

# **International Education Forum**

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## International Education Forum

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# Exploration and Reflection on Strengthening Field Practice Teaching of Geological Majors through School Enterprise Cooperation

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**Abstract:** Field practice teaching in geological majors is an important way to cultivate students' characteristics in geological majors. By combining field production internships with geological exploration units, it is beneficial for students to better integrate theoretical knowledge with practical production, which is of great significance for improving comprehensive quality and increasing employment.

**Keywords:** School-enterprise cooperation; Geological category; Practical teaching

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## 1. Introduction

Geology is a highly applied and comprehensive discipline, which is one of the oldest disciplines, involving multiple fields such as earth science, resource exploration and development, environmental protection, engineering construction, and geological disaster prevention and control <sup>[1]</sup>. It has important supporting significance for national mineral energy security and economic and social development. Geology has three characteristics: fundamental, comprehensive, and practical. Compared with other disciplines, the proportion of practical teaching in geology is particularly prominent. Taking China University of Geosciences (Beijing) as an example, practical teaching mainly consists of three parts: field cognitive internship in Beidaihe in the second semester of college, teaching internship of basic theoretical courses in Zhoukoudian in the second semester of college, and graduation production internship in the second semester of college. The first two internships focus on cultivating students' basic knowledge, mainly adopting the model of internship teachers leading teams and whole-class field classroom teaching. Graduation production internship refers to students participating in the production and research projects of their supervisors, which has the characteristics of a small number of students, strong targeting, and more emphasis on improving students' professional abilities.

This stage is particularly important, and how to make reasonable arrangements is of great significance for cultivating qualified geological talents and ensuring passing the final test <sup>[2]</sup>.

In recent years, with the continuous increase in the scale of graduate enrollment, there have been more and more graduate students under the guidance of supervisors, so there has been a serious shortage of teaching staff. At the same time, there are also problems such as insufficient internship bases and a lack of teaching resources. How to ensure and improve the quality of undergraduate field production internships is a difficult problem facing education institutions. China University of Geosciences (Beijing) has achieved good results by jointly completing undergraduate field production internships with geological exploration units in various provinces. The university selected some students to directly participate in the front-line production and scientific research projects of the enterprise, and have the enterprise assign experienced experts as enterprise mentors for the students. The school mentors and enterprise mentors are jointly responsible for the student's field production internship tasks. Compared with the traditional field production internship mode, this training mode has achieved good results with the following advantages.

## **2. Use of new technologies and methods**

In the past decade, with the increase of national investment in the geological exploration industry, earth science has made significant progress and breakthroughs, especially the widespread application of high-tech achievements such as information technology, physics, and chemistry, which has brought profound changes to modern geological work. Enterprises have a good practical environment, which provides a strong foundation for cultivating students. Compared with the conditions for field internships in schools, exploration units in various regions have obvious advantages in terms of funding, equipment, and instruments, as well as the use of new technologies and methods. Geological survey units in various regions have popularized digital mapping in regional survey projects many years ago, while many schools still use more primitive mapping methods today. Through school-enterprise cooperation, students can enter enterprises and make good use of advanced instruments, equipment, and professional software that some geological exploration units possess but universities lack. This enables students to learn more knowledge and create more scientific research achievements, not only saving resources and cultivating a large number of innovative and useful talents but also creating great wealth for society.

Knowledge in any field is constantly being updated and improved. As the main tool for carrying knowledge, textbooks have a significant lag compared to rapidly changing technology, and the textbook knowledge learned by students is somewhat disconnected from actual production <sup>[3]</sup>. School enterprise cooperation is conducive to promoting the close integration of theory and practice, enabling students to timely understand and master the latest information in production practice. The theoretical knowledge and practical skills learned in school can be verified through practical internships in enterprises, strengthening the cultivation of professional skills, and discovering new problems in practice, which is conducive to further learning and research. School enterprise cooperation is also beneficial for better solving the problems encountered by enterprises in practice, providing theoretical support and technical guidance for enterprises, and has important significance for their future development.

### **3. Familiarize oneself with the work environment and clarify the next learning objectives**

The geological exploration industry, as a difficult industry, has certain industry characteristics. Although there have been significant improvements in various aspects in recent years, it still has certain difficulties and risks compared to other industries. Some students cannot adapt to the harsh environment of geological work after graduation, and their ideological foundation is not solid. They quickly resign or switch jobs when they enter the job market. For students jointly trained by schools and enterprises, entering the enterprise production internship and participating in scientific research and production work as a member of the geological exploration team, they are both students and employees of the enterprise, able to personally experience the nature of work, familiarize themselves with the work environment, and lay a solid ideological foundation early on. In addition, it can greatly broaden academic horizons, improve professional knowledge level, and exercise independent ability, social ability, scientific research ability, innovation ability, and teamwork ability, thereby enhancing overall quality. At the same time, it enables students to have a clearer understanding of their own shortcomings and a deeper understanding of geology. Through practice, it also clarifies their learning direction for future studies and research, truly achieving targeted learning.

### **4. Achieve seamless connection between learning and employment**

Students jointly trained by schools and enterprises need to undergo 2–3 months of field learning practice in the cooperating units. During this period, the cooperating units and the students who come to receive training have sufficient time to fully understand each other. For cooperative units, while cultivating students, it is also examining their comprehensive qualities, so that they can select outstanding talents in the future and seek human resources reserves for the development of the unit. For students, they can have a good understanding of the nature of work in enterprises, familiarize themselves with the work environment, and accumulate work experience. By studying and practicing in enterprises, students' professional skills can be greatly improved. After graduation, students can quickly adapt to enterprises and quickly play a role in the workplace, shortening the period of adjustment between students and enterprises after employment.

Enterprises generally give priority to students who have interned in their own units or have internship experience in enterprises when accepting graduates. The fact also proves that exploration units in various regions have selected many outstanding talents from the cooperative training of students, and many students have voluntarily gone to work in the units where they have interned after graduation. The addition of more interns has also provided favorable conditions for the development of the enterprise. Compared with other students who are working at the same time, students who receive joint training have stronger adaptability and can stay. Some students who receive joint training are highly sought after in the job market due to their internship experience in production units. The model of school-enterprise joint training has truly achieved seamless connection between the learning and employment of some college students.

Although there are still some difficult management issues in the current school enterprise joint training, it is still a good way to solve students' production internships in the long run, which is conducive to improving students' practical abilities and enhancing their comprehensive quality. By collaborating with more enterprises and establishing more internship bases, the advantages of school-enterprise cooperation will be more significant.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] Zhao JL, Zhou WN, 2019, Exploration of Field Practice Teaching and Student Interest Cultivation in Geological Majors. *Modernization of Education*, 6(36): 171–172 + 179.
- [2] Du ZT, Gu DL, Wu GG, 1998, Geological Practice Teaching Integrating Industry, Academia, and Research. *China Geological Education*, 1998(3): 27–28.
- [3] Ouyang JP, Xu SH, Hou ZJ, 2009, Reflections and Exploration on the Cultivation of Geological Talents: A Case Study of China University of Geosciences (Wuhan). *China Geological Education*, 2009(4): 20–23.

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# Application of Artificial Intelligence Technology in Computer Network Teaching

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**Abstract:** With the development of modern times, the content and mode of education are constantly evolving. To better meet the needs of social development, secondary vocational schools should actively explore advanced computer network education models to meet the ever-changing educational environment and promote the improvement of teaching quality. To achieve the goal of computer network education, it is necessary to give full play to the effectiveness of artificial intelligence, use the latest science and technology, and the most cutting-edge teaching methods to help students better understand, cope with, and integrate into the real world, to achieve efficient computer network teaching. Through innovation and change, the level of computer network teaching in secondary vocational schools can be greatly improved.

**Keywords:** Artificial intelligence technology; Secondary vocational school; Computer network teaching

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## 1. Introduction

Due to the rapid development of Internet technology, the concept of subject education has undergone great changes. Therefore, teachers should abandon the traditional one-to-one infusing teaching method, and adopt various methods to meet the learning needs of students according to their actual situation. Through the application of advanced computer technology, existing online courses can be greatly expanded, together with the use of artificial intelligence, a more personalized, sustainable, and diverse online learning environment can be built. In addition, teachers can also closely monitor students' learning and give necessary guidance and help in time. In this way, teachers can better deal with the challenges of network classrooms and use artificial intelligence to improve education.



## **2. Overview of the characteristics of artificial intelligence technology and the basis of assisted computer teaching**

### **2.1. Characteristics of artificial intelligence technology**

Intelligent technology can be divided into human intelligence and computer intelligence, and the relationship between them is complementary, can develop cooperatively, or can operate independently. The core goal of artificial intelligence technology is to convert human intelligence into computer intelligence, thereby achieving a higher level of self-regulation and self-service. However, computer intelligence can also use artificial intelligence to improve the quality of teaching, thus achieving the intelligent transformation from technology to people <sup>[1-3]</sup>.

Firstly, the technical characteristics of artificial intelligence. Artificial intelligence has a powerful search ability, it can quickly extract the most needed information from the vast information base and can be customized according to individual needs. It also has a wealth of knowledge and can translate complex concepts into simple and understandable expressions. It has a strong voice recognition ability, and can accurately identify important information. Additionally, it also can apply abstract thinking, according to user needs, to provide precise descriptions and explanations, to better understand user intentions. Artificial intelligence uses its powerful computing power to quickly search and analyze human knowledge, to provide more accurate information for humans. Moreover, it also has a high degree of abstraction, greatly improving human work efficiency <sup>[4]</sup>.

Secondly, intelligent multimedia technology. With the development of science and technology, intelligent multimedia has become an effective communication tool, which can help people to make calls more conveniently, but also bring more rich interaction for various types of users, so that students of all levels have the opportunity to participate in the classroom, thus greatly enhancing the effect of computer network education. With the development of science and technology, intelligent multimedia technology has been successfully applied to the classroom of secondary vocational schools, providing a flexible, hierarchical, comprehensive, and efficient education mode, so that teachers can easily impart knowledge to students without relying on traditional teaching methods. This efficient classroom mode is the unique advantage of intelligent multimedia technology, with good innovative thinking and timely feedback function. Through the introduction of advanced intelligent multimedia technology, it can help teachers, students, parents, and society to complete more accurate classroom teaching. The excellent performance of these technologies makes it easier for teachers to master knowledge points and judge which areas need to be focused on, to better guide students' learning, and also encourage them to explore new knowledge points, to better promote the progress of the classroom <sup>[5-7]</sup>.

### **2.2. Basic overview of artificial intelligence and computer-aided instruction**

Artificial intelligence, an important branch of computer science, is a highly comprehensive subject established through computer simulation and the extension of human brain function. The computer system has human thinking and behavior, can make effective judgments on many problems, and analyze human natural language ability. Artificial intelligence generation is the stimulus-response to problems and different things, the process of solving different tasks is divided into different steps, based on programming to ensure that all kinds of problems can present formulaic development, through the optimization of computer structure design to solve various problems. At this stage, artificial intelligence needs to solve the following key



problems in the long-term development process, which are intelligent information processing, intelligent problem-solving processing, and intelligent symbol processing<sup>[8]</sup>.

With the rapid development of information technology in our country, computer-aided teaching is an important direction in the development of modern education. More teaching content can be completed through computers to ensure that the teaching content and teaching form can develop towards diversification. Through computer-aided instruction, students can complete learning activities in combination with their actual situation. Teaching applicability is strong, but also promotes the effective sharing of resources, to achieve interactive learning<sup>[9]</sup>. To ensure that teaching resources meet the diverse learning needs of students, while also addressing the limitations of traditional teaching methods and improving teaching effectiveness, computer-based intelligent systems can play a key role. These systems can better monitor student learning and development, facilitate the transfer of information, optimize and adjust teaching content, and ultimately contribute to the advancement of teaching. However, current computer-aided instruction faces numerous challenges that need to be addressed in future educational practices<sup>[10]</sup>.

### **3. The application value of artificial intelligence technology in computer-aided instruction**

In the new era, various kinds of education and teaching activities are closely related to the application of computer technology, which can strengthen the understanding of different knowledge structures based on knowledge imparting. In the process of knowledge acquisition, it can promote the effective connection of old and new knowledge and guide the teaching work. Teachers should guide students' learning activities, explore gradually from the practice process, and perfect the shortcomings of the traditional teaching mode. By integrating artificial intelligence technology into computer-aided instruction, different modules can be established, and each module has different teaching functions. For example, the expert module can help students answer more professional learning problems, solve the limitations of time and space in teaching, improve the quality of teaching communication, and better improve the learning efficiency of students. The student module in artificial intelligence technology can carry out accurate statistics and analysis of each student's actual learning performance, and save different scores into the corresponding database, which can provide more reference data for the efficient development of teaching activities. Teachers can adjust the teaching content and objectives based on data, highlighting the concept of individualized instruction. This allows for a better application of artificial intelligence technology.

### **4. Challenges in the application of artificial intelligence technology in computer network teaching**

#### **4.1. Computer network education cannot provide continuous and effective intelligent service**

Currently, computer network education is generally made by specialized teachers in the early stage of classroom teaching videos or teaching activities, after simplifying the broadcast of relevant professional knowledge to students, and once students have doubts and questions, they can only be answered by teachers on the spot. However, due to the limitation of teaching time, teachers cannot provide answers around the clock, which can negatively impact student engagement and motivation.

## **4.2. Occupies network resources and is inefficient**

In computer network education, information retrieval for basic knowledge often requires students to search through catalogs or keywords. However, much of this knowledge exists in a cross-disciplinary context, with many topics listed without clear structure, leading to disorganized information resources that fail to form a coherent subject system. This search process is both time-consuming and inefficient. Furthermore, while teachers provide a substantial amount of basic knowledge and reference materials, these resources are often underutilized. As a result, students find it difficult to efficiently access and apply professional knowledge through the network, hindering their learning progress <sup>[11]</sup>.

## **4.3. The function of the teaching system is inadequate**

Currently, there are two primary methods for implementing network-based education using computers. The first involves using Authorware and PowerPoint to create text and video-based knowledge teaching materials, which aim to enrich students' learning content. The second method utilizes the Internet and simple human-computer interaction technology to deliver classroom instruction. However, neither of these approaches improves the teaching environment significantly. As a result, students lack motivation, and the teaching methods are not tailored to the individual needs of students, hindering personalized learning.

# **5. Effective measures of applying artificial intelligence technology in computer network education**

## **5.1. Effective integration of educational resources**

In the new situation, more and more students can access the necessary knowledge and services through the Internet, mobile phones and other tools, about 80% of graduates can use these tools independently, and 35% of graduates can use specialized tools to complete self-management. Therefore, teachers should join hands with AI to promote innovation and reform in education according to their reading preferences and students' learning ability. In order to meet the learning needs of students of all ages, teachers provide a new method: using the educational administration website, teacher score system and advanced artificial intelligence technology, to build a complete professional education database covering all majors to collect the latest information in various fields. By searching various available secondary vocational school curriculum content, as well as the recent social development trend, teachers collect a large number of the latest and most influential knowledge, and these knowledge through systematic analysis, screening, synthesis, to build a complete set of electronic education materials with practical value. Teachers need to give the AI system maximum freedom to use, retrieve, distribute, and publish so that it can process data accurately and provide effective information and materials to students. <sup>[12-13]</sup>

## **5.2. Effective integration of educational resources**

Teachers should draw on their previous experience with computer network education to actively design and implement an intelligent learning guidance system. It is essential to learn from previous information technology teaching materials to develop new, more suitable resources for current students. By developing an intelligent guidance system, teachers can leverage artificial intelligence technology to provide more accurate, efficient, and personalized guidance to students. Through the use of AI, teachers can monitor students' learning progress in real-time and create customized cognitive, emotional, and knowledge modules tailored

to students' professional backgrounds and curriculum requirements. Additionally, teachers can also introduce real scenarios and data to support these modules and make them have real-time and dynamic functions. In this way, teachers can allow students to improve themselves through self-learning, exploration, collaboration, actual combat, and common growth in the Internet classroom.

Teachers should use the most advanced technology to develop a sound, highly flexible intelligent teaching system, which not only includes traditional teaching modes but also includes modern teaching methods, such as MOOCs platform, flipped classrooms, online textbooks, video teaching, group cooperative learning, inquiry teaching and practical teaching. By introducing advanced technology, teachers are not only able to better understand the latest growth of students but also to precisely adjust and optimize their academic performance. Moreover, teaching assessment and evaluation guidelines will be incorporated into the software experience to make the teaching software more flexible and efficient. To help students solve psychological and emotional problems that may arise during the learning process, teachers use artificial intelligence systems to monitor their mental health status and help students identify their problems and deficiencies through intellectual assessment, physical health detection, and developmental assessment. These evaluation results will provide teachers with valuable information to help them take effective measures in time. With the support of artificial intelligence technology, we constantly improve ourselves, make up for our shortcomings, and formulate scientific and reasonable learning and development plans together with career development plans according to the actual situation <sup>[14]</sup>.

### **5.3. Application of agent management technology**

The key performance of artificial intelligence in computer network teaching lies in agent control, and the content of agent communication, knowledge base, and database management provides the necessary technical support and foundation for agent control programs. Artificial intelligence can also collect, sort, and classify information in the relevant contents of the database and knowledge base according to the specific needs of students, to put forward comprehensive suggestions for system science. Therefore, when students conduct custom searches for data, the corresponding agent control can be realized through the artificial intelligence system, so that the searched data that is consistent with the actual use requirements can be sent to a specific place so that students can get more personalized information. Thus, the search and screening time of information can be reduced, so that the operation and application efficiency of students can be unprecedentedly improved, and the fundamental needs of students can be met to a greater extent. Compared with the manual screening mode, it can be found that the agent mode of artificial intelligence has a better use effect, improves the efficiency and quality of data processing, and reduces the teaching input <sup>[15]</sup>. Artificial intelligence agent management can comprehensively enhance the data processing capabilities of computer teaching systems. Additionally, it enables more efficient management of forgotten data and large data resources, further improving the system's functionality.

## **6. Conclusion**

In conclusion, artificial intelligence technology holds significant application value in computer-assisted teaching and plays a key role in improving teaching efficiency. As AI technology continues to advance rapidly, it will play an increasingly important role in enhancing computer-assisted teaching. In education, AI enables the development of new learning and reasoning tools, underscoring its application value. Currently, computer-aided instruction occupies an essential place in the education field. By integrating various technologies, different

teaching modules are established within teaching systems, meeting students' learning needs and teachers' instructional requirements, and fostering the comprehensive advancement of modern education.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] Rong R, 2023, Discussion on the Application of Artificial Intelligence Technology in College Computer Network Education. *Digital Technology and Application*, 41(8): 87–89.
- [2] Han J, 2023, Application of Artificial Intelligence Technology in Computer Network Education. *Science and Technology Wind*, 2023(03): 68–70.
- [3] Wei X, 2023, Application of Artificial Intelligence in Computer Network Education. *Electronic Technology*, 2023(9): 42–43.
- [4] Tang Y, 2022, Exploration on the Application of Artificial Intelligence Technology in Computer Network Teaching. *Vanguard*, 2022(18): 0013–0015.
- [5] Zhou Y, Yang T, 2019, Analysis on the Application of Artificial Intelligence in Computer Network Technology. *Science and Technology Innovation*, 2019(1): 84–85.
- [6] Li X, Li C, Yan Y, 2024, Application of Artificial Intelligence Technology in Computer Network Teaching. *Mobile Information*, 2024(002): 046.
- [7] Hu C, 2023, Research on the Application of Artificial Intelligence in Computer Network Technology. *Public Standardization*, 2023(11): 126–128.
- [8] He Q, 2023, Application of Artificial Intelligence in Computer Network Technology. *Digital Technology and Application*, 41(10): 46–48.
- [9] Liu C, Zhang J, 2022, Application of Artificial Intelligence in Computer network Technology. *Information Recording Materials*, 23(11): 169–171.
- [10] Li L, 2023, Effective Application of Artificial Intelligence in Computer Network Technology. *Automation Applications*, 64(1): 104–106.
- [11] Yuan Y, 2019, Analysis on the Effective Application of Artificial Intelligence Technology in Computer Network Education. *Science and Technology Innovation Review*, 16(9): 219–220.
- [12] Peng D, 2019, Analysis on the Effective Application of Artificial Intelligence Technology in Computer Network Education. *Science and Technology Information*, 17(11): 117–18.
- [13] Qiu Y, 2019, The Role of Artificial Intelligence Technology in Computer Network Education. *Science and Fortune*, 2019(21): 352.
- [14] Yang Q, Luo J, Yang F, 2019, The Development Framework of Deep Integration of Artificial Intelligence and Higher Vocational Education. *Science and Technology Information*, 17(17): 252–253.
- [15] Wu J, 2018, The Application of Artificial Intelligence Technology in Computer Network Education. *Intelligence*, 2018(10): 87.

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# Application Research of Virtual Reality Technology in Folk Art Education in Guangzhou Universities under the Background of Digital Transformation

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**Abstract:** In the current wave of applied undergraduate education, Guangzhou universities are actively seeking to integrate the profound traditional Chinese cultural heritage, especially the unique and charming Guangzhou folk cultural resources, with cutting-edge technologies, particularly virtual reality (VR) technology, to promote innovation and distinctive development in art and design education. Drawing on Zhang Zhidong's ancient wisdom of "Chinese-style Westernization", although the historical background is vastly different, the combination of tradition and technology still exhibits strong vitality and unique value in promoting the inheritance and revival of ethnic culture. This combination not only reflects a keen insight into and active response to real-world problems but also highlights a pragmatic spirit in practical exploration, which is particularly crucial for Guangzhou universities' exploration in the field of folk art education.

**Keywords:** Digital transformation; Virtual reality technology; Guangzhou universities; Folk art education

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## 1. Introduction

Since the creation of "Spacewar!" by the Steve Russell team at MIT in 1962, digital interactive games have gradually become a new frontier for entertainment and culture. Subsequently, William Crowther's "Colossal Cave Adventure" emerged in 1976, further enriching the connotations of digital games with its unique interactive design and narrative structure. In this context, countries such as Europe, America, Japan, and South Korea, relying on their powerful game industries, have not only promoted economic prosperity but also achieved widespread cultural dissemination and strategic competitive advantages. For Guangzhou universities, this global trend provides new ideas and opportunities for folk art education. Under the backdrop of digital transformation, how to effectively utilize virtual reality technology, deeply explore Guangzhou's



rich folk cultural resources, innovate educational models, and improve teaching quality has become an important topic that urgently needs to be explored <sup>[1]</sup>.

## **2. Current application status of virtual reality technology under the background of digital transformation**

In 2016, the School of Journalism and Communication at Tsinghua University took the lead by producing the VR film “Touching Tsinghua”, which cleverly integrated the artistic conception of the classic literary work “Moonlight over the Lotus Pond” into the virtual world. This initiative not only broadened the expressive boundaries of campus culture and art but also painted a vivid blueprint for the application prospects of VR technology in the educational field. Simultaneously, research in the Department of Computer Science and Technology at the university focused on the deep optimization of animation digital interaction and telepresence, laying a solid technological foundation for the cloud integration and personalized matching of teaching content <sup>[2]</sup>.

As a leader in domestic VR research, the Computer Science Department at Beihang University has made breakthrough progress in distributed virtual environment network design technology, providing powerful technical support for building real-time 3D animation databases and professional training systems. In particular, the establishment of the State Key Laboratory of Virtual Reality Technology and Systems in 2017 marked the university’s deep layout and forward-looking planning in the field of VR education applications. The following year, the Software School took advantage of the momentum and launched a graduate program specializing in Virtual Reality Technology and Applications (VR), injecting strong momentum into cultivating high-quality VR education talents <sup>[3]</sup>.

The “VR Xinchao” research report, jointly released by Tencent Research Institute and Zhejiang University, provides a deep analysis of the multi-dimensional impact of VR technology on individual psychological cognition, physiological health, and sociocultural aspects from a psychological perspective. It offers scientific theoretical foundations and rich empirical data for studying the potential psychological effects of VR in folk art education.

It is worth mentioning that Guangzhou, as a pioneer city in VR education development, actively builds high-end exchange platforms and has held multiple national and even international VR/AR education summits and competitions. The 2017 Guangzhou (National) VR Design Education Summit gathered numerous industry elites and academic authorities to jointly explore innovative applications and development trends of VR/AR technology in the field of art education. The following year’s Guangzhou (International) VR/AR Education Summit and the First Guangdong Provincial Student VR Reading and Innovative Education Design Competition further demonstrated Guangzhou’s firm determination and practical actions in promoting the popularization of VR education and facilitating VR content innovation.

