompassing rich agricultural techniques, production methods, as well as ethics and social norms. Agricultural colleges and universities bear the responsibility of both preserving and innovating agricultural culture in the cultivation of professional qualities. This study aims to explore the specific reflection and practice of excellent traditional agricultural culture in the cultivation of professional qualities at agricultural colleges and universities. Through efforts in curriculum design, school-enterprise cooperation, and campus culture construction, the comprehensive enhancement of students' professional ethics, abilities, and spirit is promoted. The research finds that traditional agricultural culture has unique advantages in cultivating students' integrity, diligence, and pragmatism, and plays a crucial role in improving the professional qualities of students at agricultural colleges and universities.

**Keywords:** Excellent traditional agricultural culture; Professional qualities; Agricultural colleges and universities; Curriculum design

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## 1. Introduction

The excellent traditional agricultural culture is a crystallization of the long-standing history of the Chinese nation, reflecting the wisdom and creativity of ancient Chinese laborers. In modern society, with the development of agricultural modernization and globalization, traditional agricultural culture faces dual challenges of preservation and innovation. As important institutions for cultivating agricultural professionals, agricultural colleges and universities play a critical role in the cultivation of professional qualities. Studying how excellent traditional agricultural culture is reflected and practiced in the cultivation of professional qualities in agricultural colleges not only helps enrich the content and form of vocational education but also enhances students' professional ethics, abilities, and spirit, thereby training more high-quality talents for China's

agricultural modernization.

## **2. Overview of excellent traditional agricultural culture**

### **2.1. Historical development of agricultural culture**

Agricultural culture, as a significant component of Chinese civilization, can be traced back to the primitive agricultural stage of the Neolithic period, when early ancestors began using simple tools for agricultural production, gradually forming the initial agricultural techniques and production methods. Over time, particularly in the Yellow River and Yangtze River basins, agricultural civilization reached a high level. During the Shang and Zhou dynasties, the use of iron tools and ox plowing significantly boosted agricultural productivity, contributing to major advancements in agricultural technology and the initial formation of social and ethical values. Throughout the feudal period, successive dynasties promoted agricultural development through policies like “promoting agriculture and suppressing commerce,” land equalization systems, and the growth of a commodity economy. Notably, during the Ming and Qing dynasties, advancements in agricultural science and technology—such as the introduction of new crop varieties and the construction of agricultural water conservancy projects—brought agricultural culture to its peak. This culture deeply penetrated all aspects of social life, becoming a vital factor in maintaining social stability and development, showcasing the wisdom and creativity of the Chinese people in agricultural production and social governance <sup>[1]</sup>.

### **2.2. Main content of agricultural culture**

Excellent traditional agricultural culture is rich in content, covering various aspects such as agricultural technology, production methods, ethics, and social norms. Agricultural technology and production methods are its core elements. From primitive slash-and-burn farming to modern intensive cultivation, continuous innovation in technology and optimization of production methods have greatly improved agricultural productivity and promoted economic growth. The development of crop varieties, the implementation of crop rotation and fallow systems, and advancements in irrigation technology all demonstrate the wisdom and experience embedded in agricultural culture. Furthermore, agricultural solar terms like the “Beginning of Spring,” “Qingming,” and “Grain in Ear,” along with associated farming activities, summarize valuable experiences regarding the agricultural production cycle, guiding agricultural activities. By aligning agricultural activities with these seasonal markers, farmers ensure that their practices are optimized according to nature’s rhythms.

Ethics and social norms are also key components of agricultural culture, emphasizing the harmonious coexistence between humans and nature while advocating values such as diligence, frugality, integrity, and mutual assistance. These values have played an important role in agricultural production and social ethics, contributing to societal stability and progress. Customs and regulations within villages, clan systems, and the daily habits of farmers are reflections of agricultural culture. Literary works and folklore, such as the depiction of agricultural life in “The Book of Songs” and the agricultural techniques documented in “The Complete Book of Agriculture” have passed down and enriched agricultural culture. These elements not only broaden the cultural scope but also provide valuable resources and insights for modern agricultural education and the cultivation of professional qualities.