## **3. Application of virtual reality technology in folk art education in Guangzhou universities in the context of digital transformation**

### **3.1. Enriching talent cultivation program design based on abundant Guangzhou folk art resources**

Driven by the deepening of digital transformation, the talent cultivation program design in the field of folk

art education in Guangzhou universities needs to closely align with their educational characteristics and the profound heritage of Guangzhou's regional culture. This involves deeply exploring and showcasing the unique charm of Guangzhou's folk art. By systematically integrating Guangzhou's folk art resources into the curriculum system of vocational art design, students' cognition of local cultural values can be deepened, strengthening their cultural identity and pride, and further stimulating their awareness of cultural inheritance and innovative potential. Specifically, cutting-edge courses such as "Innovative Design of Guangzhou Folk Visual Symbols" and "Digital Media Art Creation with Guangzhou Culture Themes" can be introduced. These courses skillfully integrate the core elements of Guangzhou folk culture with the essence of basic design theory and introduce creative expression techniques of Guangzhou folk visual symbols. This enables students to profoundly understand the unique charm and aesthetic value of Guangzhou folk culture while advancing their professional skills. Through the above talent cultivation program, the goal is to cultivate compound talents who are proficient in Guangzhou's regional culture and possess excellent aesthetic qualities and innovative spirit <sup>[4]</sup>.

### **3.2. Innovation of "dual-engine driven" teaching model in basic three-dimensional animation teaching**

Firstly, VR animation technology enables the visualization of teaching content. By overcoming the limitations of traditional blackboard teaching, VR animation digital interaction technology transforms abstract and complex 3D animation knowledge into vivid and intuitive 3D animation demonstrations, greatly enhancing students' learning interest and exploration enthusiasm. With the assistance of VR technology and the integration of rich materials from Guangzhou folk art, not only does it enhance the attractiveness of practical projects, but it also inspires students to incorporate traditional cultural elements into their creations, promoting a deep understanding and inheritance of Guangzhou folk culture <sup>[5]</sup>.

Secondly, the VR interaction system leads to the reconstruction of the teaching framework. By innovating the existing teaching syllabus, a new teaching framework based on VR interaction technology is constructed, providing students with an immersive learning and practical environment. Within this framework, students can choose their learning paths and course content based on personal interests and ability characteristics, achieving a personalized learning experience. Simultaneously, utilizing VR to simulate 3D scenes for practical skill drills effectively enhances students' practical skills and cognitive abilities, significantly reducing the consumption of time and space in traditional teaching.

Thirdly, VR simulation scenarios optimize the classroom testing experience. Relying on the VR interaction system, highly realistic classroom testing simulation scenarios are developed, enabling students to personally experience the process of verifying their learning achievements in a virtual environment. By setting clear learning goals, students are guided to utilize visual and tactile senses to perceive scene changes in the VR environment, achieving hypertextuality and virtual perception interactivity in the testing process. This enhances students' mastery and application abilities of the course content <sup>[6]</sup>.

Fourthly, the "dual-engine driven" approach explores the expansion of folk art practices. In students' ability expansion training, folk art is regarded as the core expansion direction. Students are encouraged to independently carry out expansion research and practical projects related to folk art, utilizing innovative thinking that combines technology and art. This teaching model not only promotes the comprehensive ability improvement of students but also effectively drives the inheritance and development of Guangzhou folk

art, providing strong support for the construction of a new education model that deeply integrates industry, education, and research.

### **3.3. Integrated application of book design and technology**

Interaction design, as an important means of utilizing computer technology to optimize the human reading experience, has given rise to a new publishing form called interactive functional books in the field of book design. These books cleverly integrate signal pickups and interaction controllers, utilizing wired or wireless signal transmission technology. Visual elements such as lines and colors are embedded in key content areas of the book to achieve instant interaction and feedback with readers. Considering the rich connotation and unique charm of Guangzhou's folk culture, bookbinding design requires a careful conception of the layout of elements such as covers, inner page illustrations, and changes in color and shape. This aims to construct an interactive book system with distinct artistic characteristics of Guangzhou's folk culture <sup>[7]</sup>.

Based on the rich resources of Guangzhou's folk culture, taking the book "Guangzhou Lingnan Garden Art" as an example, interaction touchpoints and feedback zones can be set on the "stone lion" sculpture graphics in the garden. Readers can lightly touch these points to watch video introductions of the stone lion carving process. In the book "Guangzhou Cantonese Opera Costume Culture", network services and interaction controllers can be integrated into the exquisite patterns of the costumes. This allows readers to deeply understand the cultural connotation and craftsmanship behind the costumes while appreciating their beauty. During the layout and post-press processing of interactive books, careful planning of the layout of touchpoints and feedback zones is required to ensure that they meet aesthetic needs, are convenient for practical operation, and closely fit the overall atmosphere and context of Guangzhou's folk art and culture. This comprehensively enhances the overall reading experience of the book system.

### **3.4. Enhancing folk art experience to improve the professional quality of teachers and students**

In exploring art and design education in Guangzhou universities, deep experiential learning of Guangzhou's folk art serves as a core element. This is an important strategy to highlight the unique contribution of higher vocational education in protecting and inheriting local artistic culture. For educators, the primary task is to deeply explore Guangzhou's historical districts that are rich in marketplace culture and strong folk atmosphere, such as the simplicity of Enning Road, the exotic charm of Shamian Island, the waterside charm of Litchi Bay, and the creative rebirth of Yongqing Fang. From these explorations, representative elements of Guangzhou's folk art can be extracted and systematically integrated into teaching materials and frameworks. Simultaneously, teachers should actively plan and organize field trips and on-site sketching activities, guiding students to directly encounter the dazzling brilliance of Guangzhou's folk arts and crafts and the essence of traditional craftsmanship. This allows students to perceive their unique charm and ingenious creativity through personal experience. Subsequently, through detailed aesthetic analysis of these folk art elements, exploration of symbolic implications, and interpretation of folk backgrounds, the valuable experiences from field trips can be deeply integrated with classroom theoretical teaching. This stimulates students' innovative thinking and guides them to participate in redesign practices based on Guangzhou's folk art, transforming the learning process into a cultural journey full of creativity and inspiration. For students, studying in Guangzhou provides a platform to deeply understand and become familiar with the unique style of Guangzhou's folk



art. Through cross-regional and cross-cultural comparative analysis, especially contrasting with the folk art of their hometowns in terms of expression, color use, spatial layout, etc., students can not only broaden their cognitive boundaries of Chinese folk art but also deepen their understanding of the individuality of Guangzhou's folk art through careful comparison. This process not only enriches teaching content but also provides strong support for differentiated teaching, effectively promoting the dual improvement of teachers' and students' humanistic literacy and design abilities. Finally, the design works of teachers and students will naturally integrate Guangzhou's regional characteristics, exhibiting unique artistic charm.

## 4. Conclusion

In summary, within the wave of digital transformation in basic three-dimensional animation course teaching, the introduction of VR animation digital interaction technology and the construction of a “dual-engine” innovative teaching model have completely revolutionized traditional unidirectional teaching methods. This enables students to achieve seamless integration of learning and practice in a highly immersive VR environment. Using Guangzhou's folk art as a vivid case study for teaching and research not only greatly enhances the artistic reproduction capabilities of teaching but also promotes close cooperation and mutual improvement among industry, academia, and research. The innovative application of animation digital interaction technology has opened up a new path for the visual presentation and sensory experience of folk art, greatly enriching its communication media and forms of expression. With this technology, the realization of synchronous 3D animation visual transformation marks that animation professional teaching is moving towards a more three-dimensional, intuitive, and intelligent new era. The deep integration of VR animation digital interaction technology and Guangzhou's folk art, as a key means of cultural communication in the new media era, is powerfully pushing forward the in-depth progress of teaching reform, and its potential value is immeasurable.

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## References

- [1] Du YY, 2023, Exploration of Art and Folk Theme-Based Teaching Practice in the Context of the Integration of Five Educations. *Teaching and Research of National Common Language and Writing*, 2023(11): 188–190.
- [2] Liu X, 2023, Research on the Ideological and Political Construction of Local Characteristic Courses Based on the Folk Art Resources of the Heilongjiang River Basin — Taking the Core Courses of Animation Majors in Applied Universities as an Example. *Art Education Research*, 2023(17): 60–62.

- [3] Zhang JSD, 2021, Teaching Research on Art Design Major in Local Vocational Colleges Under the Background of the Integration of Visual Images of Changsha Folk Art. *Shoe Craft and Design*, 2021(16): 47–49.
- [4] Cao AD, 2021, Exploration of the Integration of Folk Art and Art Teaching, thesis, Jinan University.
- [5] Zhang ZB, Cong SG, 2020, Research on the Integration of Folk Art into University Art Design Education in the Context of “Cultural Innovation and Entrepreneurship”. *Collection of Intangible Cultural Heritage Research*, 2020(7): 238–252.
- [6] Liu Y, 2020, New Exploration of Interactive Book Technology in Folk Art Teaching. *Literary Education (Part 1)*, 2020(9): 172–173.
- [7] Wang JX, 2019, Application of Interactive Electronic Whiteboard in Primary School Art Teaching — Taking the Teaching of Traditional Folk Art Farmer Painting as an Example. *Digital Teaching in Primary and Secondary Schools*, 2019(11): 52–54.
- [8] Li LM, 2019, “Dual-Engine” Teaching Research and Practice of VR Animation Digital Interaction and Folk Art Integration and Inheritance. *Art Education*, 2019(6): 105–106.
- [9] Deng Q, 2018, Folk Aesthetics of Guangfu Folk Art and Its Aesthetic Teaching Value — Commentary on “Aesthetic Appreciation of Guangfu Folk Art”. *Higher Education Exploration*, 2018(3): 131.
- [10] Li YJ, 2017, Integrating Folk Culture into University Art Design Teaching — Nanjing as an Example. *Scientific Chinese*, 2017(21): 466.
- [11] Lin SY, 2017, Application of Fujian Folk Art Resources in University Art Teaching Practice. *Journal of Jilin Radio and TV University*, 2017(6): 53–54.
- [12] Wang H, 2017, Analysis of the Introduction of Jiangxi Nuo Folk Art Resources into Art Classroom Teaching — Commentary on “Display Art Education”. *Chinese Journal of Education*, 2017(6): 110.

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# Intertwining of History and Reality: An Exploration of the Creation of Wang Yingsheng's "The Return of Hong Kong"

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**Abstract:** This article aims to delve into the background, process, artistic techniques, and cultural significance and social impact of Wang Yingsheng's important artistic work "The Return of Hong Kong." Through an analysis of Wang Yingsheng's artistic style, combined with a detailed interpretation of "The Return of Hong Kong", this article reveals how Wang Yingsheng integrated his personal artistic pursuits with significant historical events to create a work that is both characteristic of the times and full of artistic appeal. Simultaneously, this article explores the position of "The Return of Hong Kong" in the history of Chinese contemporary art and its influence on Chinese culture.

**Keywords:** Wang Yingsheng; "The Return of Hong Kong"; Cultural significance; Artistic techniques

**Online publication:** November 13, 2024

## 1. The creative background of "The Return of Hong Kong"

The roots of the Hong Kong issue can be traced back to a series of unequal treaties imposed on China by colonial aggressors in history. After the Opium War in 1842, the Qing government signed the "Treaty of Nanjing" with Britain, resulting in the cession of Hong Kong Island to Britain and its transformation into a colony. It was not until 1982 when Margaret Thatcher, the then Prime Minister of Britain, visited China and engaged in deep discussions with Comrade Deng Xiaoping regarding the future of Hong Kong.

During this meeting, Comrade Deng Xiaoping proposed the concept of "One Country, Two Systems" as a solution to reclaim sovereignty over Hong Kong. He stated firmly, "China has no room for the concession on the issue of sovereignty" and further emphasized, "By 1997, China will take back Hong Kong" <sup>[1]</sup>. Following negotiations, both parties decided to address the Hong Kong issue through diplomatic channels, reaching an agreement in 1984. Shortly after, British Foreign Secretary Geoffrey Howe publicly announced that Britain would relinquish its sovereignty over Hong Kong after 1997. This series of decisions and

declarations laid a solid foundation for Hong Kong's return to China and the implementation of the "One Country, Two Systems" policy.

The return of Hong Kong marks a significant event in modern Chinese history, reflecting the Chinese government's renewed jurisdiction over Hong Kong. It holds profound importance for achieving the complete reunification of the motherland and ensuring the country's long-term stability and prosperity <sup>[2]</sup>. This momentous occasion, immortalized in the annals of history, represents a triumphant achievement led by the Chinese Communist Party and the people of China. Indeed, "when China's national flag and the flag of the Hong Kong Special Administrative Region rose together in Victoria Harbor, the Chinese Communist Party presented a satisfactory answer to the people of the whole country and even the world" <sup>[3]</sup>. It was within this historical backdrop that Wang Yingsheng created the painting "The Return of Hong Kong", capturing this pivotal moment with distinctive artistic techniques. This article aims to analyze the creative process, artistic approach, and thematic ideas expressed in "The Return of Hong Kong" through the lens of Wang Yingsheng's artistic style. Furthermore, it explores the cultural significance and social impact of this work, seeking to gain a deeper understanding of its artistic and historical value.

## **2. The artistic style and creative concept of "The Return of Hong Kong"**

Wang Yingsheng is a renowned contemporary Chinese artist who has earned prestige in the art world for his unique artistic style and profound social insight. His artistic approach is grounded in realism, emphasizing the portrayal of characters' inner worlds and the essence of social phenomena. Wang actively participates in major national thematic art creations. Fan Di'an once commented on Wang's works, stating, "Each piece can be considered a contemporary masterpiece, forming a grand narrative about significant themes through expansive scenes, numerous characters, and diverse forms of expression. These not only reflect his profound skills in modeling but also demonstrate his pursuit of integrating historical sensibility with contemporary elements" <sup>[4]</sup>. In terms of color application, Wang excels in using contrast and symbolism, giving his works strong visual impact and emotional expressiveness. His paintings deeply reflect his profound concern for social reality and his in-depth analysis of human nature. Wang's artistic style is deeply influenced by traditional Chinese painting techniques, while also incorporating Western painting methods, resulting in a distinctive artistic style. In "The Return of Hong Kong", he employs traditional Chinese painting techniques and compositional principles, combined with Western lighting and color application, to present a scene that is both traditionally Chinese and modern.

In terms of creative philosophy, Wang Yingsheng not just consistently adheres to the principle that art originates from life but also transcends it. He believes artists should be attentive to social reality and reflect the spirit of the times and people's emotions through their artistic works. When creating "The Return of Hong Kong", Wang based his work on this creative philosophy, combining his personal artistic pursuit with a significant historical event, resulting in a great work that is both timely and artistically powerful. It was learned during an interview about a major national historical theme art creation project that "The Return of Hong Kong" was commissioned by the state. To gather more detailed and objective information and further enhance the on-site atmosphere, Wang visited Hong Kong twice, specifically visiting the Hong Kong Convention and Exhibition Center and several sub-venues. Apart from his direct on-site experiences, Wang also utilized video and image materials as creative references.

Furthermore, from the epic work “The Return of Hong Kong”, people can discern the author’s creative philosophy in the following aspects. Firstly, respecting tradition while daring to innovate. Wang Yingsheng respects and learns from tradition in his creations, but he also dares to break through conventions and innovate. This combination not only gives the work a profound cultural foundation and historical inheritance but also exhibits a unique artistic style and characteristics of the times. Secondly, emphasizing emotional authenticity and formal perfection. Wang believes that the vitality of artistic works lies in their emotional authenticity and formal perfection. In “The Return of Hong Kong”, he conveys profound emotional connotations through delicate character portrayals and grand narrative scenes, while employing rich colors and clever compositions to achieve formal perfection. Thirdly, pursuing dialogue between the individual and the world. Wang emphasizes the solitude inherent in the artistic creation process, believing that artists need to face their inner loneliness alone and find their own artistic language and expression through continuous self-exploration and discovery. In “The Return of Hong Kong”, he expresses his emotions, thoughts, and ideas through his work, engaging in spiritual dialogue with the audience. Fourthly, keeping pace with the times. Wang’s creations have always been synchronized with the times. He continually explores intrinsic connections and ventures into new paths with his cultural ideals and dedication to presenting exquisite works to the people. In “The Return of Hong Kong”, he demonstrates the firm steps of the Chinese nation on the journey of great rejuvenation through the profound exploration and artistic treatment of historical events.

### **3. Analysis of the work “The Return of Hong Kong”**

“The Return of Hong Kong” is one of Wang Yingsheng’s representative works. Set against the historical event of Hong Kong’s return, the painting skillfully captures the exciting scene through clever composition and rich color usage. With Victoria Harbor in the background, the foreground features the fluttering flags of China and the Hong Kong Special Administrative Region. Behind them, a bustling crowd and the dazzling night view of Hong Kong create a vibrant atmosphere. The entire scene is filled with a celebratory and solemn mood, reflecting the pride and joy of the entire nation as Hong Kong returns to the motherland.

In this work, Wang Yingsheng artistically interprets the official transfer of power from Britain to China. The core of the painting features the flags of China and the United Kingdom, symbolizing this power transition. In the foreground, he strategically places the delegation involved in the handover ceremony and the solemn national emblem. Through symmetrical composition and a frontal perspective, the entire ceremony appears grand and dignified. Notably, a countdown board behind the flags boldly states: “The Chinese government resumes sovereignty over Hong Kong countdown. There are 0 days left until July 1, 1997”<sup>[4]</sup>. This detail adds a strong documentary element to this significant historical event, as if time has been frozen at this pivotal moment.

In the center of the painting, Wang Yingsheng meticulously depicts the individuals involved in the power transfer. They are lined up, with then-Chinese President Jiang Zemin and Prince Charles of the UK in the middle, surrounded by representatives from both sides.

Wang Yingsheng exercises remarkable craftsmanship in shaping the characters. He focuses on capturing the expressions and demeanors of the Chinese and British representatives. The joy and pride on the Chinese side contrast sharply with the melancholy and resignation on the British side. This contrast not only evokes a sense of national pride among the Chinese people but also underscores China’s journey under the leadership



of the Communist Party, washing away the shame of the past and steadfastly moving towards “the Chinese Dream of realizing national rejuvenation, pursuing national prosperity, rejuvenation, and the well-being of the people”<sup>[5]</sup>. Additionally, Wang Yingsheng enhances the painting’s depth and dimensionality by carefully rendering details such as clothing and posture.

Artistically, Wang Yingsheng skillfully incorporates various symbolic and contrasting elements. The fluttering flags of China and Hong Kong not only represent the restoration of national sovereignty but also herald a new beginning for Hong Kong. The vibrant crowd and the glittering night scene form a striking contrast, highlighting Hong Kong’s prosperity and vitality while conveying the deep expectations and wishes of the Chinese people for Hong Kong’s return. Furthermore, the artist’s use of warm tones and contrasting colors adds a festive and celebratory atmosphere to the entire composition.

It is worth mentioning that Wang Yingsheng skillfully links the past, present, and future of Hong Kong through narrative techniques and compositional forms borrowed from traditional mural paintings. In the multiple fragments above the artwork, the first thing that catches the eye is a group of figures dressed in late Qing dynasty attire, which reminds people of the painful history of the Qing government’s ceding of Hong Kong over a hundred years ago. Immediately following this, people see a scene from 1982 where Deng Xiaoping and Margaret Thatcher negotiate Hong Kong’s return. It was during this meeting that Deng Xiaoping firmly expressed the Chinese government’s determination to recover Hong Kong and uphold national sovereignty and unity, pointing the way forward for the successful resolution of Hong Kong’s future. On the right side of the countdown, a solemn and dignified flag-raising ceremony for the national and regional flags is taking place, while the farthest right of the painting shows a jubilant crowd, undoubtedly symbolizing Hong Kong’s bright and hopeful future. The use of such narrative techniques and compositional forms not only enhances the historical depth of the painting but also allows viewers to more deeply understand the historical significance and far-reaching impact of Hong Kong’s return while admiring the artwork<sup>[6]</sup>. The entire work conveys a clear message: Hong Kong’s return to the motherland is the will of the people, and under the correct guidance of the “One Country, Two Systems” basic principle, Hong Kong, backed by a strong motherland, will continue to maintain prosperity and stability<sup>[7]</sup>.

In terms of thematic ideas, “The Return of Hong Kong” is the historical moment of Hong Kong’s return to the motherland and the firm stance on national unity. This artwork is not only an oil painting with extremely high artistic value but also a masterpiece carrying deep historical significance and national emotion<sup>[8]</sup>. At the same time, it expresses the joy and pride of the Chinese people in Hong Kong’s return, while also conveying a firm belief in national unity and territorial integrity. Through artistic means, the work transforms the historical event of Hong Kong’s return into an artistic creation with profound connotations and wide-ranging influence, allowing people to feel the weight of history and the inheritance of culture while appreciating art.

Wang Yingsheng’s “The Return of Hong Kong” has become a classic in the history of Chinese art due to its profound thematic ideas and exquisite artistic expression. It not only witnesses the great significance of the historic moment of Hong Kong’s return to the motherland but also conveys the firm belief and determination of the Chinese nation to pursue national unity and realize national rejuvenation<sup>[9]</sup>. This artwork will forever be remembered in the hearts of the Chinese people, inspiring them to strive for the prosperity and strength of the motherland.

#### 4. The cultural significance and social impact of “The Return of Hong Kong”

As an important artistic work, “The Return of Hong Kong” not only possesses exceptional artistic value but also carries profound cultural significance and social influence.

In terms of cultural significance, first and foremost, it highlights the theme of national unity and rejuvenation. Through artistic means, “The Return of Hong Kong” showcases the historical moment of Hong Kong’s return, embodying the profound theme of national unity and rejuvenation. Elements such as the raised flags of China and the United Kingdom, the solemn ceremony of power transfer, and the presentation of the national emblem fully demonstrate the significance and gravity of this historical event. This cultural expression not only ignites the national pride of the Chinese people but also underscores the determination and belief in the gradual realization of the great rejuvenation of the Chinese nation under the leadership of the Communist Party of China. Secondly, it reflects the exchange and integration of Chinese and Western cultures. Hong Kong, as a crucial intersection of Chinese and Western cultures, its return signifies not only political unity but also cultural exchange and integration <sup>[10]</sup>. In Wang Yingsheng’s work, the diversity and inclusivity of Hong Kong culture are exhibited through the narration and elaboration of Hong Kong’s past, present, and future <sup>[11]</sup>. This cultural expression enriches the cultural connotations of the Chinese nation and provides valuable references for the exchange and integration of Chinese and Western cultures.

In terms of social impact, “The Return of Hong Kong” first and foremost stimulates social cohesion and patriotic fervor. As a work with profound historical connotations and national sentiment, its presentation of a dignified, solemn, and joyful atmosphere deeply infects the vast audience. Through the power of art, this work ignites social cohesion and patriotic fervor, making people more profoundly aware of the importance of national unity and rejuvenation while appreciating art. This social impact is reflected not only in the commemoration and review of historical events but also in the inspiration and motivation for contemporary society <sup>[12]</sup>. Secondly, it promotes the development and innovation of contemporary art. Wang Yingsheng employs rich artistic techniques and innovative composition methods in “The Return of Hong Kong”, successfully combining historical events with artistic creation, providing valuable references and insights for the innovation and development of contemporary art. This work not only showcases Wang Yingsheng’s artistic talent and creativity but also reflects contemporary artists’ unique perspectives and deep reflections on handling historical themes and expressing the national spirit <sup>[13]</sup>. The work quickly garnered attention and discussion from various sectors of society after its exhibition, becoming one of the cultural focal points of the time. Through appreciating this work, people not only felt the artist’s creative talent and artistic charm but also deeply understood the importance and significance of the historical event of Hong Kong’s return. Furthermore, this work has inspired more artists and creators to engage in artistic creations centered on significant national events, thus promoting the prosperity and development of Chinese contemporary thematic art.

In conclusion, through in-depth research and analysis of Wang Yingsheng’s “The Return of Hong Kong”, people can more deeply recognize the important status and value of the historical event of Hong Kong’s return in Chinese history and culture. Simultaneously, people should also acknowledge that the themes of national unity, rejuvenation, and the exchange and integration of Chinese and Western cultures embodied in this work have profound implications for advancing social progress and cultural development today. Therefore, people should place greater emphasis on and pay more attention to the development and innovation of contemporary art, contributing more artistic power to realizing the Chinese dream of national

rejuvenation.

## Disclosure statement

The authors declare no conflict of interest.

## Reference

- [1] Chen XX, 2003, New Introduction to Deng Xiaoping Theory. Oriental Publishing Center, Shanghai, 258.
- [2] Zeng XH, 2001, The Great Transition. Xinjiang People's Publishing House, Xinjiang, 221.
- [3] Han ZY, 2022, Portrait of the People. Jiangsu Phoenix Fine Arts Publishing House, Jiangsu, 142.
- [4] Fan D, 2024, Preface to Academy: The True Colors — Wang Yingsheng Painting Exhibition. <https://yangbo.cctv.com/2024/06/19/ARTIJqhdeAN0b6MJUqMUx7Pq240619.shtml>
- [5] Ji JL, Liu YY, Xu JY, 2017, 20 Years of Return: A Personal Account by a Committee Member. People's Political Consultative Conference Newspaper, June 30, 2017, 6.
- [6] Na HS, Sun N, 2019, Regional Cultural Symbols and Feature Aggregation from the Perspective of Art Creation. Journal of Northeast Normal University (Philosophy and Social Sciences Edition), 2019(2): 170–175.
- [7] Chen R, 2023, Using Culture and Art as a Medium to Promote Dialogue between Chinese and Foreign Civilizations. People's Daily, May 7, 2023, 6.
- [8] Huang ML, Tian T, 2013, Research on the Era Imprint and Cultural Adaptation of Oil Painting Art. Hundred Schools in Arts, 29(2): 216–217 + 191.
- [9] Huang MF, 2013, Bias: From Calligraphy, Digital Art to Cultural Industry. Hundred Schools in Arts, 29(6): 83–91.
- [10] Zhang HS, Wang XY, 2012, Art Aesthetic Education in the Context of Contemporary Chinese Popular Culture. Hundred Schools in Arts, 28(3): 78–81 + 134.
- [11] Chu XQ, 2016, The Impact of Technological Progress on Artistic Creation Concepts and Aesthetic Value Orientation. Hundred Schools in Arts, 32(1): 130–156 + 163.
- [12] Huai W, Gao J, 2006, The Symbolic Function of Artwork Design in the Environment. Packaging Engineering, 2006(2): 167–170.
- [13] Chen L, 2022, Utilizing Hong Kong's Unique Advantages in Co-building a Cultural and Leisure Bay Area. China Culture Newspaper, July 21, 2022, 2.

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# Exploration and Practice of Integrating the Spirit of the Great Northern Wilderness into the Training Process of Basic Medical Graduate Students

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**Abstract:** Postgraduate education in basic medical sciences is the primary pathway for cultivating advanced scientific research talents in China's medical field. However, with the increasing demands of medical education, the limitations of traditional educational models have gradually emerged, somewhat restricting the formation of correct values among postgraduate students in basic medical sciences. The spirit of the Great Northern Wilderness, as a crucial component of the Chinese Communist Party's spiritual lineage, has now become a significant ideological and political element in modern teaching. By incorporating the spirit of the Great Northern Wilderness as an ideological and political element, teachers are encouraged to foster the spirit of hard work, courageous exploration, overall consideration, and selfless dedication among postgraduate students in basic medical sciences through improvements in classroom teaching methods, specialized teaching content, and situational teaching experiences. By integrating the ideological and political elements of the Great Northern Wilderness spirit into talent cultivation goals, requirements, and curriculum system construction during the training of postgraduate students in basic medical sciences at Jiamusi University, the aim is to cultivate students who can carry the spirit of hard work and courageous exploration into their future workplaces.

**Keywords:** Great Northern Wilderness spirit; Moral education; Basic medical sciences

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## 1. Background and specific connotation of the Great Northern Wilderness spirit

The Great Northern Wilderness spirit represents the spirit of hard work in facing difficulties and striving forward, the spirit of courageous exploration in being enterprising and daring to be the first, the spirit of considering the overall situation with a high standpoint and a broad mind, and the spirit of selfless dedication

without seeking rewards or being willing to sacrifice. The Great Northern Wilderness spirit, along with the Yan'an spirit and Daqing spirit, are precious spiritual treasures of the Chinese nation and important components of the great spirit of the Chinese Communist Party <sup>[1]</sup>. In September 2021, the Great Northern Wilderness spirit was included in the first batch of the Chinese Communists' spiritual lineage promoted by the Propaganda Department of the Central Committee of the Communist Party of China, ranking first among the "Four Spirits" of Longjiang. As a local historical culture, it has become an important resource tailored to local conditions and has gradually been enriched in the teaching materials of ideological and political courses in universities. In 2018, the Chairman of the CCP pointed out at the National Education Conference: "We should integrate moral education into all aspects of ideological and moral education, cultural knowledge education, and social practice education" <sup>[2]</sup>. The ideological consciousness, values, and moral orientation carried by the Great Northern Wilderness spirit are highly aligned with the great historical mission of cultivating talents who are comprehensively developed in "moral, intellectual, physical, aesthetic, and labor" education, bearing inherent consistency. Therefore, the university has taken the lead in integrating the "Great Northern Wilderness" spirit into moral education, launching teaching practices on September 1, 2021. The curriculum design combines domestic professional teaching requirements and practices over the past ten years while drawing on the teaching requirements of Peking University, developing the construction and practical education of the ideological and political curriculum system.

## **2. Problems encountered in the practice process**

This batch of graduate students was born in the prosperous China of the new century so they have not experienced a hard life. Coupled with being the beloved children of their families, this has led them to often be self-centered and lack a spirit of dedication. With the advancement of technology, they receive complex information every day through the internet and other means. At the same time, the ideological and cultural infiltration of Western countries into China has led to increasingly complex and severe challenges to the dominant position of Marxism. Under the influence of these factors, their ideals and beliefs have become blurred, political convictions have become confused, and their sense of responsibility towards the country, society, and family has also weakened <sup>[3]</sup>. For example, some students show indifference to major events in national politics and social development. When dealing with the relationship between personal, social, and collective interests, they tend to favor personal needs, be self-centered, and advocate egoism. The prevailing trend of comparison in school ignores the actual situation of families, advocating brand names and pursuing high consumption. These behaviors reflect a lack of awareness of responsibility among students. Most importantly, their current understanding of the Great Northern Wilderness is still in a barren state. How to teach ideological and political courses well, and how to seamlessly connect the spirit of the Great Northern Wilderness with professional knowledge, so that ideological and political courses really penetrate their minds, is a topic that our school is exploring.

## **3. Integrating the spirit of the Great Northern Wilderness into student training**

### **3.1. Incorporating elements of the Great Northern Wilderness spirit into talent cultivation goals**

The spirit of the Great Northern Wilderness is summarized as "hard work, courageous exploration,

considering the overall situation, and selfless dedication.” In the new era, when the spirit of the Great Northern Wilderness is integrated into teaching, it has a new connotation <sup>[4]</sup>. For research-oriented basic medical graduate students, hard work is a significant advantage in overcoming various difficulties, risks, and challenges, and continuously moving toward victory. It is the spiritual outlook that contemporary youth should have, as courageous exploration is the lifeblood of the new era, and it is a powerful spiritual force for basic medical graduate students to dare to pursue a better life on the road of scientific research. Considering the overall situation can improve the sense of responsibility and mission of basic medical graduate students, guide them to establish lofty ideals, cultivate a sense of historical responsibility, and form a correct worldview. Selfless dedication can strengthen collectivist education, guide them to handle the relationship between personal and collective interests, love and care for the collective, and enhance their sense of responsibility and mission.

### **3.2. How to integrate the Great Northern Wilderness spirit into the curriculum system**

Integrating the spirit of the Great Northern Wilderness into ideological and political education in universities is a systematic process that requires multi-factor, multi-measure, and multi-link coordination. It is necessary to grasp the fundamental goal of “what kind of people to cultivate, how to cultivate people, and for whom to cultivate people” and gather the strength of various departments to achieve educational effects. Firstly, it is important to understand the educational principles of the Great Northern Wilderness spirit. When conducting education on the Great Northern Wilderness spirit, teachers should have a pragmatic spirit and accurately and comprehensively understand the formation, connotation, function, and value of the Great Northern Wilderness spirit. They should also keep pace with the times, and combine the dedication, exploration, and struggle spirit of the Great Northern Wilderness with students’ learning and life based on the actual situation of students’ thoughts and lives, and the development background of the new era. Effective integration should be achieved in specific activities such as classroom teaching, social practice, and campus culture. To integrate the spirit of the Great Northern Wilderness into ideological and political education that fosters morality and cultivates talent, it is necessary to grasp students’ ideological dynamics and psychological needs, fully leverage subjective initiative, and stimulate students’ enthusiasm for participating in classroom teaching activities and campus cultural activities. A “two-way interaction” teaching method should be adopted to strengthen interaction and communication between teachers and students, deepening their understanding and emotional identification with the spirit of the Great Northern Wilderness <sup>[5]</sup>.

## **4. Specific measures for curriculum implementation**

### **4.1. Integrating the spirit of the Great Northern Wilderness into classrooms and conducting ideological and political theory teaching**

Classroom teaching is the most basic and stable form of education. Infusing the spirit of the Great Northern Wilderness into classroom teaching is the primary way to effectively communicate its values. As the main role in teaching, teachers play a pivotal role throughout the entire process. Before teaching, teachers should comprehensively understand the overview of the Great Northern Wilderness, focusing on important events and historical milestones. They should develop a complete teaching plan that covers the origins of the Great Northern Wilderness, the connotations of its spirit, and events related to General Wang Zhen. Students, based on the teaching plan, should preview the content before class, expand their thinking by referring to

relevant articles and materials, and take notes on areas they are curious about for discussion in class. This approach can effectively mobilize students' initiative in learning. In class, teachers can pose questions based on historical events, guiding students to think and provide their answers<sup>[6]</sup>. Through individual presentations, group discussions, and collective debates, students' abilities to analyze and solve problems are stimulated, their thinking skills in summarization and induction are honed, and their patriotic sentiments are cultivated.

#### **4.2. Conducting practical teaching of ideological and political courses with the theme of the Great Northern Wilderness spirit**

Teaching with the theme of the Great Northern Wilderness focuses on "experience", which differs from traditional practical teaching methods. Practical teaching of ideological and political courses themed around the Great Northern Wilderness should first present students with the background and formation process of the spirit. Through practical teaching based on this background, students can understand that the formation of the Great Northern Wilderness spirit is closely related to the arduous struggle of three generations of settlers who took root and cultivated the land, the realistic demand for national food security since the founding of New China, and the country's continuous exploration of an independent development path<sup>[7]</sup>.

According to the talent cultivation plan in higher education, the practical teaching component of ideological and political courses should be completed within the academic semester, rather than during vacations, and typically falls under the category of compulsory courses for all students. This allows for the full utilization of the educational resources provided by the collaboration between Jiamusi University and the Great Northern Wilderness group. The university organizes students to visit on-site teaching locations within the Great Northern Wilderness group, enabling them to immerse themselves in the glorious entrepreneurial history of the people of the Great Northern Wilderness and receive firsthand education and inspiration from its spirit. Considering the coverage of practical teaching and the coordination of schedules with other theoretical courses, the bases for practical teaching of ideological and political courses focusing on the Great Northern Wilderness spirit should primarily be located at farms belonging to the Great Northern Wilderness group in the surrounding areas of the university. The distribution of various branches and farms of the Great Northern Wilderness Group can adequately meet the practical teaching requirements of universities within Heilongjiang Province. For example, universities in Harbin can use the headquarters of the Great Northern Wilderness group and farms under the jurisdiction of the Harbin branch as practical bases, while universities in Qiqihar and Daqing can utilize agricultural and pastoral farms under the jurisdiction of the Qiqihar branch<sup>[8]</sup>. Through this approach, students recognize that the spirit of the Great Northern Wilderness was formed in response to the needs of the country, the people, and the times, generation after generation. Practical teaching based on the formation background and history of the Great Northern Wilderness spirit promotes a deeper understanding of its connotations and essence among students, achieving the educational goals of practical teaching.

#### **4.3. Guided by ideological and political courses, implementing the fundamental task of cultivating morality and talent**

Innovative talent cultivation has always been the primary task of postgraduate education<sup>[9]</sup>. For the postgraduate training system of basic medical sciences at the university, the university consistently emphasizes the equal importance of knowledge, ability, and character, building a talent cultivation system



that values both ability and character. Cultivating the character of morality and talent among postgraduate students in basic medical sciences cannot be separated from the guidance of excellent spirits. The connotation of the Great Northern Wilderness spirit is open, dynamic, and developing, and its significant leading role has never been outdated. The university leadership has decided to integrate the “Great Northern Wilderness” spirit into morality and talent education, allowing students to embody the spirit while cultivating their morality and talent, realizing self-worth in the new era.

Academic ethics is the “lifeblood” for research-oriented postgraduate students. Academic ethics education serves as the behavioral guidelines and norms for postgraduates engaged in academic activities. The university holds monthly academic lectures with the theme of “Cultivating Morality and Talent as the Fundamental Goal, Guided by the Connotation of the Great Northern Wilderness Spirit.” Additionally, the university fully utilizes new media and online education platforms to conduct thematic education on academic ethics and cultural activities for postgraduate students. The university establishes multi-dimensional integrity archives for postgraduates, including academic performance, research, and employment, strengthening the construction of the academic atmosphere, enhancing supervision systems, guiding postgraduates to establish correct life and values, fostering a healthy academic perspective, cultivating a spirit of scientific innovation, and creating a clean and upright academic environment.

## 5. Discussion

The integration of the Great Northern Wilderness spirit, morality, and talent education into ideological and political courses has gradually been implemented in various domestic universities. With the advancement of national deepening medical-education collaboration and ideological and political education reform, the gap between the university’s ideological and political education model and top universities in China is gradually narrowing<sup>[10]</sup>. As the first school to integrate the Great Northern Wilderness spirit into morality and talent education, the university has gradually improved and matured its integrated curriculum reform over two years, yielding remarkable results. The university has accumulated valuable experience in theoretical exploration, system establishment, teaching practice, management, and evaluation reconstruction. Drawing on the successful experiences of domestic universities and considering the location in the Northeast region with a significant number of students from the three northeastern provinces, the university has unique advantages for teaching. The university has established a new theoretical system, internship courses, integrated courses, and other methods. Following the model of conducting theoretical courses with the theme of the Great Northern Wilderness spirit, practical courses with the same theme, and integrating morality and talent education into ideological and political courses, the university conveys the connotation of the Great Northern Wilderness spirit to the students.

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## References

- [1] Li J, Liu LJ, Su W, 2022, Analysis on the Teaching Practice Path of Integrating the Great Northern Wilderness Spirit into Ideological and Political Courses in Universities. *Daqing Social Sciences*, 235(6): 91–95.
- [2] Sun P, Jiang JT, 2018, Research on the Implementation Mechanism of Xi Jinping’s “Cultivating Morality and Talent” Ideology in Ideological and Political Education for Medical Students. *Heilongjiang Education*, 1251(7): 82–84.
- [3] Huang BY, Jiang B, 2022, Research on the Collaborative Education Model of Cultivating Morality and Talent for Postgraduate Students in the New Era. *Journal of Hubei Institute of Adult Education*, 26(1): 72–76.
- [4] Li J, Liu LJ, Su W, 2022, Analysis on the Teaching Practice Path of Integrating the Great Northern Wilderness Spirit into Ideological and Political Courses in Universities. *Daqing Social Sciences*, 235(6): 91–95.
- [5] Zhou SX, Jiang ZQ, 2019, Application of MDT Teaching Method in Practical Teaching of Geriatric Nursing. *China Continuing Medical Education*, 11(35): 37–39.
- [6] Pang M, Li SK, Li JX, 2022, Exploration on the Innovation Cultivation Path of Postgraduate Students in Basic Medical Sciences. *Continuing Medical Education*, 36(10): 13–14.
- [7] Han NY, Pang JM, 2022, The New Era Connotation and Value Guidance of the Great Northern Wilderness Spirit in the Context of Longjiang Revitalization. *Farm Economic Management*, 2022(11): 38–40.
- [8] Zhou X, 2022, The Value and Method of Enriching Ideological and Political Courses in Universities with Local Historical and Cultural Resources. *Party Building and Ideological Education in Schools*, 677(14): 55–57.
- [9] Mi RF, Fu S, 2017, Exploration of Methods for Cultivating Innovative Thinking Ability of Postgraduate Students in Basic Medical Sciences. *Medical Education Management*, 3(1): 76–78 + 87.
- [10] Jiang J, Tong PP, Hong JJ, et al., 2024, Research on the Integration Path of Postgraduate Professional Courses into the Construction of Curriculum Ideology and Politics. *Journal of Contemporary Educational Research*, 8(6): 221–226.

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# Research on the Integration and Innovation Development of College Physical Education and Aesthetic Curriculum under the Background of Digital Transformation

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**Abstract:** Under the background of “five education integration,” the integration of sports and aesthetic education in colleges and universities not only meets the requirements of education reform but also is an important fitting point to cultivate students’ comprehensive quality and promote the development of students’ physical and mental health. Under the digital background, the rapid development of information fusion for physical education and aesthetic education in colleges and universities has brought new opportunities. Work in colleges and universities should actively promote educational reform, innovating teaching modes, and optimizing the campus sports culture. Therefore, colleges and universities should combine the characteristics of national policy, education, and student demands to actively explore aesthetic education in sports teaching, improve the university sports teaching quality, and enhance students’ quality.

**Keywords:** College sports aesthetic education teaching; Education reform; Digital background

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## 1. Introduction

Amid ongoing educational reforms, colleges and universities increasingly emphasize students’ overall educational quality. Unlike traditional educational concepts, focusing on cultivating students’ comprehensive skills aligns with the demands of the digital age. Within this context, integrating physical education with aesthetic education in college curricula not only supports institutional educational goals but also meets societal needs. Physical education primarily aims to enhance students’ physical fitness, while aesthetic education focuses on developing students’ aesthetic awareness and sensitivity. These areas are interrelated and mutually reinforcing. In college sports instruction, teachers should blend physical and aesthetic

education, introducing diverse content and teaching methods to foster students' comprehensive development.

## **2. The relationship between college physical and aesthetic education in the context of digitalization**

Guided by the “education and” concept, merging college physical education and aesthetic education can meet society's demand for well-rounded talent in the digital age. This integration also reflects the evolving standards and content of a modern educational system <sup>[1]</sup>. With the rapid development of society, sports culture is experiencing a period of significant growth. In college sports curricula, teachers should focus on enhancing students' physical fitness and strengthening their athletic abilities. To achieve this, educators should consider students' age, educational characteristics, and individual needs to develop well-rounded educational goals and introduce innovative teaching methods. This approach will help to deepen the integration of physical education and aesthetic education. Additionally, in terms of activity type, sports not only strengthen students' physical fitness but also serve as a vehicle for moral and aesthetic education. Integrating these aspects can highlight the distinctiveness of this approach compared to traditional sports teaching methods, showcasing the unique value of combining physical education with aesthetic education <sup>[2]</sup>. Through the integration of sports and aesthetic education, college teachers can effectively improve students' physical fitness, improve their aesthetic sentiment, and realize their all-round development.

## **3. Digital aesthetic education and the integration of innovation and development in college sports curricula**

### **3.1. Supporting the concept of five-education integration in higher education**

Amid the era of digital transformation, sports education in colleges and universities has entered a stage of high-quality development. Physical education has evolved from traditional methods to focus on cultivating well-rounded talents in morality, intelligence, physical fitness, and the arts. Physical and aesthetic education, as essential parts of college curricula, play a crucial role in developing students' comprehensive skills. Sports, as a form of physical and mental activity, not only enhance students' physical fitness but also foster willpower and teamwork. Aesthetic education, through exposure to art and cultural activities, effectively enhances students' cultural understanding and values <sup>[3]</sup>. The integration of these two disciplines allows them to complement each other, promoting students' holistic physical and mental growth and achieving a balanced approach to moral, intellectual, physical, and aesthetic education.

### **3.2. Facilitating the deepening of physical education reform**

In 2021, the Ministry of Education issued the Sports and Health Teaching Reform Guidelines (Trial), which highlight the need for colleges and universities to further reform teaching by developing a scientific, reasonable, and effective model for physical education curricula. These guidelines encourage students to appreciate the appeal of sports, experience the enjoyment, and build physical fitness, resilience, and a healthy personality. In the digital transformation era, the goal of university sports education has shifted from simply enhancing physical fitness to cultivating students' overall qualities. This transformation reflects the integration of sports and aesthetics, supporting the deeper reform of physical education in higher education institutions <sup>[4]</sup>.



### **3.3. Promoting development in the new era**

In the context of the digital age and accelerating economic globalization, society and the market place higher demands on the talent cultivated by colleges and universities. Traditional teaching methods in aesthetic and physical education can no longer fully meet the evolving needs of the times and industry changes. Therefore, universities must adopt a scientific, comprehensive approach in talent development suited to the current era <sup>[5]</sup>. As key institutions in modern education, universities not only bear the responsibility of providing professional talent to society but also play a pivotal role in advancing educational progress. In the new educational landscape, there is growing attention from the state and society to sports education. Universities uphold the concept of “heart” physical education, guiding students to master fundamental sports knowledge and skills while enhancing their overall abilities and qualities <sup>[6]</sup>.

## **4. Challenges in integrating aesthetic and physical education curricula in colleges and universities**

### **4.1. Lack of comprehensive educational concept**

Historically, colleges and universities have focused on “strengthening physical fitness and promoting health” as the primary goal of physical education to develop talent. However, as educational reforms continue, quality education has become the core focus for schools. Quality education not only aims to cultivate students’ comprehensive skills but also emphasizes the development of their moral, physical, and psychological well-being. Physical education, as a course that enhances physical fitness and sports skills, is rich in educational value and closely linked to aesthetic education. Yet, due to outdated educational concepts, some institutions do not fully recognize the importance of integrating sports with aesthetic education, making it difficult to fully realize the aesthetic value within college sports programs <sup>[7]</sup>.

### **4.2. Insufficient teacher competency**

Teachers play a critical role in executing the integration of sports and aesthetic education, and their educational level directly impacts the effectiveness and quality of this integration. To successfully teach sports and aesthetic education, teachers need four essential qualities: excellent professional skills, high professional standards, profound theoretical knowledge, and strong forward-thinking awareness <sup>[8]</sup>. These factors are crucial for enhancing students’ overall abilities and quality. However, in the traditional teaching system, some teachers have followed a standardized teaching approach without focusing on improving their abilities and fostering innovative thinking. This has negatively impacted both teaching quality and outcomes.

### **4.3. Incomplete course system**

Under the guidance of the concept of quality education, some universities have gradually recognized the importance of aesthetic education in sports teaching. However, the existing course system still has significant shortcomings. Firstly, the content of the sports and aesthetic education curriculum lacks clarity. Currently, aesthetic elements are often incorporated into sports teaching without aligning them with the characteristics of the era or conducting case analysis and exploration. As a result, students struggle to understand the fusion of sports and aesthetics, making it difficult to achieve the goal of comprehensive education <sup>[9]</sup>. Secondly, the teaching design is not sufficiently well-structured. In sports and aesthetic education, teachers should not only focus on improving students’ physical fitness but also enhance their aesthetic awareness and understanding

during physical activity. This requires teachers to design teaching content, methods, and objectives in a scientifically sound and reasonable manner.

#### **4.3.1. Optimize the teaching staff and improve integration quality**

Firstly, it is essential to improve teachers' internet literacy. With the rapid advancement of digital transformation and the increasing application of Internet technology in classroom teaching, teachers must enhance their digital skills. In addition to optimizing the teaching staff, universities should focus on guiding teachers to continually update their teaching ideas and innovate their teaching methods to improve both teaching quality and effectiveness.

To achieve this, colleges and universities should align with the times and address student needs by cultivating teachers' internet thinking <sup>[10]</sup>. This approach will help teachers keep pace with the rapid developments in education. For instance, universities could organize training sessions and seminars centered around "Internet Thinking," encouraging teachers to participate. This would allow them to fully understand the profound changes brought about by Internet technology and its significance for educational and teaching practices, particularly in physical education. Through such training, teachers can shift their traditional teaching mindset, enhance their understanding of Internet technology, and better utilize it to integrate aesthetic education into sports teaching.

Secondly, enhancing teachers' aesthetic literacy is essential. Teachers are the key figures in teaching sports and aesthetic education in colleges and universities and serve as guides for students' learning. Physical education (PE) teachers not only need to impart knowledge and develop students' sports abilities but also nurture their aesthetic and artistic cognitive skills. Teachers' aesthetic qualities play a crucial role in promoting students' overall development.

To address this, colleges and universities should improve teachers' aesthetic literacy through various methods and help them recognize the value and significance of integrating sports and aesthetic education. First, teachers should actively seek to accumulate knowledge related to aesthetic education theory, continuously enrich their own aesthetic experiences, and enhance their aesthetic abilities. They should challenge themselves to notice beauty in everyday life and improve their capacity for perception and expression, thereby elevating their aesthetic accomplishment <sup>[11]</sup>.