## **3. The connotation and requirements of professional qualities**

### **3.1. Definition of professional qualities**

Professional qualities refer to the comprehensive qualities and professional spirit that individuals exhibit in their

professional activities, encompassing aspects such as professional ethics, abilities, and attitudes. Professional qualities not only reflect an individual's level of expertise and skills but also demonstrate their adherence to ethical norms, work attitudes, and professional spirit. The cultivation of professional qualities is not only crucial for an individual's career development and success but also influences the overall level of professionalism within a particular field and contributes to the development of society as a whole. High-level professional qualities are key for professionals to succeed in complex and ever-changing work environments and are essential for enhancing career competitiveness <sup>[2]</sup>.

### **3.2. The particularity of professional qualities cultivation in agricultural colleges and universities**

The cultivation of professional qualities in agricultural colleges and universities has its particularities, primarily due to the unique demands of agricultural disciplines and the specific challenges of the agricultural work environment. Agricultural students need to acquire solid agricultural knowledge and skills, but in addition to mastering professional knowledge, they must also develop strong adaptability and problem-solving abilities to respond to challenges posed by seasonal changes and varying environmental conditions.

Moreover, the cultivation of professional qualities in agricultural colleges should place significant emphasis on the development of students' professional ethics and spirit. Agricultural production is closely related to the natural environment and emphasizes the harmonious coexistence between humans and nature. The unique characteristics of agricultural production, which often involves harsh working conditions, require students to cultivate a spirit of hard work and resilience, as well as a strong sense of professional commitment.

## **4. The reflection of excellent traditional agricultural culture in the cultivation of professional qualities in agricultural colleges**

### **4.1. Cultivation of professional ethics**

Excellent traditional agricultural culture contains rich connotations of professional ethics, especially in aspects such as integrity, dedication, and a sense of responsibility, which have a profound influence on the cultivation of professional ethics for students in agricultural colleges. The principle of "integrity as the foundation" emphasized in agricultural culture is reflected in various aspects of agricultural production and trade. Farmers highly value trust and credibility in their daily production activities, forming a strong professional ethic of honesty and integrity. This tradition provides important insights for the cultivation of professional ethics in modern agricultural students. By learning and inheriting this cultural essence, students can develop a strong sense of integrity in their careers, adhere to professional standards, and maintain professional ethics, thus gaining the trust and respect of society <sup>[3]</sup>.

Dedication is another important element of professional ethics embedded in agricultural culture. In traditional agricultural societies, farmers rely on hard work and meticulous cultivation for their livelihoods, forming a strong sense of dedication to their work. This spirit is fully reflected in the cultivation of professional ethics in agricultural colleges. Through fieldwork and hands-on agricultural tasks, students not only experience the hard work and wisdom of farmers but also cultivate a strong work ethic and understand the importance of dedication. Dedication not only improves students' enthusiasm and initiative in their work but also strengthens their sense of responsibility and mission in their chosen profession.

Responsibility is a critical component of professional ethics, which is particularly evident in traditional agricultural culture. Farmers are responsible not only for their labor outcomes but also for the natural environment and their communities. This sense of responsibility holds great practical significance for the

cultivation of professional ethics in agricultural colleges. By participating in agricultural environmental protection projects and community service activities, students can deeply understand the importance of responsibility and apply it in their future work. Cultivating a sense of responsibility in students helps them take on social responsibilities in their careers and contribute to the sustainable development of agriculture.

## **4.2. Enhancement of professional abilities**

Excellent traditional agricultural culture plays a significant role in enhancing the professional abilities of students in agricultural colleges. The culture is rich with agricultural knowledge and experience, which can be passed on to students through classroom teaching and practical activities, helping them master advanced agricultural production techniques. By learning about traditional crop cultivation techniques, pest control methods, and soil management strategies, students can apply this knowledge in their future work to improve agricultural production efficiency and quality, thus enhancing their professional abilities.

Furthermore, traditional agricultural culture emphasizes hands-on practice, which has a major impact on the cultivation of professional abilities in agricultural students. Farmers in agricultural culture accumulate a wealth of practical experience and skills through long-term production practices. Agricultural colleges can offer practical courses, organize field internships, and establish farm laboratories to provide students with opportunities to engage in agricultural production firsthand, thereby enhancing their practical skills and problem-solving abilities. Through these practical activities, students can integrate theoretical knowledge with real-world applications, identify and solve problems in practice, and thus improve their professional capabilities.