Second, universities can organize art-related activities, such as visits to art exhibitions and concerts, to spark teachers' interest in the arts and improve their aesthetic appreciation. Third, colleges and universities can create platforms for teachers to exchange ideas about aesthetic education. This would allow them to share teaching experiences and materials, learn from one another, and ultimately improve their overall level of aesthetic education.

#### **4.3.2. Improve the curriculum system and focus on teaching connections**

In the modern education system, society and industry are placing increasing emphasis on cultivating interdisciplinary talents. Against this backdrop, the concept and practice of interdisciplinary teaching have gained significant attention in the field of education <sup>[12]</sup>. In the process of aesthetic education in sports teaching, college instructors should refine the classroom system by setting clear educational goals and integrating interdisciplinary teaching methods. This will enhance various aspects of the teaching process.

The first approach involves using a "physical education and aesthetic education" teaching model.

A modular teaching approach not only ensures the effectiveness of sports education but also enables the integration of aesthetic education. For example, in a long-distance run test, teachers can incorporate fitness apps and tailor them to the student's needs by pairing different music with their activities. This helps students experience beauty through rhythm, appreciate beauty, and even create beauty. The second approach involves incorporating a variety of sports practices and including elements of dance. This can enrich the student's learning experience, blending movement and art to further enhance the aesthetic aspect of sports education <sup>[13]</sup>.

For example, teachers can guide students in creating sports dances and organizing a campus sports dance competition, where sports and dance art are closely integrated. This combination showcases the artistic and harmonious aspects of sports, helping students appreciate the charm of sports and further boosting their interest in learning. The third aspect, college teachers should fully utilize classroom evaluations. Specifically, teachers need to design a specific and scientific evaluation system based on the teaching objectives in physical education. Moreover, in practice, teachers should assess students' techniques, actions, and beauty as a whole <sup>[14]</sup>. For instance, teachers can encourage students to participate in sports club competitions and organize an online voting system where students and faculty select the "most beautiful players." This approach not only boosts students' confidence and sense of achievement but also nurtures their awareness of discovering and creating beauty. Integrating aesthetic education into physical education teaching can stimulate students' enthusiasm, enhance the appeal of sports, and encourage them to deepen their understanding and appreciation of art. This process improves their perception of beauty, both in sports and in their bodies.

#### **4.3.3. Innovation in the classroom teaching model for achieving comprehensive development**

In the context of digital transformation, the teaching model for college physical education is undergoing significant reform. With the rapid development of the internet and information technology, these tools have been widely applied in the field of education. On this basis, college teachers are making full use of information technology to establish online teaching platforms, guiding students to access online educational resources. This helps students acquire a broader range of physical education and aesthetic theory knowledge, ultimately enhancing their cognitive and comprehension abilities <sup>[15]</sup>.

At the same time, teachers can use the online learning system to create a platform for sports and aesthetic education, where they can upload previous course materials, learning resources, and explanatory videos. Students can then independently study these materials and complete the associated tasks. By integrating online platform teaching methods, teachers can access the latest sports knowledge and diverse approaches to integrating aesthetic education in sports. This also allows them to fully utilize various dynamic and rich teaching resources, guiding students to appreciate the charm and artistic beauty of physical education, ultimately boosting their enthusiasm for learning.

## **5. Conclusion**

In summary, in the context of digital transformation, colleges and universities offering sports and aesthetic education courses can meet society's demand for high-quality talents, while also reflecting the characteristics of the times. The integration of sports and aesthetic education not only enhances students' physical fitness but also improves their aesthetic taste and artistic character, thus promoting their overall development.

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## References

- [1] Cai Z, 2024, The Integration of Physical Education and Aesthetic Education in Our Country's Colleges in the New Era: Necessity, Feasibility, Challenge and Path. *Contemporary Sports Science and Technology*, 14(16): 5–8.
- [2] Zhang H, Dong Z, 2024, Reform and Development of Aesthetic Education of University Sports Dance Guided by Practice. *Sports Fashion*, 2024(02): 101–103.
- [3] Lv Y, 2023, Research on the Expression Form and Practice Path of Dance Rhyme Yoga Aesthetic Education in Colleges and Universities in the New Era. China Intelligent Engineering Research Society, China Bandy Association, Guangdong Physical Fitness Association. *Proceedings of the 10th China Physical Training Science Congress (I)*. Graduate Work Department of Shenyang University of Physical Education, 2023: 4.
- [4] Li S, Wang J, 2023, Research on Innovation Path of University Sports Dance Club from the Perspective of Aesthetic Education — Taking Tianjin University as an Example. Chinese Society of Sports Science. *An Abstract Collection of Papers of the 13th National Sports Science Congress — Written Communication (Constitution and Health Branch)*, Beijing Sport University, 2023: 2.
- [5] Yin F, 2023, Current Situation and Quality Improvement Strategy of Aesthetic Education for College Physical Education Teachers under the Background of Core Literacy. *Physical Education Science and Technology*, 44(05): 162–164.
- [6] Yang T, 2023, Exploration of Aesthetic Education Penetration in College Physical Education — The Integration of Track and Field and Aesthetic Education. *Journal of Hebei Institute of Energy Technology*, 23(03): 87–90.
- [7] Qiu Y, 2023, Cultural Integration and Curriculum Setting — Aesthetic Transformation of Physical Education in Colleges and Universities. *Journal of Heihe University*, 14(03): 170–173.
- [8] Zhang Y, Shi Q, 2022, Research on the Training of College Sports Dance Teachers under the Background of Aesthetic Education — Taking Beijing City University Dance Performance (Sports Dance and Education) as an Example. *China Ethnic Expo*, 2022(16): 83–85.
- [9] Mu X, Zhang B, 2022, The Aesthetic Education Model and Path of “Five-Hall Linkage” in College Physical Education. *Sports Perspective*, 2022(15): 42–44.
- [10] Zhu R, 2022, Research on Teaching Innovation Practice Of University Sports Dance Optional Course from the Perspective of Aesthetic Education, thesis, Guangzhou Institute of Physical Education.
- [11] Zhou Y, 2021, Feasibility Analysis of Aesthetic Education Curriculum Construction in College Physical Education Major, thesis, Southwest University.
- [12] Wang J, 2020, Research on the Practical Path of “Aesthetic Education” of University Sports Dance under the Background of the New Era. *Sports Excellence*, 39(10): 30–31.
- [13] Han J, Zou Y, Xu G, 2020, Research on the Value and Practical Path of Aesthetic Education in College Physical

Education. Youth Physical Education, 2020(04): 33–34.

- [14] Zong X, Cao B, 2024, Value and Path of Integrating Aesthetic Education into College Physical Education in the New Era. Sports Perspective, 2024(09): 39–41.
- [15] Han C, 2024, Aesthetic Education, Physical Education and Labor Education take Moral Education as the Convergence Point. Journal of Liaoning Normal College (Social Science Edition), 2024(02): 86–88.

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# Research on the Optimization of Teaching Methods for Law General Courses in Higher Vocational Colleges

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**Abstract:** Under the influence of the concept of “governing the country according to law,” the general law course has been paid more and more attention by higher vocational teachers. Its teaching goal is to pass on basic and common-sense legal knowledge to students, cultivate the most basic legal awareness and legal literacy of students, improve students’ cognition of law and illegal behavior in life, shape the correct three views for students so that students can use the power of law to protect their legitimate rights and interests. To improve the teaching level of law general courses in higher vocational colleges and reflect the teaching effectiveness of this course, teachers should actively optimize the teaching methods of law general courses. This paper briefly analyzes the problems existing in the current law general course teaching optimization and the necessity of teaching reform and puts forward some teaching methods that can improve the teaching effect of the course.

**Keywords:** Higher vocational colleges; General law course; Teaching method; Optimization strategy

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## 1. Introduction

With the continuous advancement of quality education, the overall comprehensive quality and education level of social citizens have been significantly improved, more social citizens know the law and understand the law. Abiding by the law has become the consensus of society, legal knowledge has gradually become the practice criterion and basis of people’s production and life, and the concept of “governing the country according to law” has become more popular<sup>[1]</sup>. In such a social environment, no matter whether law students or not, they all need to know the most basic legal knowledge. Therefore, as a front-line unit to cultivate talents, higher vocational colleges offer law general courses and optimize the teaching methods of these courses to become the joint work of schools and teachers. The law courses in higher vocational colleges are usually for non-law students, who often lack basic legal knowledge and have little interest in learning. The

mundane and esoteric legal theories also increase the difficulty of learning. Therefore, how to effectively implement the basic law education for this group and how to carry out the teaching activities of the basic law courses in detail have become important problems that need to be solved urgently.

## **2. The present situation of teaching optimization of general law courses in higher vocational colleges**

Education and teaching should always adhere to a “student-centered” approach, establish problem awareness, and maintain a problem-oriented focus, particularly in the implementation of basic law courses. Specifically, as the teacher of this course, the primary task is to conduct an objective analysis of the learning situation—first understanding the students, and then focusing on the class. Therefore, students should be thoroughly interviewed and surveyed to gain a true understanding of their career needs, learning abilities, interests, preferences, and the difficulties they face in learning the fundamentals of law. This enables the teacher to design classroom cases that are truly targeted and address students’ needs.

### **2.1. The compatibility with professional law courses are low**

Law general courses, aimed at non-law students, are an important way for higher vocational colleges to provide legal education. However, the pan-entertainment society and online environment lead college students to generally pay little attention to the systematic study of legal theories. The primary source of legal knowledge for them comes from hot news shared by the media, which often results in fragmented information. To attract attention and traffic, some media outlets deliberately create antagonism and anxiety, taking legal knowledge out of context and maliciously deconstructing it. As a result, students may develop a misguided understanding of the law after encountering such misleading information <sup>[2]</sup>. In addition, some non-law majors approach law general courses with a “utilitarian” mindset, believing that these courses have little relevance to their own fields and that learning legal knowledge will not benefit their future careers. As a result, they often study these courses solely to “earn credits.” Therefore, when designing general law courses, vocational teachers should carefully consider these issues. They should select case studies related to students’ major to increase the relevance of the law courses, helping students understand the connection between their field of study and the law, and clarifying the significance of learning legal principles.

### **2.2. Legal theory fails to stimulate students’ interest**

The theoretical, logical, and systematic nature of law is highly pronounced. Each legal provision has been carefully deliberated by legislators and professionals, reflecting a complex network of interests and conflicts. Abstract legal principles, obscure legal provisions, and a complicated legal system make it even more challenging for students without a legal background to grasp the material <sup>[3]</sup>. Judging from the current teaching situation, students in higher vocational colleges often exhibit poor self-control and a lack of enthusiasm for learning general legal knowledge. Moreover, most students approach this course in a formalized manner, leading to a situation where teachers end up “performing a one-man show” in class, with students acting as “audience.” As a result, students have low acceptance of legal knowledge, and the teaching effect suffers. In response, teachers should actively reform their teaching methods by selecting legal cases that capture students’ interest. Storytelling can be used to stimulate students’ curiosity and engage them, making abstract and difficult legal concepts more relatable. By integrating real-life cases, teachers can instill

legal common sense and correct values in students' minds, effectively combining both knowledge teaching and ideological-political education.

### **3. The significance of higher vocational law general course education reform**

#### **3.1. To achieve the unity of theory and practice**

Previous teaching experiences showed that in the process of teaching law general courses using traditional teaching mode, students' enthusiasm to participate in class is not high, there is a threshold for the understanding of legal knowledge, and the teaching effect is not ideal. To improve this situation, higher vocational teachers should try their best to break through the shackles of traditional education and combine the mundane theories in textbooks with the cases in reality. Compared to cases in textbooks, real-life cases are much more dramatic and compelling. Teachers can explain the cases to students through storytelling, focusing their attention on the classroom, and allowing them to absorb legal knowledge subtly in a relaxed and enjoyable atmosphere <sup>[4]</sup>. Such a teaching approach facilitates the deconstruction, integration, and application of legal theoretical knowledge. It also allows for the intuitive assessment of students' understanding through specific cases, enhancing teaching effectiveness. This approach achieves the organic integration of theory and practice, exerting a lasting positive influence on students' future careers and daily lives.

#### **3.2. To achieve the unity of teaching and learning**

The core teaching goal of general law courses is to spread basic legal knowledge and cultivate legal thinking. For non-law majors, the traditional legal knowledge teaching mode is inconsistent with the usual learning methods. After the teaching reform, the case-based teaching model aligns more closely with students' learning habits, enabling them to easily apply situations from the cases to their personal lives and incorporate legal thinking into their daily routines. This thinking ability is highly valuable and can gradually become a fixed habit through repeated practice and reinforcement. The analysis, discussion, and summary of real cases can not only exercise students' thinking abilities, practical operation abilities, and oral expression abilities, but also stimulate their interest in legal learning, encourage them to actively explore relevant legal knowledge, and provide an effective theoretical basis for dealing with legal-related problems in the future <sup>[5]</sup>.

### **4. The optimization strategy of general law teaching in higher vocational colleges**

#### **4.1. Using the task-driven method to improve students' interest in law**

The task-driven method is a teaching method with the core concept of completing tasks, aiming at cultivating students' various abilities as the driving force and with remarkable results. With the deepening of the new curriculum reform in China, task-driven teaching has been widely used in teaching practice and has achieved excellent results. The task-driven method emphasizes the multi-dimensional teaching concept, encourages students to actively participate in practical activities, and flexibly use the knowledge to solve practical problems so that students can understand and master the knowledge more deeply. The characteristics of the task-driven method are as follows: taking task as the core of teaching, students as the main body of teaching, and ability as the standard <sup>[6,7]</sup>. Using the task-driven method to optimize the teaching of general law courses not only respects the individual differences of students and promotes the all-round development

of students, but also cultivates the students' abilities to independently learn legal knowledge and stimulates the students' active spirit of exploring the law, which is of great significance for improving the students' comprehensive literacy.

When applying the task-driven method, teachers need to conduct an in-depth analysis of the curriculum and design challenging tasks according to the teaching syllabus, students' mastery of knowledge, and actual needs. These tasks need to be closely integrated with legal theory and have practical application value so that students can realize the combination of theory and practice of knowledge in the process of problem-solving. Teachers need to have a good grasp of how difficult or easy the tasks are when designing them, and they should be neither too simple nor too complicated, lest students lack motivation or feel confused and frustrated. After defining the content of the task, teachers should also set clear goals for students, such as legal knowledge and problem-solving skills. Under the guidance of teachers, students can complete the learning task through independent exploration and research and gain a sense of accomplishment.

Simultaneously, before students embark on learning tasks, teachers should describe the expected results in detail to help students clarify their learning direction and provide criteria for follow-up evaluation and feedback. The teacher acts as the planner and guides the whole task design and implementation, escorts the rationality and effectiveness of the task, and provides students with a meaningful learning scene and direction<sup>[8]</sup>. This way, students can master the legal knowledge in the process of completing the learning task, and apply it to the solution of practical problems, to realize the internalization and improvement of knowledge. Teachers can also make use of the case video materials related to legal columns and legal programs, teachers can more intuitively show the serious consequences of crimes to students, encourage students to analyze and solve the case problems in combination with their own experience, and actively complete the classroom learning tasks, to achieve the final purpose of classroom teaching.

#### **4.2. Use the case-based teaching method to reinforce students' understanding of the law**

The case-based teaching method refers to a teaching method that integrates the course objectives and teaching contents into specific cases under the guidance of teachers. When choosing teaching cases, teachers of law general courses in higher vocational colleges can start from the following perspectives.

Firstly, teachers can choose novel cases. For students, new cases and cases with high popularity in recent years are often more alerting to students and more in line with students' current values, so that students can make their evaluation of cases based on their own legal knowledge and moral concepts, and trigger their thinking<sup>[9,10]</sup>.

Secondly, teachers can select cases that are of interest to students. Everyone has a natural curiosity, and students are no exception. "Parent-related" cases are particularly relevant to students as they involve personal interests, making them more engaging and likely to spark higher levels of interest.

Thirdly, teachers can choose cases that are closely related to students' lives and majors. Students are the demanders and practitioners of the cases, so students should be the core in the selection of cases. Those cases that are closely connected with students' daily lives and majors are often easier for students, and the value of teaching is also higher<sup>[12]</sup>.

Fourthly, teachers can choose cases that match students' level and are of moderate difficulty. The concept of "moderate difficulty" is relative, depending on how challenging the teaching content is to understand. For complex concepts, a series of cases can be used to explain them step by step, while for simpler concepts,



relatively more complex cases can be introduced to increase the challenge.

In general, the course should use cases that involve fewer subjects and have clear legal relationships. The instructor should first plan the content of the course as a whole and continuously think about the expected effect of the course and how the students should learn effectively. Take the constitution of crime in criminal law as an example. For students majoring in non-legal studies, this is a relatively complicated theory. Considering that this part of content has a strong system, teachers only need to require students to have some understanding of it, rather than having a deep grasp of the principle of conviction. Teachers can design a series of cases, starting from the small cases involving objective lawlessness, objective causes of illegal, subjective guilt, and subjective causes of obstruction, and gradually carry out in-depth teaching <sup>[13,14]</sup>.

Finally, teachers can choose cases with a strong orientation of value shaping. Students in higher vocational colleges are in a critical period of personality and value formation. Legal education in higher vocational colleges is mainly undertaken by law general courses, and cases become an effective tool to popularize legal knowledge. In the process of selecting cases, teachers need to carefully screen whether the value orientation reflected in the cases will harm students' thoughts. Concurrently, teachers also need to consider how to implant the concepts of "setting up correct values" and "cultivating morality" into case teaching, so that students can make full use of the law, enhance students' awareness of abiding by the law, understand the law, and using the law so that students can better protect themselves <sup>[15]</sup>.

## 5. Conclusion

In the new era, the continuous advancement of quality education makes society pay more and more attention to the law, and the concept of "governing the country according to law" has long been rooted in people's hearts. As the front line of training high-quality and skilled talents, higher vocational colleges shoulder the heavy responsibility of improving students' legal literacy in the process of promoting socialist rule of law construction. Task-driven case teaching can effectively integrate legal theory teaching and practical teaching, which can help students build a legal knowledge framework and improve their ability to analyze and solve problems. This teaching method is not only helpful for students but also for teachers to master the basic knowledge of law. Therefore, it should be fully valued and widely applied.

## Disclosure statement

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## References

- [1] Li H, Hui X, 2024, Research on Legal Risk Prevention Mechanism of Vocational College Students' Practice under the Background of Integration of Industry and Education. *Legal Science Expo*, 2024(23): 15–17.
- [2] Liu Y, Han X, 2024, Cultivating Students' Legal Awareness in Higher Vocational Colleges and Exploring the Legal Course Education Model. *Xue Weekly*, 2024(22): 46–49.
- [3] Wang X, 2024, Research on the Status Quo and Training of Legal Literacy of Students in Higher Vocational Colleges. *Legal Science Expo*, 2024(18): 15–17.
- [4] Yang Q, 2024, Research on Innovative Practice of Construction of Legal Higher Vocational Education Training



- Base. Legal Science Expo, 2024(17): 157–159.
- [5] Yan W, 2024, Application of Task-driven Teaching Method in Legal Practice Teaching in Higher Vocational Colleges. Legal Science, 2024(16): 166–168.
  - [6] Zhang F, 2024, Dilemma and Countermeasures of High-Quality Development of Vocational Legal Education. Legal Science Expo, 2024(14): 159–162.
  - [7] Yan W, 2024, Effective Strategies of Case Teaching Method in Basic Law Teaching in Higher Vocational Colleges. Legal Science, 2024(14): 166–168.
  - [8] Miao Y, Xu J, 2024, Research on the Path of Improving Students' Legal Literacy in Higher Vocational Colleges in the New Era. Journal of Wuxi Vocational and Technical College, 23(03): 19–22.
  - [9] Lv Z, 2024, Training of Applied Legal Talents in Higher Vocational Colleges and Construction of Practical Teaching Model of Law Course. Journal of Hubei Open Vocational College, 37(09): 63–65.
  - [10] Ren M, 2024, Research on the Cultivation of Compound Talents of “Law + Technology” Major in Higher vocational Colleges under the New Business Format. Hua Zhang, 2024(05): 81–83.
  - [11] Mi X, 2024, The Value and Improvement Path of Legal Education for Students in Higher Vocational Colleges. Legal Science Expo, 2024(11): 148–150.
  - [12] Han J, 2024, Research on Ideological and Political Construction of Legal Curriculum in Higher Vocational Colleges — Taking Constitutional Law Curriculum as an Example. Legal Education for Adolescents, 2024(04): 25–27.
  - [13] Wang X, 2024, Study on Case Teaching of Law Foundation Course in Higher Vocational Colleges. Hebei Legal Vocational Education, 2(04): 40–45.
  - [14] Zhang J, 2024, Research on Innovative Paths for Talent Training in Legal Affairs Majors in Higher Vocational Education. Employment and Security, 2024(03): 127–129.
  - [15] Chen Q, 2024, The Integration of Craftsman Spirit into Higher Vocational Ideological and Moral Cultivation and the Exploration of Teaching Innovation Path of Law Foundation Course. Knowledge Window (Teachers Edition), 2024(02): 6–8.

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# Research on Recruitment Methods for Doctoral Students in American Colleges and Universities

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**Abstract:** Reform of the entrance examination mode of doctoral students is an important topic in postgraduate education. This paper studies the successful experience of American colleges and universities in the doctoral entrance examination and summarizes the doctoral enrollment methods of Chinese colleges and universities. Finally, this article analyzes the methods of recruiting doctoral students from American universities to Chinese universities, which provides an important reference for improving the enrollment quality of doctoral students in China.

**Keywords:** American colleges and universities; PhD candidate; Enrollment reform

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## 1. Introduction

As the highest level of academic education, doctoral education represents the highest achievement of a country in terms of talent cultivation<sup>[1]</sup>. It is not only the cradle of high-level innovative talent but also plays a vital role in the construction of a national innovation system and the realization of innovative national strategic goals. In October 2024, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council issued the “Opinions on Accelerating the High-Quality Development of Doctoral Education,” making systematic arrangements for continuously deepening the comprehensive reform of doctoral education and providing clear guidance for the future development of doctoral education, direction and specific policy guidance<sup>[2]</sup>. To promote the comprehensive reform of doctoral education, we must learn from the experience of internationally renowned universities in doctoral enrollment and closely focus on the core goal of improving the quality of doctoral training and meeting the needs of the state and society. With the rapid development of globalization and the knowledge economy, the higher education systems of all countries in the world are facing drastic changes, which not only involve improvements in education quality but also include educational models, training methods, and evaluation standards. Given this background, as an important part of higher education, the entrance examination method

of doctoral students has naturally become one of the focuses of reform.

The enrollment process of doctoral students is the initial link of training, and its quality is directly related to the effectiveness of the entire training process. Therefore, ensuring the quality of enrollment is the basis for the success of doctoral education. Countries worldwide have taken different paths in the development of doctoral education, which reflects the uniqueness of educational development in various countries. Taking the United States (U.S.) as an example, its doctoral training is large in scale and high in quality, and it has gradually become a model of global doctoral training and is known as the “gold standard of international academic circles.” Doctoral education in the United States rose in the middle of the 19th century, more than a hundred years ago. Over the past century, with the evolution of society, the economy, science and technology, culture, and higher education itself, doctoral education in the United States has been continuously optimized and upgraded, resulting in distinctive characteristics. The United States has a long history of development in the enrollment of doctoral students, has established a mature, stable, and perfect enrollment system, and its experience has been widely used for reference by countries worldwide.

## **2. Characteristics of the methods used to recruit doctoral students from American universities**

From the development of doctoral recruitment methods in the U.S., it can be concluded that the U.S. has always implemented a single-track system, that is, an application examination and admission system. The single-track method used to recruit doctoral students has common characteristics in terms of governance structure, enrollment autonomy, entrance tests, admission standards, and measurement technology.

### **2.1. Autonomous governance mechanism of colleges and universities**

American colleges and universities have a high degree of autonomy in enrolling doctoral students. Colleges and universities are responsible for enrollment plans, and the government and graduate schools indirectly influence them through financial allocations. The federal and state governments do not directly participate in the enrollment plan but rather guide the enrollment quota by increasing scientific research projects and funding. When the enrollment scale is allocated, the college considers factors such as teachers, funds, equipment, and market demand and flexibly adjusts the quota according to the quality of the applicants' and teachers' recommendations. Simultaneously, the college will consider educational costs, such as laboratory capacity, interaction time between teachers and students, and the ratio of scholarships and grants, and weigh the costs and benefits. The graduate school is responsible for controlling the overall enrollment plan, determining the quota according to the overall situation of the school and the degree of professional attention, and coordinating the enrollment plan among various disciplines. Funding is the key to whether tutors can enroll students. A lack of funding may lead to the suspension of enrollment plans, while sufficiently funded teachers are eligible to enroll students. The enrollment plan will be adjusted according to the amount of funds. If the funds are limited, the number of enrollments will be limited.

### **2.2. Tutor-led collective responsibility system**

In the United States, colleges and universities enjoy the right to recruit doctoral students independently, and teachers play a key role in the admissions committee. Although graduate schools have set basic requirements for admission, these requirements are flexible and can be adjusted through negotiation.

The admissions committee is usually composed of faculty, sometimes administrative staff, and doctoral volunteers, who are responsible for reviewing application materials and making admission decisions <sup>[3]</sup>. Take the Admissions Committee of Harvard Graduate School of Education as an example. It is composed of teachers, administrators, and doctoral students from different departments and implements a collective decision-making system. Additionally, there is a “single responsibility system,” that is, teachers choose doctoral students according to their judgment. Teachers can also take the initiative to recommend students. If the reasons for the recommendation are sufficient, students may be admitted exceptionally. The enrollment system of American colleges and universities is restricted by collective decision-making, market mechanisms, and punishment mechanisms to ensure the fairness of the enrollment process. Teachers will consider project funding and research results in the enrollment process, so they will strictly screen students with research potential. If teachers violate relevant regulations, they may suffer serious academic and legal consequences. Therefore, teacher recommendations and exceptional admissions are based on a fair evaluation of the applicant’s ability.

### **2.3. Standardized entrance test system**

American college enrollment relies mainly on national unified standardized tests, especially the Graduate Record Examination (GRE). In the early days, American colleges and universities selected students through interviews, but with the increasing demand for educational equity, standardized tests came into being to reduce subjectivity and provide objective evaluation. Standardized tests provide unified evaluation standards for students from different backgrounds and help recruiters select graduate students from many applicants. GRE is the main examination for graduate admission in the United States, especially for doctoral students. The high reliability and validity of the GRE make it an effective tool for predicting graduate school performance. The GRE includes an academic ability test, which tests basic academic ability, and a professional test, which is aimed at specific subjects. The GRE is organized by a team of professionals, including the Board of Directors, which sets the policy, and the Educational Testing Service (ETS), which executes the quiz, to ensure the scientific nature and impartiality of the quiz.

### **2.4. All-round inspection mechanism**

The enrollment of doctoral students in the United States is a comprehensive evaluation process that focuses on the creativity, knowledge base, research ability, research interests, personal qualities, and experiences of applicants. Creativity is the core, but it is difficult to quantify. The knowledge base includes knowledge in general and specialized areas. Research competence is divided into general and professional skills, and research interest and motivation are also crucial because they can affect the quality of academic completion. Personal qualities such as interpersonal interaction, perseverance, personal experience, learning, and work background are all part of the assessment. Different majors attach different importance to these factors, but the comprehensive consideration of cognitive and noncognitive variables helps improve the quality of enrollment.

### **2.5. Refined measurement mechanism**

In the U.S., multiple methods are used to evaluate applicants’ overall qualifications. Creative assessment includes letters of recommendation, research results, communication skills, and GRE analytical writing.

A resume's diversity of professional experiences also aids in evaluating creativity. Research competence is gauged by academic outcomes, standardized test scores, and specific professional submissions. Knowledge is assessed through course grades, the quality of the undergraduate institution, GRE scores, and recommendations. Research interests are discerned from personal statements, recommendations, and sometimes phone interviews. Personal qualities are reviewed through references, interviews, and communications, while personal experiences are highlighted in resumes. To enhance prediction accuracy, universities set detailed requirements for application materials, such as recommendation letter contents, and may use interviews and phone calls to validate information and understand candidates further.

### **3. Recruitment methods for doctoral students in Chinese universities**

Chinese universities have shown a diversified selection mechanism in doctoral enrollment, aiming at meeting candidates with different backgrounds and needs.

Firstly, for students with outstanding undergraduate performance, pursuing a Doctor of Philosophy (PhD) directly can be beneficial. Typically, by the end of their junior year, students who qualify for postgraduate exemptions may apply for a direct-entry doctoral program. In this pathway, applicants bypass the master's stage, enrolling directly as doctoral students for continuous study and research. This approach shortens the overall academic timeline and accelerates the path to obtaining a doctoral degree. For example, leading programs at top universities may select undergraduates with a strong mathematical foundation and notable research potential to enter PhD studies directly.

Secondly, there is a system for continuous progression from master's to doctoral degrees. This pathway is primarily designed for current master's students, targeting those in their first or second year, though some universities also consider third-year students. After reaching a specified stage in their studies and passing relevant examinations, these students may transition directly into the doctoral phase. This continuous study system enables students to engage deeply in scientific research, fostering continuity and advancing in-depth academic development.

Thirdly, the application-assessment system. Candidates are required to submit various application materials to the graduate school, including academic degree certificates, transcripts from postgraduate studies, master's theses (or a proposal report for recent graduates), foreign language proficiency certificates (such as the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), College English Test (CET-4 and CET-6), etc.), two letters of recommendation from full professors, academic achievements (e.g., papers, research topics), and a research plan for their doctoral studies. Graduate schools and colleges then review these materials and organize a re-examination, which typically includes written exams and interviews. The final admission list is determined based on both the scoring of application materials and re-examination performance. Currently, over 90% of colleges and universities in China have adopted this application-assessment system.

Finally, a unified examination is conducted. The unified entrance examination for doctoral students typically includes one foreign language test and two professional courses, which assess basic professional knowledge and specific research field knowledge. Candidates must complete the registration within the specified time frame and submit the required materials as necessary. After passing the qualification examination, candidates are required to take an exam organized by colleges and universities, which consists



of two stages: the preliminary examination and the re-examination. The preliminary examination aims to assess the basic knowledge and professional skills of candidates, while the re-examination focuses on evaluating their comprehensive quality, scientific research potential, and foreign language proficiency.

#### **4. Enlightenment of methods for recruiting doctoral students: comparing American and Chinese universities**

Firstly, American universities emphasize a balance of flexibility and reliability in their doctoral enrollment processes. The diversity in the content and format of the doctoral entrance examination offers valuable insights for Chinese universities. For example, when American universities evaluate application materials, they consider not only standardized test scores but also other aspects such as letters of recommendation, personal statements, and academic performance. Additionally, through interviews and case analysis, the comprehensive quality and research potential of applicants can be evaluated more holistically.

Secondly, the feedback and adjustment mechanism used by American universities in the enrollment process is also worth learning from. The Graduate Admissions Office conducts a detailed analysis of the annual graduate enrollment results and, based on the findings, adjusts and optimizes the enrollment strategy for the following year. This feedback mechanism ensures the continuity and effectiveness of the enrollment policy while also identifying any issues in the process.

Finally, the international enrollment strategy of American colleges and universities is also worth learning. The process of recruiting graduate students is not only open to domestic applicants but also to outstanding scholars and researchers worldwide. This open enrollment policy has brought them an international vision and diversified academic resources.

#### **5. Conclusion**

Through research on the recruiting methods of doctoral students in American colleges and universities, this paper provides valuable opinions for the reform and practice of the doctoral students' enrollment system in Chinese colleges and universities. Colleges and universities need to deepen the comprehensive reform of postgraduate education, improve the selection mechanism of top-notch innovative talent, create an institutional environment conducive to the standing out of innovative talent, and provide strong talent support for the national innovation-driven development strategy.

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## References

- [1] Zheng Q, 2019, The Conceptual Framework of Academic Research Guidance “Successful Academic Research Guidance—Instructs Students to do Research” Review. *Education Modernization*, 6(46): 82–84. <https://doi.org/10.16541/j.cnki.2095-8420.2019.46.029>
- [2] The General Office of the State Council and The General Office of the CPC Central Committee, 2024, Opinions on Accelerating the High-Quality Development of Doctoral Graduate Education. Published October 20, 2024. [https://www.gov.cn/zhengce/202410/content\\_6981723.htm](https://www.gov.cn/zhengce/202410/content_6981723.htm)
- [3] Wan Y, 2014, Characteristics and Inspirations of the System of Admission to Doctoral Programs in the U.S. *Journal of Graduate Education*, 2014(04): 90–95.

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# Exploring the Integration of Mongolian Dance in Aesthetic Education for its Inheritance and Development

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**Abstract:** This paper briefly elaborates on the types and basic styles of Mongolian dance, analyzes the role of aesthetic education in Mongolian dance and proposes feasible strategies for promoting the inheritance and development of Mongolian dance through aesthetic education from four perspectives: dance aesthetic courses, music courses, physical education courses, and campus culture. The aim is to enrich research outcomes in this field.

**Keywords:** Mongolian dance; Aesthetic education

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## 1. Introduction

The “Opinions of the Communist Party of China (CPC) Central Committee and the State Council on Comprehensively Strengthening and Improving Aesthetic Education in Schools in the New Era” clearly states the need to promote the integration of excellent traditional Chinese culture into campus life and enhance students’ cultural confidence and national identity through artistic education. In this policy context, Mongolian dance aligns closely with the goals of aesthetic education, and exploring strategies to promote its inheritance and development through aesthetic education is of high research value <sup>[1]</sup>.

## 2. Overview of Mongolian dance

### 2.1. Types of Mongolian dances

Mongolian dances can be broadly categorized based on the regions they originate from: eastern, central, and western Mongolia. The eastern region’s dances, including those of the Buriat, Barag, and Horqin tribes, are lively and rhythmic, often performed in groups. The central and western dances, such as those from Ordos and Torghut, exhibit elegant and skillful movements, sometimes mimicking horseback riding or archery.

Additionally, religious dances like “Chama” and “Wu Wu” are performed in Lama temples, showcasing solemn and mysterious movements.

## **2.2. Fundamental styles of Mongolian dances**

The fundamental styles of Mongolian dances vary based on the region. Eastern dances are lively and rhythmic and often imitate natural and daily life scenes. Central dances emphasize bodily control and elegant movements, while western dances are characterized by their strong rhythm and expansive steps, reflecting the vastness of the grassland. Religious dances, on the other hand, are slow, dignified, and symbolic.

## **3. The role of Mongolian dance in aesthetic education**

### **3.1. Cultivating aesthetic ability**

Dance, with its graceful body language and rhythmic movements, helps students perceive, understand, and create beauty dynamically. Engaging with Mongolian dance allows students to better experience dance rhythm, enhancing their aesthetic sensibilities. The natural, powerful, and cultural beauty exhibited by dance broadens students’ aesthetic horizons and enriches their understanding of diverse forms of beauty <sup>[2]</sup>.

### **3.2. Enhancing cultural identity**

As a carrier of ethnic culture, dance embodies the unique history, customs, and spiritual connotations of the Mongolian people. Learning and inheriting Mongolian dance enables students to deeply appreciate the cultural values and traditional customs behind it, strengthening their cultural identity, fostering cultural inclusivity, enhancing their ethnic consciousness, and promoting cultural confidence <sup>[3]</sup>.

### **3.3. Improving physical and mental health**

Dance training, which combines artistry and fitness, improves students’ physical fitness and enhances their constitution. Simultaneously, the vitality and passion of Mongolian dance positively impact students’ mental health. Dance not only helps students release stress and regulate emotions but also boosts their self-confidence and improves their expressive abilities, leading to comprehensive physical and mental development.

### **3.4. Cultivating social interaction skills**

Dance is often a collective activity where students collaborate with others, enhancing their sense of teamwork. Group dance provides a platform for students to interact with others, deepening understanding and support among peers while sharing the beauty of dance art. Dance activities also cultivate students’ sense of responsibility, promote team spirit, and facilitate the development of interpersonal relationships <sup>[4]</sup>.

## **4. Feasible strategies for implementing aesthetic education in the inheritance and development of Mongolian dance**

### **4.1. Introducing dance aesthetic courses in schools**

Course content and teaching plans should be reasonably designed based on factors such as students’ age,

grade, and physical fitness. Teaching objectives should be set in stages, progressing from basic dance movements and rhythm perception to complex dance combinations <sup>[5]</sup>. For example, simple basic steps and gestures of Mongolian dance can be taught initially, guiding students to master basic movement essentials through imitation and practice. As students progress, more distinctive movement combinations from Mongolian dance can be introduced to help them further enhance their dance skills. Diversified course formats can be adopted, such as whole-class collective teaching to allow students to experience the rhythm of Mongolian dance through collective interaction or group practice to enhance individualized development <sup>[6]</sup>. To enhance the course's enjoyability, teachers can introduce musical accompaniment, selecting instrumental music traditional to the Mongolian culture as a background to better immerse students in the dance's cultural atmosphere. In practical teaching, themed dance teaching units such as "Grassland Life" or "Festival Dances" can be set up, incorporating specific dance styles into the instruction.

Innovative classroom teaching methods can be combined with modern technology. Teachers can utilize multimedia tools to play classic performance videos of Mongolian dance, showcase relevant dance movement decomposition diagrams or animations, and help students visually understand movement essentials and overall choreography. Based on dance teaching software or online platforms, students can be provided with after-class practice resources, facilitating independent practice and consolidation of learned content outside the classroom. This online-offline integration extends the classroom teaching effect and enhances students' interest in learning Mongolian dance <sup>[6]</sup>.

In terms of course evaluation and feedback mechanisms, teachers can adopt diversified evaluation methods. Apart from classroom performance and final assessments, staged group presentations, individual performances, or classroom competitions can be conducted to help students showcase their learning achievements. Teachers should provide timely and personalized feedback, offering specific guidance on dance movements, rhythm mastery, and emotional expression to assist students in continuous improvement.

## **4.2. Integrating Mongolian dance into music curriculum**

- (1) In course design, focus on deepening aesthetic experiences: Teachers should select works that highlight the artistic features of Mongolian music and dance, analyze the melody, rhythm, and emotional expression of the works, and guide students to comprehend the aesthetic characteristics of music learning <sup>[7]</sup>. For instance, teachers can choose representative Mongolian long-tune songs as music class materials, allowing students to learn typical Mongolian dance movements along with the music. By experiencing the beauty of the music melody and appreciating the dance movements, students can deeply engage with and appreciate the beauty created by the combination of music and dance.
- (2) Promote emotional and cultural integration in teaching: Both Mongolian music and dance carry rich emotional and cultural connotations. Teachers should help students understand the cultural background based on classroom teaching. In music classes, teachers can combine dance with explanations of Mongolian lifestyle, customs, and historical stories, guiding students to express their emotions within the cultural context through dance movements. This integration of dance and music enables students to perceive deep-level cultural emotions and form a deep aesthetic appreciation.
- (3) Encourage innovation and personalized expression: Aesthetic education emphasizes individualized development, so teachers should provide students with sufficient creative space. In the classroom,



group activities or individual projects can be designed where students arrange dances based on the Mongolian music they have learned. Students can freely choose music fragments that interest them and create dance movements based on their understanding and feelings, which they can then showcase. Through this process, students' dance skills gradually improve, and the combination of music and dance helps them freely express their aesthetic vision and demonstrate their creative ideas, thereby cultivating their artistic expressiveness.

### **4.3. Integrating Mongolian dance with physical education courses**

- (1) Integrate course content: Physical education teachers can select representative Mongolian dance movements as part of warm-up or cooling-down exercises in their daily courses. Many Mongolian dance movements have strong dynamic characteristics that can enhance students' physical coordination and align with the agility and explosive power required for sports activities<sup>[8]</sup>. In practical implementation, teachers can design warm-up routines incorporating Mongolian dance elements to help students learn the basic rhythm of Mongolian dance movements while engaging in physical activity.
- (2) Regularly organize dance-themed physical education classes: In the physical education course plan for each semester, arrange one or two "Mongolian Dance Theme Classes" to explain and demonstrate traditional Mongolian dance movements in detail. Organize students for collective learning and allow them to experience the unique charm of Mongolian dance beyond traditional sports activities, broadening their artistic horizons in physical education courses. Teachers can use simple accompaniment tools to provide music for dance movements, helping students better grasp the movements, rhythm, and strength.
- (3) Group teaching to enhance learning effectiveness: Due to differences in students' acceptance levels and physical coordination in dance learning, teachers can group students based on their levels and provide targeted teaching guidance<sup>[9]</sup>. In the teaching process, advanced students can be paired with lower-level students for practice or dance competitions can be arranged between groups to encourage mutual learning and assistance.
- (4) Provide opportunities for students to practice independently after class: It is recommended to establish a Mongolian dance interest club that complements physical education courses, providing additional learning or intensive practice opportunities for students who show a strong interest in Mongolian dance. Arrange regular club activities with professional teacher guidance to help students gradually master Mongolian dance skills in their interest development, further enhance their dance level, create a relaxed learning atmosphere, and allow students to engage in physical exercise in a pleasant environment.

### **4.4. Creating a campus culture of Mongolian dance through group dances**

- (1) Introduce Mongolian group dances into campus activities: Schools can organize Mongolian group dance performances during various festivals, opening and closing ceremonies of sports meetings, and other large-scale events. In preparation for these activities, teachers can select Mongolian dances suitable for group performances, such as "Chopsticks Dance" and "Andai Dance," and design simplified dance movements for students of different grades, considering the rhythm of the dance

music and the ease of learning the movements. This enhances cultural identity within the campus.

- (2) Organize campus Mongolian dance competitions or exhibition activities: Regularly hold Mongolian dance competitions or exhibition activities, allowing different classes or grade groups to compete in group dances <sup>[10]</sup>. During the competition preparation period, each participating team can design their dance arrangement based on the learned movements, and teachers can provide guidance and suggestions.
- (3) Utilize campus media to promote Mongolian dance culture: Use school newspapers, campus radio, WeChat official accounts, and other media platforms to showcase the highlights of school Mongolian group dance activities and share the experiences and insights of participating students. Conduct interviews with participating students and teachers, edit activity videos, upload basic knowledge content about Mongolian dance, and create a campus atmosphere featuring Mongolian cultural characteristics.

## 5. Conclusion

In conclusion, aesthetic education through Mongolian dance can nurture cultural identity, improve physical and mental health, and foster social interaction skills. Schools can offer dance aesthetic courses on campus, integrating Mongolian dance into music and physical education curricula. Additionally, organizing group dances can help establish a vibrant Mongolian dance culture within the school.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] Zhang M, 2014, On the Importance of Dance Education in Basic Education. *Journal of Changchun Education Institute*, 2014(12): 160.
- [2] He X, 2014, Emphasizing Dance Training to Optimize Aesthetic Enlightenment. *Reading and Writing (Upper and Lower Edition)*, 2014(13): 270.
- [3] Xin R, 2015, Discussion on the Roles of Dance Teaching in Adolescent Quality Education. *Scientific Research*, 2015(52): 24.
- [4] Chen H, 2021, Breaking Traditional Education Models and Inheriting Traditional Folk Songs and Dances — Interpreting the Aesthetic Education Innovation Practice of Music Through Traditional Folk Dances. *Friends of Humanities*, 2021(21): 40–42.
- [5] Liu Y, 2021, Cultivating Aesthetics Through Beauty and Inheriting Through Dance: Teaching Practice Exploration of Ethnic Dance Aesthetic Courses in Universities — Taking “The Coolest Ethnic Style: Movement Practice and Work Appreciation of Chinese Ethnic Dances” as an Example. *Chinese Ethnic Expo*, 2021(20): 138–140.
- [6] Huang H, 2023, Research on the Relationship Between Ethnic Folk Dance Teaching and Aesthetic Education. *Times Report (Benliu)*, 2023(8): 70–72.
- [7] Wang S, 2021, Ethnic Folk Dances Enter the Campus — Blooming the Flower of Aesthetic Education. *Shanghaijing: Frontiers of Education*, 2021(2): 15.

- [8] Li X, 2019, Talking About the Necessity and Importance of Dance Education in Aesthetic Education. Compilation of Achievements from the 2019 Teaching Research and Teaching Writing Innovation Forum, 2019(1).
- [9] Jingjing E, 2022, The Aesthetic Education Value of Traditional Folk Dances in Inner Mongolia in Basic Education. Shangwu, 2022(12): 80–82.
- [10] Xia L, 2021, Exploring the Relationship Between Ethnic Folk Dance Teaching and Aesthetic Education. Home of Drama, 2021(24): 146–147.

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# Research on the Status Quo and Improvement of Language Proficiency for International Talents in Xinjiang Universities in the Context of Core Area Development

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**Abstract:** There is an urgent need for international talents proficient in one or two foreign languages in Xinjiang, driven by efforts to transform Xinjiang's unique geographical advantages into developmental advantages. This demand places greater responsibility on colleges and universities in Xinjiang. This paper examines the current status of students' proficiency in English or Russian through questionnaires and explores suggestions for improving their language skills based on interviews. Countermeasures and recommendations are proposed to enhance students' language proficiency in Xinjiang's higher education institutions, supporting the development of the Silk Road Economic Belt's core area and the Xinjiang Pilot Free Trade Zone, thereby contributing to Xinjiang's high-level opening up and high-quality development.

**Keywords:** Xinjiang; International talents; Language proficiency; Status quo; Improvement

**Online publication:** November 13, 2024

## 1. Introduction

In recent years, the concept of "international talent" has garnered attention across various sectors in China as a highly contemporary idea. Language is a key pathway for talent to become "internationalized," and this process inevitably involves foreign languages, which require solid foreign language skills. Enhancing the foreign language proficiency of international talents is a critical mission for foreign language teaching in Chinese universities.

Xinjiang is a crucial hub in the core area of the "Silk Road Economic Belt" and has emerged as a front-runner in China's efforts to open up to the outside world, fully integrating into the process of economic globalization. On November 1, 2023, the China (Xinjiang) Free Trade Zone was officially unveiled as the first free trade zone in the northwest border region. The region's opening up and development urgently demand international talents who possess a global perspective, proficiency in foreign languages, and the ability to

integrate into foreign cultures and engage in cross-cultural communication. Therefore, enhancing the language proficiency of international talents in Xinjiang—while confronting the current state of their language abilities—represents a significant challenge for foreign language teaching in universities in the region.

## **2. Research background**

There are 21 undergraduate universities in Xinjiang, offering courses in English, Russian, Japanese, and Arabic <sup>[1]</sup>. English is offered at every university with the largest number of students, while Russian is taught in most universities with a considerable student population. Japanese is only available at Xinjiang University and Xinjiang Normal University, with a smaller number of students. Arabic is exclusively offered at Shihezi University, with less than 100 students. English and Russian are the primary foreign languages studied by students in Xinjiang universities.

Domestic research on language proficiency has a history of nearly 30 years, where “language proficiency” often refers to native language proficiency or national common language proficiency. Currently, some studies focus on national language proficiency, which concerns a country’s ability to meet specific language demands, including foreign language proficiency <sup>[2]</sup>. However, more research has emerged focusing on individual language proficiency. With the advancement of economic globalization, studies often revolve around English language proficiency among university students. Since 2017, numerous studies have analyzed university students’ English language proficiency by referencing the China Standards of English Language Ability, highlighting the significant attention given to English language proficiency as an international language by domestic experts and scholars <sup>[3–6]</sup>.

Although research on the language proficiency of various ethnic groups in Xinjiang has been conducted over the past 10 years, the number of studies remains limited. A search using “language proficiency” and “Xinjiang” as titles or keywords on China Journal Net yields only 17 documents. These studies primarily focus on the national common language proficiency of ethnic minorities in Xinjiang, with research participants typically being ethnic minority residents, teachers, or students. Only two studies address the English language proficiency of preparatory students from ethnic minority universities and Kazakh university students in Xinjiang, while one document explores the English for Specific Purposes (ESP) language proficiency of finance and economics graduate students in Xinjiang universities <sup>[7–9]</sup>. Currently, there is no research specifically addressing the language proficiency of university students in Xinjiang, nor studies focusing on the foreign language proficiency of international talents in Xinjiang universities.

This study aims to understand the English or Russian language proficiency of students from seven universities in Xinjiang through self-evaluation. The objective is to identify the difficulties and issues in foreign language teaching in Xinjiang universities, propose countermeasures and suggestions for improving the language proficiency of international talents in Xinjiang universities, and provide recommendations for the top-level design of foreign language teaching in Xinjiang universities.