Additionally, traditional agricultural culture values innovation and technological improvement, which actively contributes to the enhancement of students' professional abilities in agricultural colleges. Throughout history, farmers have been adept at summarizing their experiences and introducing innovations and improvements in agricultural techniques. Agricultural colleges can encourage students to engage in innovation and entrepreneurship education, developing new technologies and products based on traditional agricultural methods. Through participation in technological innovation competitions, research projects, and entrepreneurial practice activities, students can cultivate innovative thinking and abilities, thereby contributing to the development of modern agriculture <sup>[4]</sup>.

## **4.3. Shaping of professional spirit**

Excellent traditional agricultural culture plays an essential role in shaping the professional spirit of students in agricultural colleges. The concept of "Heaven rewards diligence" found in agricultural culture has a profound impact on students' professional spirit. This concept emphasizes that hard work and effort are the foundations of success, inspiring students to maintain a positive attitude and work diligently throughout their careers. By learning and passing down this concept, students can develop a diligent and practical work ethic, fostering a deep passion and commitment to their profession, which in turn helps them continuously achieve progress in their work.

The spirit of teamwork emphasized in traditional agricultural culture is also significant in shaping the professional spirit of students in agricultural colleges. In agricultural production, farmers often collaborate to complete various tasks, and this cooperative spirit is equally important in modern professional environments. Agricultural colleges can foster teamwork through group projects, collective labor, and collaborative research activities. Through these activities, students learn to work effectively with others, strengthen their sense of collective honor and responsibility, and enhance team cooperation, thereby shaping a strong professional spirit.

Lastly, the resilience embodied in traditional agricultural culture profoundly influences the shaping of

students' professional spirit in agricultural colleges. Farmers often face natural disasters and challenging environments in the course of production, but they persist with resilience, overcoming difficulties to continue their work. This resilient spirit is equally important in modern professional environments. Agricultural colleges can cultivate resilience and stress management skills in students by assigning challenging tasks and exposing them to demanding environments. Through such training, students learn to remain calm and determined in the face of professional challenges, developing a resilient professional spirit that lays a solid foundation for their career development.

## **5. The practice of excellent traditional agricultural culture in the cultivation of professional qualities in agricultural colleges**

### **5.1. Curriculum design and teaching methods**

In terms of curriculum design, agricultural colleges can organically integrate excellent traditional agricultural culture into professional courses. For instance, in foundational courses like agricultural science and agronomy principles, content related to the history of agricultural culture, traditional agricultural techniques, and experiences can be added, allowing students to learn and understand traditional agricultural wisdom while acquiring modern agricultural knowledge. By incorporating specialized lectures, case studies, and historical literature reviews, students can gain a comprehensive understanding of the rich connotations and practical applications of agricultural culture, enhancing their cultural literacy and professional competence<sup>[5]</sup>. This integrated curriculum design helps cultivate students' innovative thinking and ability to integrate interdisciplinary knowledge, thereby improving their overall professional qualities.

In teaching methods, a variety of approaches can be used to stimulate students' interest and initiative in learning. For example, a project-based learning model can be employed, where real-world issues from traditional agricultural culture are set as project tasks, encouraging students to solve these problems through teamwork, field investigations, and experimental research. In the process, students not only acquire practical skills in agricultural production but also develop critical thinking and problem-solving abilities. Additionally, interactive teaching, scenario simulations, and role-playing methods can help students better understand and grasp the essence of agricultural culture, thereby enhancing their professional skills and comprehensive qualities.

Practical teaching is also an indispensable part of curriculum design. Agricultural colleges can establish on-campus and off-campus training bases, allowing students to engage in practical operations in real agricultural production environments. For example, organizing students to participate in crop cultivation, pest control, and soil improvement activities provides them with firsthand experience in various aspects of agricultural production. In this practical process, students not only apply what they have learned in class to real-world situations but also experience the charm of traditional agricultural culture, deepening their understanding and appreciation of agriculture. Such practical teaching helps to develop students' hands-on abilities and operational skills, improving their professional qualities and expertise.