## **3. Research methods**

### **3.1. Research subjects**

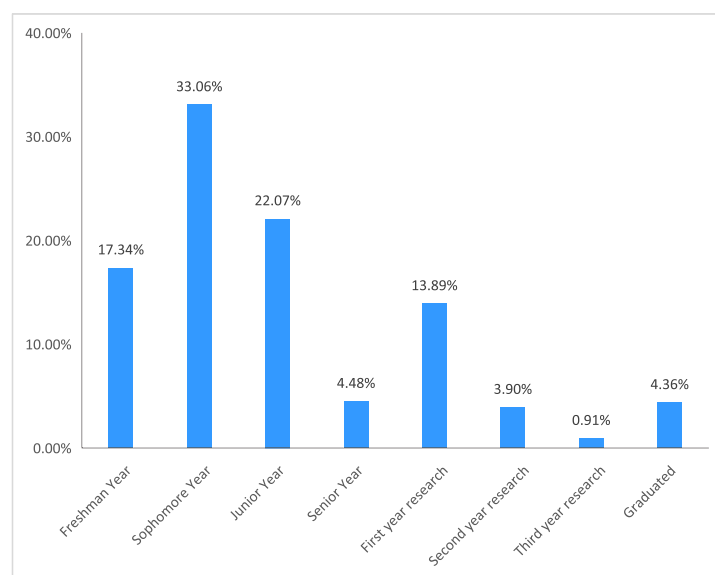
This study employed a combination of literature review, questionnaire survey, interview, qualitative and quantitative research methods. The survey was conducted among a total of 2,888 students (2,411 English



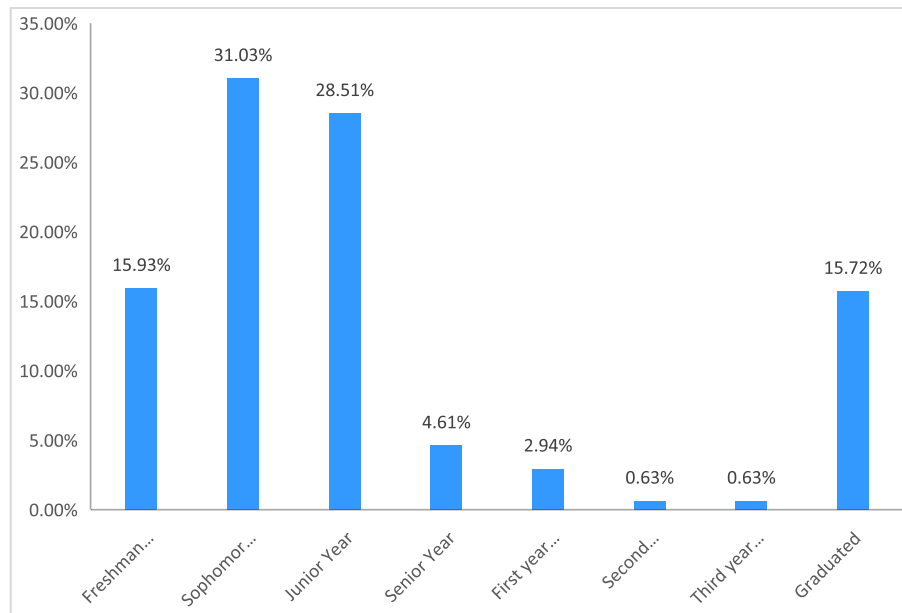
language students and 477 Russian language students) from seven universities in Xinjiang, including Xinjiang University of Finance and Economics, Xinjiang University, Xinjiang Normal University, Shihezi University, Xinjiang Medical University, Xinjiang Institute of Technology, and Xinjiang Arts University. The participants included undergraduates, graduates, and recent graduates from majors such as international trade, international business, international finance, international communication, international certified accounting, international economic law, English, and Russian (as shown in **Table 1**, **Figure 1**, and **Figure 2**). Additionally, interviews were conducted with a total of 186 individuals, including 81 university students, 67 university teachers and educational administrators, and 38 government, enterprise, and institutional management staff and employees (as shown in **Table 2** and **Figure 3**). The interviews aimed to understand the English and Russian language proficiency of university students and solicit suggestions on improving international language proficiency.

**Table 1.** Basic information about the survey subjects

	Fresh graduates (person)							Previous graduates	Total number (person)
	Undergraduate students				Graduate students			Undergraduate + graduate students	
	Freshman	Sophomore Year	Junior Year	Senior Year	First year research	Second year research	Third year research		
English	418	797	532	108	335	94	22		
	17.34%	33.06%	22.07%	4.48%	13.89%	3.9%	0.91%		
	1855				451			105	2411
	Freshman	Sophomore Year	Junior Year	Senior Year	First year research	Second year research	Third year research		
Russian	76	148	136	22	14	3	3		
	15.93%	31.03%	28.51%	4.61%	2.94%	0.63%	0.63%		
	382				20			75	477



**Figure 1.** The proportion of English language students

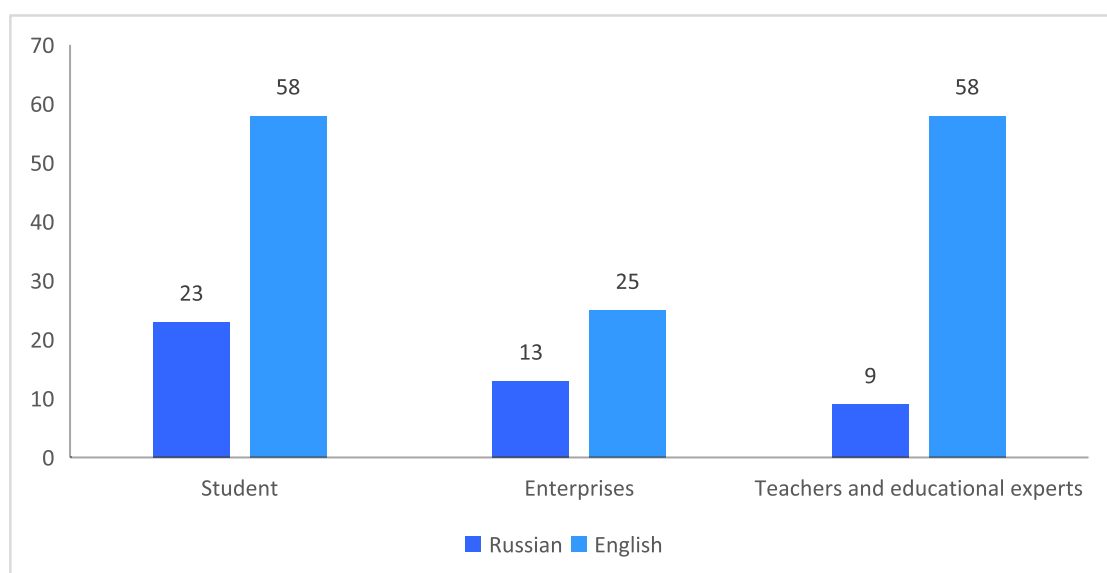


**Figure 2.** The proportion of Russian language students

As shown in **Table 1**, **Figure 1**, and **Figure 2**, the survey subjects involved undergraduate and graduate students of all grades and all previous years. The questionnaire data can illustrate the current status of foreign language proficiency of college students in Xinjiang.

**Table 2.** Basic information of interviewees

	Students	Enterprises	Teachers and educational experts	Total
Russian	23	13	9	45
English	58	25	58	141
Total	81	38	67	186



**Figure 3.** Basic information of English and Russian interview subjects

As shown in **Table 2** and **Figure 3**, the interviewees are not only university teachers and students but also include education experts and employers. The interview data is objective and comprehensive.

The seven universities in Xinjiang selected for this study include two key universities under the “Double First-Class” and “211 Project” initiatives, while the others are universities specializing in finance and economics, education, medicine, and the arts. The eight majors selected for this study are representative of those designed to cultivate international talent, and the language abilities of students in these majors are likewise indicative. Therefore, the results of this study can reflect the current state of language abilities among international talent at universities in Xinjiang.

### 3.2. Research tools

This study applies an online questionnaire survey using the “Self-Evaluation Scale” from “China’s Standards of English Language Ability” (hereinafter referred to as the “Scale”) <sup>[10]</sup>. The “Scale” is designed for language learners and users to assess or diagnose their own English proficiency levels. It includes self-evaluations of various aspects such as knowledge of language components and their application, listening comprehension, reading comprehension, oral expression, written expression, pragmatic ability, interpretation skills, and translation skills. Although the “Scale” is developed based on the English language, languages share commonalities. Just as the “Common European Framework of Reference for Languages” is not limited to a specific language, the theoretical framework and development methods of the “Scale” can be applied to the development of proficiency scales for other languages.

Based on the research hypothesis, this study uses a five-point scale. The questionnaire includes self-evaluations from the “Self-Evaluation Scale” covering aspects such as knowledge of language components and their application, listening comprehension, reading comprehension, oral expression, written expression, pragmatic ability, interpretation, and translation skills. It employs a five-point Likert scale, where “1” represents “completely disagree” and “5” represents “completely agree.” Before conducting the survey, the research team conducted a pilot test, analyzed the results statistically, and revised the questionnaire based on the analysis to ensure its reliability and validity.

For the interview component, a combination of qualitative research and quantitative analysis was adopted. Semi-structured interviews were conducted face-to-face, via online video, and through voice calls. Each interviewee’s responses were recorded, and with their consent, select portions of the interviews were audio-recorded.

### 3.3. Data collection and description

To understand the current situation of language proficiency among international talents in Xinjiang universities, the research team distributed two survey questionnaires. Questionnaire 1 was the “Self-Evaluation Scale for English Language Proficiency of International Talents,” and Questionnaire 2 was the “Self-Evaluation Scale for Russian Language Proficiency of International Talents.” 2,411 students completed and returned Questionnaire 1, while 477 students completed and returned Questionnaire 2. Both questionnaires were subjected to reliability tests.

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS 22.0) statistical software, following these steps:

(1) Reliability analysis (as shown in **Table 3**). The Cronbach’s alpha coefficient for Questionnaire 1 was

0.972, and the Cronbach's alpha coefficient for Questionnaire 2 was 0.978. Both Cronbach's alpha coefficients were higher than 0.9, indicating high reliability of the data

- (2) Descriptive data analysis was used to evaluate the self-assessment results, including eight individual skills and the overall level (represented by the mean value of all items).

**Table 3.** Reliability test of two questionnaires

Questionnaire type	Cronbach's alpha	Number of items
Questionnaire 1	0.972	29
Questionnaire 2	0.978	37

After analysis, the research team determined that if a student can achieve 70% of the descriptors for a particular language proficiency level, they are considered to have reached that level <sup>[11]</sup>. On the Likert five-point scale, the lowest self-evaluation score is "1" (completely disagree), and the highest is "5" (completely agree). According to the 70% criterion, a self-evaluation score of 3.5 or above for a particular level indicates that the student has achieved that level.

The research team collected and collated 186 interview records, with a recovery efficiency of 99.46%. All qualitative data and audio recordings were transcribed into text, coded, and further analyzed.

### 3.4. Research results and analysis

#### 3.4.1. Questionnaire results and analysis

The research team aggregated and processed the self-evaluation scores for the eight abilities, including knowledge of language components and their application, and overall self-evaluation, dividing them into five levels. These levels are represented by numbers 1 to 5, which indicate the students' overall self-evaluation performance in each section. The higher the number, the better the performance. Descriptive statistics were then conducted in this section.

**Table 4.** Language proficiency self-assessment descriptive statistics (English)

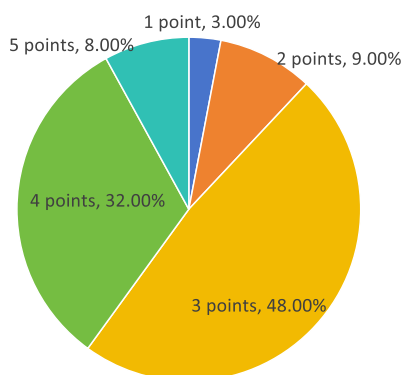
Languages	Average	Median	Majority	Standard deviation
Ability to apply knowledge	3.30	3.00	3.00	0.76
Listening comprehension skills	3.11	3.00	3.00	0.82
Reading comprehension skills	3.25	3.00	3.00	0.78
Oral communication skills	3.22	3.00	3.00	0.82
Written communication skills	3.04	3.00	3.00	0.86
Application ability	3.16	3.00	3.00	0.88
Interpretation skills	3.06	3.00	3.00	0.86
Translation skills	3.13	3.00	3.00	0.82
Overall self-evaluation	3.33	3.00	3.00	0.87

**Table 5.** Language proficiency self-assessment descriptive statistics (Russian)

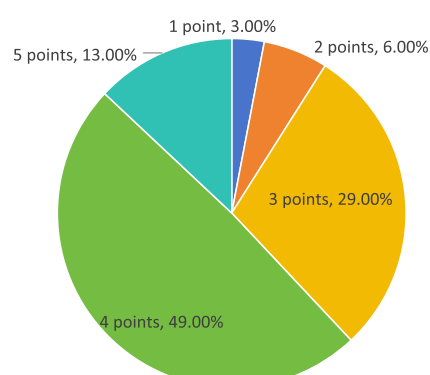
Languages	Average	Median	Majority	Standard deviation
Ability to apply knowledge	3.51	4.00	4.00	0.79
Listening comprehension skills	3.39	3.00	3.00	0.85
Reading comprehension skills	3.55	4.00	4.00	0.79
Oral communication skills	3.42	3.00	4.00	0.79
Written communication skills	3.43	4.00	4.00	0.81
Application ability	3.54	4.00	4.00	0.86
Overall self-evaluation	3.63	4.00	4.00	0.88

**Table 4** and **Table 5** show that the average scores of students participating in the questionnaire survey range from 3.04 to 3.30 for English and from 3.42 to 3.55 for Russian. The standard deviations are between 0.76 and 0.88, indicating a relatively small degree of dispersion and limited variation in the scores among students. None of the students' English language abilities have reached the designated level, while their Russian language abilities are slightly better. Specifically, their proficiency in language components, application, reading comprehension, and pragmatic use have met the required level for Russian. The mode and median of students' self-evaluation scores for English language ability are both 3, whereas for Russian, they are 3 or 4. This suggests that, despite the overall deficiency in language proficiency, students' Russian language skills are better than their English language skills.

Pie chart of frequency distribution of overall self evaluation scores

**Figure 4.** Frequency distribution of overall self-assessment scores (English)

Pie chart of frequency distribution of overall self-evaluation scores

**Figure 5.** Frequency distribution of overall self-assessment scores (Russian)

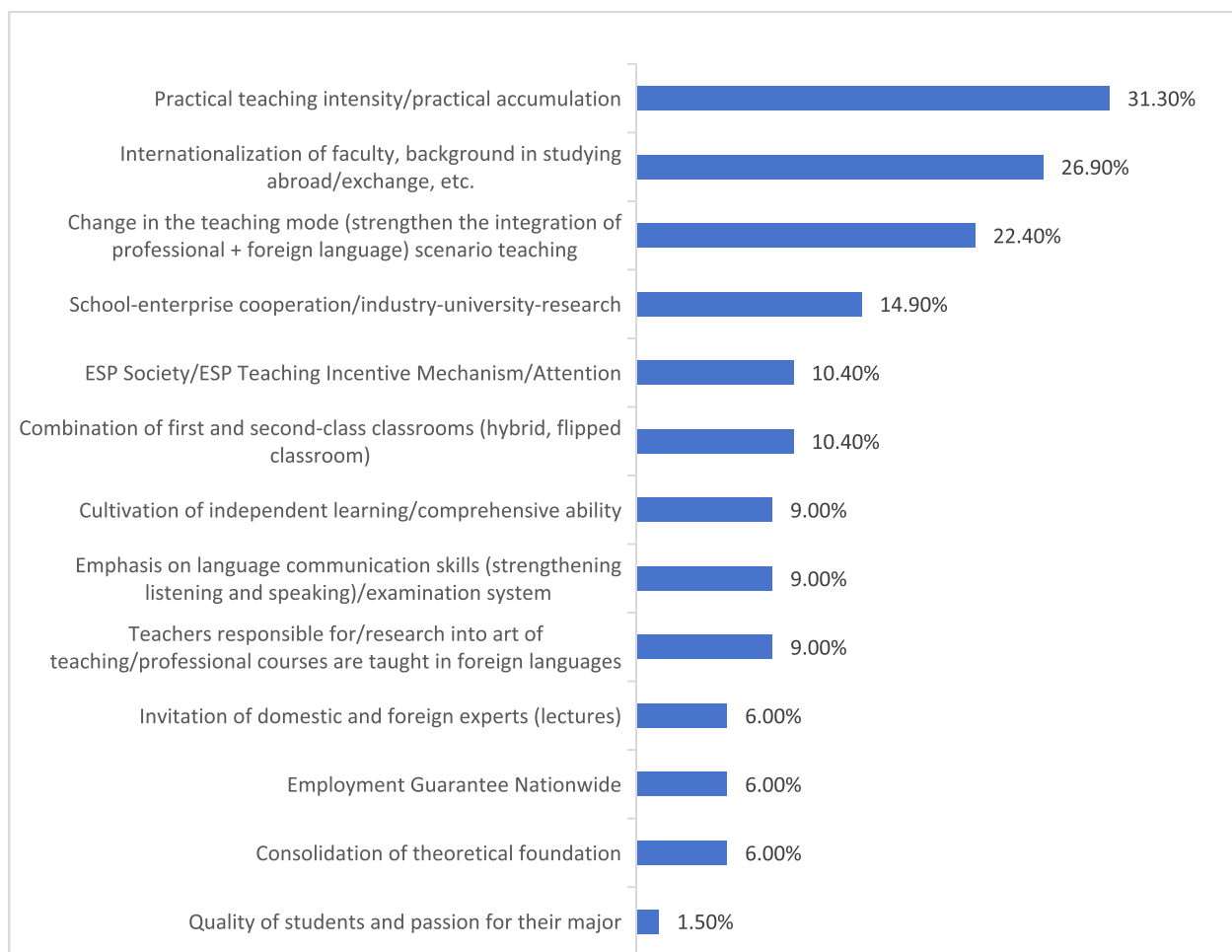
**Table 3** and **Table 4**, along with **Figure 4** and **Figure 5**, indicate that the average self-evaluation scores for students' English and Russian language abilities are 3.33 and 3.63, respectively. The median and mode for English are both 3, while those for Russian are both 4. These results suggest that students' English language ability is average, whereas their Russian language ability is slightly better.

### 3.4.2. Interview results and analysis

The research team interviewed 186 individuals to solicit suggestions on how to improve the international language proficiency of students in Xinjiang universities. After data aggregation and categorical analysis, it



was found that the suggestions mainly focused on practical teaching, teacher training, curriculum reform, and school-enterprise cooperation (as shown in **Figure 6**).



**Figure 6.** Interview suggestion ratio chart

## 4. Research on the path to improve the language ability of international talents in Xinjiang Universities

Based on the results of questionnaires and interviews, it is urgent to improve the language proficiency of international talents in Xinjiang universities. This can be achieved through five aspects: curriculum system, practical teaching, international cooperation, evaluation system, and teaching staff construction.

### 4.1. Optimizing the curriculum system and training objectives

- (1) Optimizing training objectives: Clarify the training objectives for the language proficiency of international talents, focusing not only on the mastery of language knowledge but also emphasizing language application skills and cross-cultural communication skills, to cultivate compound talents suitable for international exchanges.
- (2) Promoting curriculum reform: Strengthen the construction of basic foreign language courses to provide students with a solid language foundation. Introduce interdisciplinary courses such as

international trade, law, etc., combined with language learning, to cultivate students' language application skills in professional fields.

#### **4.2. Strengthening practical teaching and language environment construction**

- (1) Enriching practical teaching activities: Organize students to participate in international exchanges, overseas study tours, volunteer services, and other activities to provide real-life language application scenarios. Conduct simulated international conferences, business negotiations, diplomatic negotiations, and other activities to improve students' practical language skills.
- (2) Creating a good language environment: Utilize campus radio, television, internet, and other resources to broadcast foreign language programs and provide foreign language learning materials. Hold foreign language corners, foreign language speeches, reading, and writing competitions to stimulate students' interest in language learning.

#### **4.3. Promoting international cooperation and exchange**

- (1) Strengthening cooperation with international universities: Establish cooperative relationships with foreign universities to carry out activities such as student exchanges, teacher visits, and joint training. Introduce high-quality educational resources from abroad, such as textbooks, courses, and teaching methods, to improve teaching quality.
- (2) Expanding cooperation with international enterprises: Cooperate with foreign companies to carry out internships, employment guidance, and other activities to provide more practical opportunities for students. Customize training programs based on corporate needs to cultivate international talents with the language skills required by enterprises.

#### **4.4. Improving the evaluation system and incentive mechanism**

- (1) Establishing a scientific evaluation system: Adopt multiple evaluation methods, such as oral tests, writing assessments, translation assignments, and cross-cultural communication skills tests, to comprehensively evaluate students' language proficiency.
- (2) Setting up scholarship and incentive mechanisms: Reward students who excel in language learning and international exchanges. Establish a special fund to support students' participation in international competitions, exchange activities, and many more.

#### **4.5. Strengthening the construction of teaching staff**

Strengthen teaching staff by improving teachers' language skills. Encourage teachers to participate in domestic and international language training and academic exchange activities to enhance their language proficiency and teaching level. Introduce teachers with overseas study or work experience to enhance the international background of the teaching team.

### **5. Conclusion**

Xinjiang urgently needs international talents who are proficient in foreign languages, and foreign language teaching in Xinjiang universities has an unshirkable responsibility to address this challenge. Through questionnaire surveys conducted among students majoring in English, international trade, and other related

fields at seven universities in Xinjiang, as well as interviews with students, teachers, and employers, the research team assessed the current situation and identified existing problems regarding English and Russian language proficiency among international talents in Xinjiang universities. Based on these findings, the team proposed effective strategies to improve language proficiency from five key areas, including the optimization of the curriculum system. These efforts are expected to cultivate more talents with an international perspective and cross-cultural communication skills, support the development of the core area of the “Silk Road Economic Belt,” promote the growth of the Xinjiang Free Trade Zone, and provide strong support for Xinjiang’s high-level opening-up and high-quality development.

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## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] University Student Essentials Website, 2024, Which Universities Offer Undergraduate Programs in Xinjiang in 2024? A Complete List of All Undergraduate Universities in Xinjiang (21 Universities). Published June 21, 2024. <https://www.dxsbb.com/news/50300.html>
- [2] Wen Q, 2022, International Communication Ability, National Discourse Ability, and National Language Ability — With a Discussion on the “Two-Wheel Drive” Strategy for Cultivating International Communication Talents. *Journal of Hebei University (Philosophy and Social Science Edition)*, 2022(03): 17–23.
- [3] Liu J, 2017, China’s Standards of English Language Ability and English Learning. *Foreign Languages in China*, 2017(06): 4–11.
- [4] Liu J, 2019, China’s Standards of English Language Ability and English Teaching. *Foreign Language World*, 2019(03): 7–14.
- [5] Wang S, 2018, The Application of China’s Standards of English Language Ability in College English Teaching. *Foreign Language Education*, 2018(04): 1–4.
- [6] Zhao Wen, Wang H, 2020, Constructing University English Language Ability in the New Era. *Foreign Language World*, 2020(04): 19–27.
- [7] Zhao Jingwan, Xia W, 2018, Investigation on the Current Situation of English Language Ability and Intercultural Communication Competence of Xinjiang Ethnic Minority Preparatory Students. *Journal of Inner Mongolia Normal University (Education Science Edition)*, 2018(01): 97–105.

- [8] Yan X, 2013, Investigation on Language Attitudes and Language Abilities of Kazakh, Chinese, and English among Kazakh University Students in Xinjiang. *Journal of Ili Normal University*, 2013(03): 17–21.
- [9] Bali H, Liu M, 2023, Exploring Pathways to Improve ESP Language Abilities of Postgraduate Students in Finance and Economics — Taking Xinjiang Universities as an Example. *Foreign Economic Relations and Trade*, 2023(05): 64–67.
- [10] Ministry of Education of the People’s Republic of China, 2018, National Language and Character Work Committee. *China’s Standards of English Language Ability (National Language and Character Norms GF0018-2018)*, Higher Education Press, Beijing.
- [11] Hasselgreen A, 2013, Adapting the CEFR for the Classroom Assessment of Young Learners’ Writing. *The Canadian Modern Language Review*, 2013(04): 415–435.

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# The Teaching Mode Reform and Innovation of “Specialized English for Environmental Design” in the Context of Educational Internationalization

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**Abstract:** As informatization and globalization continually deepen, the demand for internationally qualified talents increases, so the globalization of higher education is an inevitable trend in today’s society. As a first-line course that is directly connected with internationalization, “Specialized English for Environmental Design” is now offered in many universities in China. However, there are many problems in the combination of the course design and teaching objectives, so this paper takes the course in XDSISU as an example, analyzing the series of teaching reforms and innovations that have been carried out, hoping to provide a certain reference value for related courses.

**Keywords:** Environmental design; Specialized English; Teaching reform

**Online publication:** November 13, 2024

## 1. Introduction

With the development of “the Belt and Road” and the policy of “Education power” and “the Workforce Development Strategy”, the internationalization of higher education has become an important part of strengthening the educational system and country modernization, it is also the trend for all universities in China <sup>[1]</sup>. As environmental design is a discipline that strongly combines theory with practice, the interdisciplinary and application-oriented talent this course cultivates, not only needs to be equipped with expert knowledge but also adapt to educational internationalization, as well as proficiently use English to carry out project proposals and negotiation, finally meet the needs of the whole design industry.

This paper takes the teaching mode reform and innovation of the course “Specialized English for Environmental Design” in Xianda College of Economics and Humanities, Shanghai International Studies University (XDSISU for short) as a case study, discusses the combination of English teaching with



environmental design in the context of educational internationalization, to better enhance students' ability to conduct national and international design project communications, and to analyze worldwide materials and literature, thus achieving the cultivating goal of modernization and international qualification talents.

## **2. Current teaching mode of “Specialized English for Environmental Design”**

“Specialized English for Environmental Design” is a compulsory course for environmental design, aiming at specialized English learning and multi-national design project communications. After studying, students will be able to master a series of core vocabulary and phrases, proficiently use English to present design proposals or negotiations as well as browse worldwide materials and literature, finally becoming a multi-disciplinary and diversified highly-skilled talent in line with the needs of the country, university, and the market.

The teaching objectives for art and design majors in the country are mostly realized in the course of “College English”, like cultivating students' ability to read English literature and training their general listening, reading, and writing skills <sup>[2]</sup>. While the teaching objectives for “Specialized English” need to be more targeted and practical, focused on enriching and expanding students' expert vocabulary, and training the design project presentation and communication skills. At the same time, closely combining the design's major characteristics, conducting the teaching process from shallower to deeper, and ultimately meeting the teaching objectives.

### **2.1. Current teaching arrangements**

“Specialized English for Environmental Design” in most universities in China is arranged in lower grades. As art and design majors are more likely to arrange more foundation courses and less practical courses in lower grades, while more practical courses and fewer foundation courses in higher grades, practical courses require more effort and time. The advantage of arranging “Specialized English” in lower grades is that it efficiently combines with major foundation courses, and students have enough time to study and review, which is good for English learning.

Nevertheless, arranging “Specialized English” in lower grades is highly overlapped with the general compulsory course “College English” that is offered in the same period, so students have to face two types of English courses at the same time <sup>[3]</sup>. As a result, higher demands towards university and faculty in terms of the complementarity and differentiations between two English course teaching are placed out.

In the aspect of class hours and credit arrangement, “Specialized English for Environmental Design” in most universities is around 24 class hours to 40 class hours, usually in one semester. It can be seen that the class hours and credit allocation are less than that of “College English” as well as other major courses <sup>[4]</sup>. Thus, it is more likely to expose students to a great number of English expert vocabulary in a short period when they have not yet formed their expert knowledge system. From this, students are confused in terms of the vocabulary and phrase system, which is not good for English learning.

### **2.2. Current teaching contents and methods**

Environmental design involves a wide range of majors, like architectural design, interior design, and landscape design, and is also inextricably linked with industrial design, public art, and other design majors <sup>[5]</sup>. Correspondingly, the teaching content of “Specialized English for Environmental Design” is relatively wide

and cross-disciplinary, which puts forward higher requirements for teaching content planning.

At present, the selection of teaching materials for “Specialized English for Art Design” is varied, but for “Specialized English for Environmental Design” are few, as the teaching content and the textbook are not deeply connected with the original foreign publications, and mainly focused on vocabulary lists and extensive readings, thus the teaching materials are considered to be impractical and ineffective <sup>[6]</sup>. The teaching method is mostly lecture-based learning, which means the teacher directly feeds the theory to students <sup>[7]</sup>. The teaching mode is inflexible and the teaching method is conservative, although compulsorily feeding vocabulary and reading can enhance the student’s ability of English literature reading in a certain degree, it is unlikely to stimulate their learning interest, and cannot effectively practice the English using ability, thus failing to truly realize the teaching objectives.

### **2.3. Current assessment methods and faculty**

The assessment method of “Specialized English for Environmental Design” in most universities still takes the form of closed-book examinations, like paper translation, vocabulary testing reading comprehension, and so on. The assessment of spoken English is limited, lacking the assessment of oral skills under business or proposal presentation scenarios, which is not a good way to examine the specialized English learning results <sup>[8]</sup>.

In the aspect of faculty, there are two categories of lecturers for this course, one is those with a design major background and the other is those with an English major background, both of them have certain limitations. Due to the characteristics of art and design majors, lecturers with design major backgrounds have relatively lower English skills and lack bilingual teaching capacity and experience, which makes it difficult to carry out an effective and orderly teaching process. Yet the strong interdisciplinary nature of the environmental design major requires lecturers to have solid design backgrounds, which is practically impossible for lecturers with English major backgrounds to reach the depth and breadth of design majors in teaching “Specialized English for Environmental Design” <sup>[9]</sup>. Thereby, brings out the predicament of the faculty for the course “Specialized English for Environmental Design” in many universities in China.

## **3. Teaching mode reform of “Specialized English for Environmental Design”**

The previous analysis shows that the course “Specialized English for Environmental Design” has many problems in terms of teaching arrangements, teaching contents, teaching methods, assessment methods, and faculty. To solve these problems, the author puts forward the following strategies for reforming the teaching mode.

### **3.1. Teaching arrangements reform**

In the author’s opinion, “Specialized English for Environmental Design” should be arranged in lower grades in universities, and be taught as a foundation course. Since “College English” is generally arranged in the beginning four semesters of the lower grades, it is appropriate to arrange “Specialized English for Environmental Design” in the second semester of the sophomore year. As the students’ English skills have been relatively improved after studying “College English” during three semesters, the further training in specialized English that is offered afterward stands a chance to effectively improve their overall English skills, as well as less overlap with the teaching process of “College English”. Moreover, after the major

course cultivation in three semesters, students are more likely to have a deeper understanding of the expert knowledge, which helps them to integrate the overall expert knowledge system with specialized English.

In terms of class hours, it is appropriate to arrange the course into about 32 class hours which can be divided into 2 class hours per week in 16 weeks or 4 class hours per week in 8 weeks<sup>[10]</sup>.

### **3.2. Teaching contents and methods reform**

In the aspect of teaching contents reform, it should follow the characteristics of the environmental design major that combines theory with practice, and abandon the conservative teaching mode of lecture-based learning. The course “Specialized English for Environmental Design” taught by the author in XDSISU is divided into three modules: theoretical lectures, educational practices, and assessment.

The theoretical lecture module is focused on expert English learning and is aimed at consolidating the foundation of specialized English, in which a series of expert vocabulary expansions and intensive reading are carried out. In the educational practice module, innovation attempts such as scene simulation practice, role-playing practice, and outdoor practice are carried out, aiming at stimulating students’ learning interests as well as examining English learning results. In the assessment module, students are requested to research the typical design projects according to the selected topics and make a presentation to explain the design project using specialized English, in which design reports are also requested to be presented. The overall assessment is made up of presentation and writing, on the one hand, it expands their ability to collect and summarize information as well as practice their oral English, on the other hand, it tests their ability to write and translate design reports, to achieve the teaching objectives of combining theory with practice.

In the selection of teaching materials, besides textbooks as the basic theoretical material, it is also necessary to add original foreign publications, design websites, and other up-to-date materials<sup>[11]</sup>. The teaching materials with text, words, videos, pictures, and building models motivate students as well as broaden their horizons, which is vital for art and design major students.

### **3.3. Faculty reform**

During the bilingual teaching process of “Specialized English for Environmental Design”, the faculty is an extremely important part of the whole process. In the author’s opinion, the solid and reliable professional qualifications and English skills of the faculty directly affect the teaching process of the course. Therefore, universities that offer this course should pay more attention to the cultivation and establishment of high-quality teaching teams.

For example, lecturers with the following situations are considered to be proper for this course: design major lecturers with abroad study backgrounds; design major lecturers who have passed public English language ability tests or university-level bilingual teaching assessments; and English major lecturers who have certain in-depth understanding and research on design majors<sup>[12]</sup>.

## **4. Teaching mode innovation of “Specialized English for Environmental Design” in XDSISU**

Xianda College of Economics and Humanities, Shanghai International Studies University is an application-oriented university in Shanghai, and it is characterized by the concept of international education. Based on the university’s concept and in line with the trend of international development, the course “Specialized

English for Environmental Design” has put forward several innovation attempts in terms of teaching mode reform, to cultivate multi-disciplinary, diversified, and high-quality design professionals who can meet the needs of internationalization.

#### **4.1. Innovation of practice module: Scene simulation and role-playing**

Issues like “only rote learning, but not using” are commonly existing during the English teaching process in universities in China, in which students can only use the words or sentences separately and passively, so it is difficult for them to nimbly utilize the language according to scenarios. However, the key point of specialized English teaching is to build up the possibility for students to use English as a business communication tool in the future, such as design proposal presentation and construction guidance, which requires a higher level of practical application for words and sentences according to scenarios <sup>[13]</sup>.

“Scene re-enactment” is a common teaching method in English teaching <sup>[14]</sup>. In this course, the author integrated the interactive practice of “scene simulation and role-playing”, adopting the general design work scenes of “design review” and “design explanation” which are selected from some representative interior design variety shows like “Amazing Interiors”, “Dream Home Makeover”, and “Interior Design Master.” Students are freely divided into groups of two or three, role-playing the owners or designers respectively, and conducting the design show clips to practice the conversations in certain scenarios.

For example, how to describe design concepts and how to negotiate and coordinate during the construction process. Through a 20-minute scene simulation practice, students can truly master the common specialized English in business conversations, improve their oral skills and finally lay a solid foundation for them to proficiently use English as a communication tool in the future.

#### **4.2. Innovation of practice module: City walking practice**

City walking is a popular activity among young people in Shanghai, where participants explore the city and experience its unique charm through stroll. At the same time, Shanghai has organized a series of “Stories of Shanghai Architecture” activities, where various types of excellent architectural tours are open to the community <sup>[15]</sup>.

In this course, the author integrated these two typical activities in Shanghai with specialized English knowledge, creatively carried out the bilingual outdoor practice of “City Walk with Specialized English for Environmental Design”, leads the students to visit the famous buildings and design scenes in Shanghai, while the lecturer gives bilingual explanation using expert vocabulary and phrases, helps students to transform textbook knowledge into practical ability, as well as adopts a creative teaching method to motivate their enthusiasm towards English learning, therefore helps them to better master specialized English.

### **5. Conclusion**

Environmental design is a discipline that combines theory with practice, emphasizing the cultivation of multi-discipline and application-oriented high-quality talents. “Specialized English for Environmental Design” is the result of a closely integrated environmental design major with the globalization of higher education, and it is one of the foundations for cultivating and delivering internationally qualified talents to society. In this course, international communication ability should be considered as the core, and closer attention should



be paid to the ability to connect with international demands. Thus, teaching contents, teaching methods, assessment methods, and faculty should be carefully considered during the course design process, which requires us to closely combine the teaching objectives with application-oriented and internationalization, fully conduct the teaching mode reform, and deeply explore the potential innovation, to cultivate multi-discipline, diversified and international qualified talents who meet the demands of the country, university, and the market.

## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] He LZ, 2023, Reshaping the Curriculum System of College Foreign Language Teaching in Service of the Building of a Strong Nation in Higher Education. *Foreign Language World*, 2023(5): 2–7.
- [2] Duan R, 2019, New Thought of English Teaching: Taking the Environment Light Design Course of Chongqing Business and Technology University as an Example. *Light & Lighting*, 43(2): 23–25.
- [3] Bie DR, Li JX, 2015, The Provision and Reform Strategies of Common Courses in Institutions of Higher Education in China. *China Higher Education Research*, 2015(12): 18–26. <https://doi.org/10.16298/j.cnki.1004-3667.2015.12.0410.16298/j.cnki.1004-3667.2015.12.04>
- [4] Wang F, 2019, Research on English Teaching in Art and Design Classes. *Science & Technology Information*, 17(16): 141–143. <https://doi.org/10.16298/j.cnki.1004-3667.2015.12.0410.16661/j.cnki.1672-3791.2019.16.141>
- [5] Wan YY, 2024, A Study of Teaching Methods for Interdisciplinary Integration of Interior Design Courses. *Art Education Research*, 2024(11): 153–155 + 177.
- [6] Huang L, 2021, Discussion on the Development of Art Design General English Course in Art and Design Colleges. *Guangxi Education*, 2021(3): 160–161.
- [7] Liu J, Zhou J, 2020, Applied Research on ESP Teaching Mode in the English Course of Art Design Major at Vocational Colleges. *Journal of Chuzhou Polytechnic*, 19(2): 95–97.
- [8] Zhang LJ, 2021, Teaching Reform of “Design Professional English” Course for Clothing Design Majors. *Light and Textile Industry and Technology*, 50(5): 162–163.
- [9] Zhang JQ, 2023, Exploring the Practice of Bilingual Teaching in Visual Communication Design. *Shanghai Packaging*, 2023(5): 205–207. <https://doi.org/10.19446/j.cnki.1005-9423.2023.05.070>
- [10] Cai X, Zheng Q, 2015, An Experimental Study on the Reform of Foreign Language Teaching Curriculum for Art and Design Majors in Colleges and Universities. *Art Science and Technology*, 28(9): 255.
- [11] Zhang W, Zhang Q, Gao HH, et al., 2017, Research on Teaching English to Art and Design Majors. *University Education*, 2017(8): 131–132.
- [12] Lin XF, 2017, Reform and Practice of English Course Teaching for Art and Design Majors. *Hunan Packaging*, 32(4): 143–145.
- [13] Huang YL, 2021, On the Mixed Teaching Mode of “English + Major” in Art and Design Colleges—Take Beihai College of Art and Design as an Example. *Comparative Study of Cultural Innovation*, 5(15): 53–56.
- [14] Gou HM, 2013, Discussion of Specialized English Teaching for Architecture Engineering in Higher Vocational Colleges. *Journal of Chongqing College of Electronic Engineering*, 22(2): 130–132. <https://doi.org/10.13887/j.cnki.>



jccee.2013.02.011

- [15] Jin WG, Su YL, 2024, High-Quality Development of Public Cultural Services: Practice in Shanghai. Library Journal, preprint. <http://kns.cnki.net/kcms/detail/31.1108.G2.20241017.1624.002.html>.

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# Application of Fiberoptic Bronchoscope Simulation Training in Airway Management and Thoracic Surgery Anesthesia Teaching

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**Abstract:** Fiberoptic bronchoscope simulation training, as an emerging teaching method, has demonstrated significant advantages in airway management and thoracic surgery anesthesia teaching. This article reviews the application of fiberoptic bronchoscope simulation training in airway management and thoracic surgery anesthesia teaching, aiming to explore its teaching significance and practical application effects. Through literature review and case analysis, this article finds that fiberoptic bronchoscope simulation training can not only improve trainees' operational skills but also deepen their understanding of anatomical knowledge, to achieve a skill level similar to or even better than traditional teaching and training in clinical practice.

**Keywords:** Fiberoptic bronchoscopy; Simulation training; Anesthesia teaching; Airway management

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## 1. Introduction

Fiberoptic bronchoscopy is an important diagnostic and therapeutic technique in respiratory medicine, and it is a crucial medical device for the diagnosis and treatment of bronchial and pulmonary diseases. Due to its fine diameter, flexibility, good lighting, and clear field of vision, the fiberoptic bronchoscope has become an indispensable tool for respiratory physicians in diagnosing and treating lung diseases. However, the operation of the fiberoptic bronchoscope requires high technical requirements, and operators need to have rich anatomical knowledge and skilled operating techniques. Therefore, fiberoptic bronchoscope simulation training is particularly important in airway management and thoracic surgery anesthesia teaching.

## **2. Background and significance of fiberoptic bronchoscope simulation training**

### **2.1. Application of fiberoptic bronchoscope in clinical practice**

Due to its unique advantages, the fiberoptic bronchoscope has been widely used in multiple clinical fields. In airway management, the fiberoptic bronchoscope can be used for intubation in difficult airways, improving the accuracy and safety of intubation. In thoracic surgery anesthesia teaching, the fiberoptic bronchoscope can be used to guide the positioning of double-lumen tubes, ensuring the effectiveness of anesthesia.

### **2.2. Limitations of traditional teaching methods**

Traditional teaching methods in fiberoptic bronchoscope training typically involve theoretical explanations and observational operations. However, this approach has several limitations. Firstly, theoretical teaching lacks practical operation opportunities, making it difficult for trainees to grasp the essentials of the procedure. Secondly, although observational operations provide some practical experience, trainees' skills are constrained by the conditions of observation and their own operational experience, making it challenging to significantly improve their abilities<sup>[1]</sup>.

### **2.3. Advantages of simulation training**

Simulation training, as an emerging teaching method, offers several advantages. Firstly, it provides a realistic operational environment, allowing trainees to master key operational techniques through simulated procedures. Secondly, simulation training enables repeated practice, enhancing operational proficiency and accuracy. Finally, it reduces operational risks, preventing potential patient injury during actual procedures<sup>[2]</sup>.

## **3. Application of fiberoptic bronchoscope simulation training in airway management**

### **3.1. Intubation in difficult airways**

Intubation in difficult airways poses a significant challenge in airway management. Due to its excellent visibility, flexible maneuverability, and high safety profile, fiberoptic bronchoscope-guided intubation has emerged as an effective solution for addressing difficult airway intubation issues. Simulation training allows trainees to master the techniques of fiberoptic bronchoscope-guided intubation in difficult airways by simulating real-life scenarios<sup>[3]</sup>.

### **3.2. Enhancement of intubation skills**

Simulation training enables trainees to repeatedly practice intubation procedures in a controlled environment, thereby improving their proficiency and accuracy. Research indicates that trainees who undergo simulation training demonstrate significantly better performance in intubation procedures compared to those without such training. Additionally, simulation training equips trainees with the ability to respond effectively to potential complications that may arise during the intubation process, enhancing their emergency response capabilities<sup>[4]</sup>.

## **4. Application of fiberoptic bronchoscope simulation training in thoracic surgery anesthesia teaching**

### **4.1. Double-lumen tube positioning**

Double-lumen tube positioning is a crucial procedure in thoracic surgery anesthesia. Fiberoptic bronchoscope-guided double-lumen tube positioning ensures effective anesthesia and reduces anesthetic risks<sup>[5]</sup>. Simulation training allows trainees to master the skills of fiberoptic bronchoscope-guided double-lumen tube positioning through simulated thoracic surgery anesthesia scenarios.

### **4.2. Improvement of anesthesia skills**

Simulation training enables trainees to repeatedly practice anesthesia procedures in a simulated environment, enhancing their proficiency and accuracy. Studies have shown that trainees who have undergone simulation training perform significantly better in anesthesia procedures than those who have not<sup>[6]</sup>. Moreover, simulation training equips trainees with the ability to respond effectively to potential complications that may arise during the anesthesia process, improving their emergency response capabilities.

## **5. Teaching practice of fiberoptic bronchoscope simulation training**

### **5.1. Instructional design**

The instructional design of fiberoptic bronchoscope simulation training should follow the following principles. Firstly, clarify the training objectives to ensure that the training content meets the actual clinical needs. Secondly, design realistic simulation scenarios so that trainees can immerse themselves in the simulated operations. Finally, establish scientific evaluation criteria to objectively assess trainees' operational skills.

### **5.2. Teaching methods**

Various teaching methods can be adopted in fiberoptic bronchoscope simulation training, including theoretical explanations, simulated operations, and group discussions. Theoretical explanations enable trainees to understand the basic principles and operational steps of the fiberoptic bronchoscope. Simulated operations allow trainees to master key operational techniques in a simulated environment. Group discussions foster communication and cooperation among trainees, leading to mutual improvement in operational skills<sup>[7]</sup>.

### **5.3. Teaching effectiveness evaluation**

Evaluating teaching effectiveness is a crucial aspect of fiberoptic bronchoscope simulation training. The evaluation should cover trainees' operational skills, theoretical knowledge, and emergency response capabilities. Methods such as practical assessments, theoretical exams, and case analyses can be employed. Through evaluation, the learning progress of trainees can be understood, providing a basis for further optimizing the instructional design<sup>[8]</sup>.

## **6. Challenges and prospects of fiberoptic bronchoscope simulation training**

### **6.1. Challenges**

Despite the significant advantages of fiberoptic bronchoscope simulation training in airway management

and thoracic surgery anesthesia teaching, it still faces some challenges. Firstly, the high cost of simulation equipment limits the widespread availability of simulation training. Secondly, simulation training requires professional instructors for guidance and evaluation, placing high demands on teachers' professional quality and teaching abilities<sup>[9]</sup>.

## 6.2. Prospects

In the future, with the continuous advancement of technology and the development of medical education, fiberoptic bronchoscope simulation training is expected to play a greater role in airway management and thoracic surgery anesthesia teaching<sup>[10]</sup>. On one hand, as simulation technology continues to improve, simulation equipment will become more realistic and intelligent, providing trainees with a more authentic operational experience. On the other hand, with the deepening of medical education reform, fiberoptic bronchoscope simulation training will receive more attention and support, promoting its widespread use and application in medical education.

## 7. Conclusion

In summary, fiberoptic bronchoscopy simulation training has demonstrated its unique advantages in airway management and thoracic surgery anesthesia teaching, especially in improving trainees' operational skills and deepening their understanding of anatomical knowledge. Through simulation training, trainees can practice repeatedly in a low-risk environment, significantly improving their practical proficiency and emergency response capabilities. However, simulation training still faces challenges such as equipment costs and teacher requirements. With the advancement of science and technology and the development of medical education, fiberoptic bronchoscopy simulation training is expected to play a more important role in the future, promoting the further optimization and development of airway management and thoracic surgery anesthesia teaching.

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## References

- [1] Jin B, Shang Y, Chen M, et al., 2023, Application of Fiber Bronchoscope Simulation Training in Airway Management and Thoracic Surgery Anesthesia Teaching. *Medical Equipment*, 36(17): 66–68 + 71.
- [2] Lv X, 2019, Application of Endotracheal Intubation Under Fiber Bronchoscope Guidance in Difficult Airway. *Electronic Journal of Clinical Medical Literature*, 6(31): 30 + 32.
- [3] Jie Q, Wang X, Fa Z, et al., 2023, Analysis of the Current Status and Improvement Strategies of Fiber Bronchoscope Simulator for Anesthesiologists Teaching. *China Continuing Medical Education*, 15(08): 182–185.
- [4] Li Y, He X, Zhou Y, et al., 2023, Construction and Practice of Project-Driven Teaching in Fiberoptic Bronchoscopy Training System. *Journal of Medical Research*, 52(03): 185–189.
- [5] Du J, Zhang G, Yuan W, et al., 2022, Clinical Application Study of Double-Scope Combined Precise Lobectomy/Segmentectomy in the Treatment of Multidrug-Resistant Cavitary Tuberculosis. *Journal of Jinzhou Medical*



University, 43(06): 66–71.

- [6] Zeng W, Hu Z, 2021, Clinical Effect of Fiberoptic Bronchoscopy-Guided Double-Lumen Endobronchial Tube Intubation in Thoracic Surgery. *Jiangxi Medicine*, 56(07): 1004–1005 + 1022.
- [7] Xu C, Cui S, Xia Z, 2020, Multivariate Analysis of Hypoxemia During Single-Lung Surgery After Fiberoptic Bronchoscopy. *Journal of Molecular Imaging*, 43(03): 516–519.
- [8] Xu J, An Z, He Z, et al., 2020, Interventional Diagnosis and Treatment of Lung Diseases Current Status and Development of Bronchial Intubation. *Chinese Journal of Lung Cancer*, 23(06): 436–439.
- [9] Chen A, Li L, Chen C, et al., 2020, Teaching Experience of Fiberoptic Bronchoscopy for Beginners. *Electronic Journal of Clinical Medical Literature*, 7(45): 184 + 187.
- [10] Chen Z, Huang S, Li Z, 2020, Application of Video Laryngoscope Combined with Fiberoptic Bronchoscopy in Difficult Airway Double-Lumen Endotracheal Intubation in Elderly Patients with General Anesthesia for Thoracic Surgery. *Chinese Medical Innovation*, 17(13): 41–44.