### **5.2. School-enterprise cooperation and social practice**

School-enterprise cooperation is one of the key ways for agricultural colleges to enhance students' professional qualities. By establishing close partnerships with agricultural enterprises, agricultural colleges can provide students with more internship and employment opportunities. For example, by collaborating with agricultural technology companies, agricultural product processing firms, and agricultural cooperatives, colleges can offer joint training programs and internship plans, allowing students to gain practical experience in a real business environment. During this process, students can not only learn about the operational models and management



methods of agricultural enterprises but also acquire advanced agricultural technologies and production experience, thereby enhancing their professional abilities and adaptability. The deepening of school-enterprise cooperation facilitates the integration of production, education, and research, improving the quality and level of talent cultivation in agricultural colleges.

Social practice activities are also a crucial means of cultivating students' professional qualities. Agricultural colleges can organize students to participate in various forms of social practice activities, such as rural surveys, agricultural technology promotion, and agricultural poverty alleviation projects. These activities help students gain a deeper understanding of rural realities and the current state of agricultural development while fostering a sense of social responsibility and service. During social practice, students can apply their knowledge to solve problems faced by farmers, enhancing their practical skills and social adaptability. Moreover, by engaging in social practice, students build close relationships with farmers, strengthening their passion for and commitment to agricultural careers.

Furthermore, agricultural colleges can stimulate students' innovation and entrepreneurial enthusiasm through agricultural technology competitions, innovation contests, and other activities. For example, organizing students to participate in agricultural technology innovation competitions encourages them to combine the wisdom of traditional agricultural culture with modern technological means to develop new agricultural techniques and products. During this process, students not only showcase their innovation capabilities and professional knowledge but also broaden their horizons through competition and exchange, improving their comprehensive qualities. Through these school-enterprise cooperation and social practice activities, agricultural colleges can effectively enhance students' professional qualities and cultivate more high-quality talents for agricultural modernization.

### **5.3. Campus culture construction**

Campus culture construction plays an important role in the cultivation of professional qualities in agricultural colleges. By creating a campus culture atmosphere centered around excellent traditional agricultural culture, agricultural colleges can foster a sense of cultural identity and belonging among students. For example, organizing agricultural culture festivals, cultural lectures, and exhibitions can allow students to understand and experience the charm of agricultural culture through participation. By involving students in traditional agricultural activities such as rice planting, harvesting, and agricultural product processing, they can experience real-life scenarios of agricultural culture, enhancing their sense of identity and pride in traditional culture. These activities not only enrich campus cultural life but also help to cultivate students' professional ethics and spirit.

In campus culture construction, agricultural colleges can also establish agricultural culture exhibitions and heritage bases to provide platforms for students to learn and study traditional agricultural culture. For instance, setting up agricultural culture museums or agricultural technology parks to showcase traditional farming tools, crop varieties, and production methods allows students to gain a visual understanding of the history and development of agricultural culture. In these exhibitions and heritage bases, students can conduct field investigations and research, learn traditional agricultural techniques, and understand the core values of agricultural culture. This hands-on learning approach helps students deeply grasp the essence of agricultural culture, improving their professional skills and overall competence <sup>[6]</sup>.

Moreover, agricultural colleges can promote innovation and development in agricultural culture through research projects. Encouraging teachers and students to collaborate on agricultural culture research projects helps explore the intersection of traditional agricultural culture and modern agricultural technology, leading to the development of new agricultural techniques and products. For example, researching the improvement and

promotion of traditional crop varieties, or exploring pathways for the development of organic and ecological agriculture. Through this process, students not only enhance their research abilities and innovation consciousness but also gain a deeper appreciation of the rich heritage and modern value of agricultural culture. These research activities allow agricultural colleges to continuously enrich and develop agricultural culture, contributing to the cultivation of students' professional qualities and the advancement of agricultural modernization.

## 6. Conclusion

This study, through analyzing the specific reflection and practice of excellent traditional agricultural culture in the cultivation of professional qualities in agricultural colleges, reveals its unique advantages in fostering professional ethics, enhancing professional abilities, and shaping professional spirit. Through practical activities such as curriculum design, school-enterprise cooperation, and campus culture construction, the comprehensive development of students' professional qualities has been effectively promoted, providing new insights and methods for vocational education in agricultural colleges. Future research should further explore the application of traditional agricultural culture in modern agricultural education, developing more teaching resources and methods that meet the needs of modern agriculture, thereby promoting the overall development and progress of agricultural education.

## Disclosure statement

The authors declare no conflict of interest.

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