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# Research on the Construction Path of the All-Media Matrix for Online Ideological and Political Education in Universities

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**Abstract:** With the rapid development of information technology, ideological and political education in universities conducted in an online environment has encountered unprecedented challenges and opportunities. The purpose of this study is to deeply analyze how to construct an all-media online ideological and political education system in universities, aiming to enhance the effectiveness and social impact of such education. The article begins by examining the current status of online ideological and political education in universities and exploring the existing problems and their causes. It elaborates on the practical path of building an all-media array for the Internet from various aspects such as improving architectural planning, content creation and distribution mechanisms, technology application and platform construction, and strengthening management and operational structures.

**Keywords:** Universities; Online ideological and political education; All-media matrix; Construction path

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## 1. Introduction

In the current era of rapid information technology development, the internet has become a critical pathway for university students to explore knowledge and exchange ideas. This makes it exceptionally crucial to conduct ideological and political education (IPE) in the online environment of higher education institutions<sup>[1]</sup>. Traditional IPE courses have become inadequate in meeting students' needs in this digital age, as they tend to favor learning about the world through the Internet. On the other hand, the complexities of the online world pose new challenges for IPE work.

To address these challenges, universities must strengthen their online IPE efforts, particularly by utilizing innovative communication methods such as the all-media matrix to achieve deep integration of IPE content with online platforms, thereby enhancing the attractiveness and influence of education. The all-media landscape, which aggregates various media, provides a broad stage for the development of online IPE courses

on university campuses, leveraging its characteristics of rapid information transmission, wide coverage, and significant interactivity. By integrating media assets across multiple platforms, this all-media framework can present students with richer and more diverse knowledge content, stimulating their enthusiasm for learning.

Simultaneously, it breaks down the limitations of traditional IPE in terms of time and space, optimizing the allocation of educational resources. This paper primarily explores how to construct and improve the all-media matrix for online IPE in universities, aiming to enhance the effectiveness and social influence of online IPE through optimizing content generation and transmission methods, utilizing innovative technologies, and creating diversified platforms. This not only promotes innovation and progress in university IPE work but also benefits students by enhancing their media literacy and comprehensive skills, laying a solid foundation for their holistic growth.

### **1.1. Current situation of online IPE in universities**

In modern society, the rapid progress of information technology and widespread internet coverage have increasingly integrated the online world into students' daily lives. Given this situation, conducting IPE for students in the online environment has become extremely critical, presenting new opportunities and challenges for IPE in higher education.

Firstly, observing the content changes of online IPE in universities, it is evident that it is shifting from a singular model to diversified development, moving from universality to a focus on individual differences <sup>[2]</sup>. By utilizing emerging social media such as Weibo, WeChat, Xiaohongshu, and various short video platforms, educational information has become more vivid and practical, not only attracting students' attention but also making it easier for them to understand and digest the core concepts of IPE. However, these innovative teaching methods also pose challenges. Some universities, in pursuit of novelty in form, have relaxed their grasp on the true meaning of IPE. Some educational content sacrifices theoretical depth for the sake of entertainment, failing to deeply resonate with students' hearts. Furthermore, the complexity and diversity of online information also challenge universities in selecting appropriate teaching content and integrating it, adding difficulty to their IPE work.

Secondly, examining the changes in educational models, online IPE courses in universities exhibit unprecedented interactivity and openness. In this mode, students are not confined to traditional classrooms. They can learn, interact, and debate at any time and any place with the help of online platforms. These innovative learning methods have greatly ignited students' passion for knowledge and enhanced their sense of participation and accomplishment. However, the lack of experienced teachers for online IPE courses has also led to varying educational quality, and inadequate platform construction and maintenance have further affected students' educational experience.

Lastly, considering the educational environment, the anonymity and openness of the Internet allow some students to make inappropriate comments or spread false information online, which not only harms the civilized atmosphere of the campus network but also brings negative effects to IPE work. At the same time, the prevalence of many unhealthy values in the online world may also negatively impact students' mindsets, causing them to lose direction in the vast sea of information <sup>[3]</sup>.

## **2. Analysis of the construction path of the all-media matrix for online IPE in universities**

### **2.1. Formulating the construction plan of the all-media matrix**

In advancing the construction of the all-media matrix, negative values circulating on the internet may influence the ideologies of young teachers and students, causing them to lose their judgment in the complex sea of information. The core purpose of building the all-media matrix is to fully integrate online IPE resources in universities, thereby enhancing the effectiveness of IPE and promoting students' comprehensive development. This strategy aims to deepen the understanding of current online IPE and explore and innovate future IPE methods.

Following this objective, we adhere to these principles in planning detailed development strategies through expanding the educational scope of IPE courses, enhancing their social influence, promoting the sharing and efficient utilization of educational resources, and elevating students' awareness and comprehensive literacy in the network information age. These construction goals serve as guiding principles for the university to formulate detailed development strategies. We must deeply analyze the internal and external conditions faced in constructing the all-media matrix to ensure the effective implementation of the planning scheme. This involves exploring the current trends in media technology evolution, insight into students' media usage preferences and expected services, and an evaluation of the university's media resources and execution capabilities. Through such in-depth analysis, we can more accurately grasp the development path and focus of building the all-media matrix.

Based on a clear definition of goals and a thorough analysis of the environment, the university needs to formulate the core tasks and action plans for the development of the all-media matrix. This includes selecting suitable media platforms, refining content production and dissemination methods, enhancing technical application and platform-building capabilities, and improving management and operational processes. These tasks and strategies should be clear and executable, and achieve synergy and comprehensive effectiveness. Simultaneously, the university must also develop an implementation plan for the all-media matrix, specifying the construction timeline, responsible personnel and task allocation, and establishing specific evaluation indicators to ensure the smooth progress and efficient implementation of the all-media matrix construction work <sup>[4]</sup>.

### **2.2. Optimizing content production and dissemination strategies for the all-media matrix**

Exploring how to effectively plan and promote content creation under the all-media matrix is crucial for enhancing the teaching quality and effectiveness of online IPE courses in universities. When creating content, innovation, practical value, and entertainment should not be ignored, as they help attract students' attention and stimulate their strong interest. It is necessary to deeply explore the core ideas and spiritual essence of IPE courses, combine them with the current era's background and students' actual needs, and create educational content that is both profound and personalized.

Simultaneously, attention should be paid to the practical application of content, integrating theoretical knowledge with practical operations to provide effective materials that can guide students in real-world situations <sup>[5]</sup>. In their promotional strategies, universities should maximize the potential of multimedia networks. Initially, selecting appropriate online platforms such as Weibo, WeChat, TikTok, and Xiaohongshu is essential to ensure the rapid and widespread dissemination of information. Subsequently, it is necessary

to establish cooperative relationships and communicate with major online platforms to achieve resource exchange and mutually beneficial results. Additionally, increasing student participation through organizing online activities and interactive discussions can further promote information penetration and emphasize the evaluation and feedback of dissemination effectiveness. Utilizing dissemination data analysis and collecting user feedback helps understand the influence of promotional content and the specific needs of the target audience, providing references for continuous improvement of content generation and dissemination plans.

### **2.3. Innovating technological applications and platform construction for the all-media matrix**

Innovating the framework and technological applications of the all-media matrix is key to significantly enhancing the teaching effectiveness and outcomes of online IPE courses in universities <sup>[6]</sup>. Technically, universities should actively integrate cutting-edge technologies such as artificial intelligence and big data, which will provide strong support for the development of the all-media matrix. Adopting artificial intelligence enables intelligent push and personalized customization of educational content, providing students with more precise teaching resources that meet their needs.

Furthermore, relying on deep analysis from big data can effectively mine students' learning habits and needs, further optimizing content production and information dissemination methods. When building online platforms, universities must focus on their operational stability, user convenience, and the ability to upgrade and expand. A stable and reliable system facilitates a smooth online learning experience for students, while a simple and intuitive user interface reduces operational difficulty, allowing more students to easily participate in online IPE courses. Simultaneously, adequate expansion space should be reserved to adapt to new functions and needs in the future. The university also needs to strengthen the integrated use and mutual support of multimedia platforms, ensuring smooth connection and resource sharing among media. By establishing unified data standards and interface designs, platform data interoperability and interaction are achieved, promoting innovative development of online IPE content.

### **2.4. Strengthening the management and operational mechanisms of the all-media matrix**

To establish a sound management and operational system for the all-media platform, it is necessary to implement a comprehensive management structure, clarify the responsibilities and divisions of labor in each link, and form an effective workflow. Complete management procedures and operational processes should be formulated to ensure the normalization and standardization of the all-media platform's operation and maintenance, guarantee the accuracy and timeliness of information transmission, and effectively avoid the infiltration and diffusion of negative news. Content review and monitoring are also crucial. Schools need to strengthen the review process for published content, build a rigorous review system, and ensure the accuracy and appropriateness of the content released <sup>[7]</sup>.

At the same time, comment areas must be effectively monitored, and inappropriate language should be quickly removed to maintain a clean online environment. The construction and cultivation of the operational team are equally important. Schools need to select staff with professional backgrounds and a strong sense of responsibility to build a highly effective operational team. Through continuous training and learning, the team's professional abilities and innovative thinking can be continuously improved, laying a solid foundation for the long-term stability of all-media development. Establishing an effective feedback mechanism is also



essential. By setting up targeted feedback channels, schools can grasp students' needs and viewpoints in real-time, make targeted improvements to existing problems, and enhance students' satisfaction and sense of participation <sup>[8]</sup>.

## **2.5. Optimizing content production to create an educational atmosphere**

In the context of the rapid development of mobile internet today, the deep integration of multiple media has gradually become a significant trend of the times. As a front for ideological and political education that cultivates new generations, institutions of higher education face new challenges in expanding the dimensions of education, enriching its depth, and striving to achieve optimal dissemination effectiveness and full functionality through various media. In traditional ideological and political courses, the proportion of theoretical knowledge is too high, and the focus is on a relatively narrow scope of moral training, often presented in outdated and rigid language and forms <sup>[9]</sup>.

In the new media era, when constructing an all-media education system, universities should make cultural development a core focus, starting from meeting the actual needs of students. They should emphasize a broad coverage of knowledge, innovative expansion, and deepening of academic professionalism, and proactively incorporate issues closely related to students' growth and personal futures, such as law, safety, mental health, and career development, into the scope of ideological and political education <sup>[10]</sup>. For example, combining practical cases with teaching can inspire students to accurately grasp the connotation of patriotism in the new era. Additionally, utilizing network technology to creatively transform ideological and political teaching materials and adopting an entertaining and educational approach can genuinely educate students, achieving the effective integration of ideal and belief education with the comprehensive quality improvement of students.

## **3. Conclusion**

Exploring the construction pathways of multimedia platforms for networked ideological and political courses in universities reflects deep research into the adaptive needs of higher education political consciousness teaching in the new era. This study aims to analyze the strategies of multimedia platform construction in depth, aiming to clarify how to effectively integrate political consciousness education with network technology under new-era conditions to promote innovation and progress in political consciousness teaching. The article provides a detailed analysis of the construction of the all-media matrix in universities from multiple perspectives, including the guiding role of policies, technical support, the cultivation of teacher teams, and the injection of funds. It aims to provide practical references and demonstrations for ideological and political teaching in the network era. Looking ahead, with the continuous iterative upgrading of information technology and the gradual deepening of ideological and political teaching practices on campus, the all-media matrix is expected to play an increasingly central role in improving the quality and effectiveness of online ideological and political education. The article hopes that authoritative and academic figures in the industry can continuously advance research work, seek innovative strategies and methods, and contribute more substantial theoretical achievements and operational guidelines to the construction of the media matrix for ideological and political education in universities in the network era.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] Li K, 2024, A Three-Dimensional Examination of the Construction of a “Smart Party Building” System in Universities in the Era of Omnimedia. *Journal of News Research*, 15(16): 180–185.
- [2] Zheng M, 2024, Scenes, Narratives, and Communication: Multidimensional Thoughts on the Innovation of Online Ideological and Political Education in Universities in the Era of Omnimedia. *Century Bridge*, 2024(10): 84–86.
- [3] Weng X, Xu H, Cai P, 2024, Exploring the Path of Online Ideological and Political Education for University Students Based on the Evolution of Hot Topic Public Opinion. *Modern Media*, 32(05): 145–148.
- [4] Zheng Z, 2024, The Value Implication and Path Selection of Online Ideological and Political Education in the Context of the Omnimedia Era. *Industrial and Technological Forum*, 23(09): 86–88.
- [5] Liu B, 2024, Exploring the Construction of a “Short Video + Online Ideological and Political” Education System in Universities in the Era of Omnimedia. *Military Conversion to Civilian Use in China*, 2024(05): 64–66.
- [6] Wang S, Han D, Wang Y, et al., 2024, Countermeasures for Strengthening Postgraduate Online Ideological Security Education Through Curriculum Ideology and Politics in the Omnimedia Era. *Industrial and Technological Forum*, 23(05): 110–113.
- [7] Sun T, 2024, Empowering Media Integration: Strategies for Improving the Level of Online Ideological and Political Education in Universities. *Western Radio and Television*, 45(03): 62–65.
- [8] Zhao C, 2023, Research on the Characteristic Path of Online Ideological and Political Education in Universities in the Era of Omnimedia. *Journal of Liaoning Open University*, (03): 78–81.
- [9] Bao L, Yang J, 2023, Exploring the Practical Path for High-Quality Development of Online Ideological and Political Education in Universities. *Beijing Education (Higher Education)*, 2023(08): 61–63.
- [10] Liu C, Ren J, 2023, Analysis of the Construction of Online Cultural Positions in Universities in the Context of Omnimedia. *Journal of News Research*, 14(07): 76–78.

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# Research on the Pathways for Cultivating Health-Oriented Applied Talents in Vocational Education through “Integration of Physical Education and Health” under the Vision of Healthy China

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**Abstract:** Under the strategic framework of “Healthy China”, cultivating health-oriented applied talents in vocational education has become increasingly significant. The concept of “Integration of Physical Education and Health” offers a novel perspective and pathway for talent cultivation by organically combining physical education with health education. This study focuses on the core concept of “Integration of Physical Education and Health”, exploring its pivotal role and practical implementation in vocational education. By analyzing its application in curriculum design, teaching models, faculty development, and evaluation systems, the research identifies key measures such as establishing a scientific curriculum system, optimizing teaching content and methods, enhancing faculty competencies, and building multidimensional evaluation mechanisms. Furthermore, this study proposes targeted strategies based on the practical demands of health education and the unique features of vocational education. These strategies include strengthening school-enterprise collaboration, promoting resource integration, advancing industry-education integration, and constructing supportive health education systems. The findings demonstrate that “Integration of Physical Education and Health” enhances students’ health literacy and vocational adaptability, ensuring high-quality development in vocational education. This research aims to provide theoretical support and practical guidance for cultivating health-oriented applied talents, contributing to the realization of the “Healthy China” vision.

**Keywords:** Health-oriented applied talents; IPEH; Healthy China initiative; Health literacy and employability

**Online publication:** November 13, 2024

## 1. Introduction

The “Healthy China 2030” initiative emphasizes public health, health literacy, and population well-being, aligning with global sustainable goals. Vocational education plays a vital role in fostering health-oriented

talents for the health sector and economy. Traditionally focused on technical skills, vocational education often neglects holistic development, including health education. However, growing workforce demands for health literacy require integrating health and physical education—a concept called “Integration of Physical Education and Health” (IPEH). IPEH aims to improve students’ well-being and prepare them for health-related job challenges.

Despite IPEH’s potential, challenges persist, including limited health education modules and unprepared teaching staff. Research on effective pathways for cultivating health-oriented talents through IPEH remains scarce. This study explores integrating IPEH into vocational education and identifies strategies for implementation.

## **2. Literature review**

### **2.1. Healthy China initiative and its educational implications**

The “Healthy China 2030” blueprint, introduced in 2016, has become a guiding framework for improving the health standards and literacy of the Chinese population. Recent studies have highlighted its educational implications, particularly in fostering health-related competencies among students. Health literacy is increasingly recognized as a critical component of national development, influencing individual productivity and societal well-being <sup>[1]</sup>. The blueprint emphasizes the integration of health education across all levels of education, creating opportunities to embed health awareness and skills within vocational training frameworks <sup>[2]</sup>.

### **2.2. The role of vocational education in health-oriented talent cultivation**

Vocational education has been traditionally focused on equipping students with job-specific skills; however, there is a growing demand for integrating health competencies into vocational curricula to meet the needs of modern industries. Health-oriented training not only enhances employability but also addresses the increasing demand for health professionals in sectors such as elder care, public health, and occupational health management <sup>[3]</sup>. Research also shows that industries increasingly value graduates with both technical expertise and health literacy, necessitating a re-evaluation of vocational education priorities <sup>[4]</sup>.

### **2.3. Integration of physical education and health (IPEH): A new paradigm**

IPEH combines traditional physical education with health education to provide a holistic learning experience. Recent studies underline its significance in vocational education, where physical and mental well-being directly impact students’ future career success. Integrating health education into physical education fosters a deeper understanding of health maintenance and preventive practices, making it particularly relevant for vocational students who often enter physically demanding or health-related professions <sup>[5]</sup>.

### **2.4. Challenges and gaps in IPEH implementation**

Despite its benefits, the implementation of IPEH faces significant hurdles. Limited teacher training in health education is a common obstacle <sup>[6]</sup>. Many vocational educators lack the interdisciplinary expertise needed to deliver IPEH curricula effectively. Furthermore, institutional barriers such as rigid curricula and inadequate resources hinder the integration of health components into vocational training <sup>[7]</sup>. A lack of collaboration between educational institutions and health-related industries further exacerbates these challenges, limiting opportunities for practical applications of IPEH concepts.

## 2.5. Emerging strategies and best practices

To address these challenges, recent research suggests several strategies. Strengthening partnerships between schools and industries is a recurring theme in the literature. School-enterprise collaborations facilitate resource sharing and align vocational training with industry needs. Additionally, implementing teacher development programs focused on health education can bridge the competency gap among educators. Examples from pilot programs in several Chinese vocational schools demonstrate the effectiveness of project-based learning and interdisciplinary teaching methods in integrating IPEH <sup>[8]</sup>.

## 3. Methodology

### 3.1. Research design

This study adopted a mixed-methods approach, combining quantitative and qualitative data to provide a comprehensive understanding of the role and implementation of the integration of physical education and health (IPEH) in vocational education. Quantitative data was collected through surveys targeting students and teachers, while qualitative insights were gathered from interviews with educators, administrators, and industry professionals. Additionally, curriculum content and institutional policies were analyzed to explore the current state of IPEH integration.

### 3.2. Data collection

**Surveys:** A structured questionnaire was developed to assess students' and teachers' perceptions of IPEH, its impact on learning outcomes, and barriers to its implementation. The questionnaire employed a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

**Interviews:** Semi-structured interviews were conducted with educators, administrators, and industry representatives to explore the practical challenges and opportunities of integrating IPEH into vocational training.

**Document analysis:** Institutional curricula, policy documents, and teaching plans were reviewed to identify existing practices and gaps in IPEH implementation.

## 4. Results and data analysis

### 4.1. Quantitative results

The survey was conducted among 300 students and 50 teachers, aiming to understand perceptions of the integration of physical education and health (IPEH) in vocational education. The results are summarized in **Table 1**.

**Table 1.** Survey results on perceptions of IPEH

Category	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)
Improves health literacy	65	25	7	3
Enhances employability	58	30	10	2
Aligns with industry needs	60	28	8	4



## 4.2. Qualitative results

### 4.2.1. Theme 1: Curriculum gaps

Educators emphasized the lack of interdisciplinary teaching frameworks. One teacher stated, “The curriculum does not adequately integrate health topics into technical education, creating a gap in holistic learning.”

### 4.2.2. Theme 2: Teacher training

Teachers identified a need for professional development. An educator remarked, “We need more training to effectively teach health-oriented topics.”

### 4.2.3. Theme 3: Industry expectations

Industry professionals highlighted the growing importance of health literacy in sectors like elder care and manufacturing. A participant noted, “Companies prioritize employees with basic health knowledge and physical resilience.”

## 4.3. Statistical analysis

### 4.3.1. Correlation between variables

Chi-square tests were performed to analyze relationships between perceptions of IPEH benefits and demographic factors such as age and field of study. Results showed significant correlations, indicating that students in health-related fields perceived greater benefits from IPEH.

### 4.3.2. Descriptive statistics

Mean agreement rate across categories: 88%

Standard deviation: 4.3%

## 4.4. Insights from document analysis

An analysis of institutional curricula revealed that there is limited integration, as only 20% of the curriculum included modules explicitly addressing health education. It is also focused on theory as the majority of health-related content lacked practical application, limiting students’ real-world preparedness.

The results confirm the significant role of IPEH in vocational education in health literacy, as the high agreement rates suggest that integrating health education is essential for equipping students with necessary life skills (**Figure 1**). For employability, the enhanced job prospects through IPEH validate its alignment with workforce demands. For challenges, the teacher training and curriculum design remain barriers that require immediate attention.

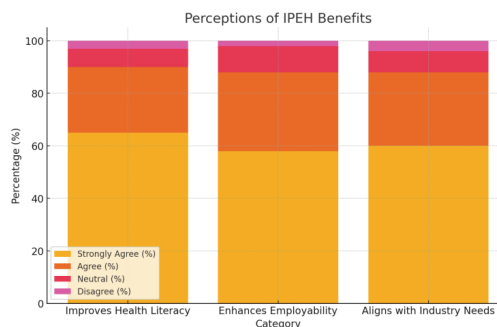


Figure 1. Perceptions of IPEH benefits

## 5. Conclusion

This study highlights the transformative potential of integrating physical education and health (IPEH) into vocational education under the “Healthy China” initiative. The findings demonstrate that IPEH significantly enhances students’ health literacy, employability, and alignment with industry demands. Survey data revealed strong support among students and educators for incorporating health-oriented training into vocational curricula, while qualitative insights underscored the challenges of limited teacher training and inadequate curriculum integration.

The research also identifies actionable strategies to address these challenges, including strengthening teacher development programs, fostering school-enterprise collaborations, and revising curriculum frameworks to emphasize practical health education. These measures can bridge the gap between vocational training and workforce requirements, equipping graduates with both technical skills and health competencies critical for career success.

By embedding health education into vocational training, institutions can not only contribute to the national goal of cultivating a healthier population but also enhance the adaptability and competitiveness of their graduates in evolving job markets. Future research should focus on scaling successful IPEH models across diverse vocational settings and evaluating their long-term impact on student’s professional and personal development. Through a concerted effort, IPEH can become a cornerstone of high-quality vocational education and a driving force in realizing the vision of a “Healthy China.”

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## References

- [1] Zhang X, 2021, Public Health Literacy and its Role in Sustainable Development: Lessons from the Healthy China Initiative. *Global Health Journal*, 18(1): 34–50.
- [2] Li X, Wang Y, 2020, The Healthy China initiative: Implications for Education and Public Health Policy. *Chinese Journal of Public Policy*, 19(5): 12–23.
- [3] Huang L, Liu Y, 2022, Health Literacy in Vocational Education: A Strategic Approach under the Healthy China Initiative. *Health Education Research*, 37(4): 342–358.
- [4] Chen H, 2023, The Evolution of Vocational Education in China: Meeting Modern Workforce Demands. *Journal of Vocational Education and Training*, 45(3): 223–239.
- [5] Liu Z, Zhao L, 2021, Bridging the Gap: Integrating Health Education in Vocational Training for Better Employability. *International Journal of Health and Education*, 26(4): 67–80.
- [6] Wu Y, Tang J, 2023, Teacher Training for Interdisciplinary Health Education: Lessons from Vocational Schools.

Journal of Teacher Development, 35(2): 120–134.

- [7] Zhang P, Chen K, 2022, Addressing Barriers in IPEH Implementation: Insights from Vocational Schools in China. Education and Health Policy Review, 14(2): 78–93.
- [8] Lin P, Zhang H, Liu M, 2023, Innovative Teaching Models for IPEH in Vocational Education: A Pilot Study. Journal of Educational Innovations, 12(1): 15–30.

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# Strategies for Improving College English Teaching Effectiveness Based on Artificial Intelligence

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**Abstract:** With the rapid development of artificial intelligence (AI) technology, the field of education has ushered in new opportunities and challenges. Especially in college English teaching, the application of AI provides new possibilities for improving the teaching effect. This paper aims to explore how to effectively improve the quality of college English teaching in the context of AI. By analyzing the current situation and problems in college English teaching and combining them with the development of AI technology, this paper puts forward corresponding strategies and schemes, aiming to provide reference for college English teaching.

**Keywords:** Artificial intelligence; College English teaching; Teaching effect; Strategy research

**Online publication:** November 13, 2024

## 1. Introduction

Language is a communication tool that can express and transmit thoughts. Every country in the world has its unique language, but English is one of the most used languages in the world. The importance of English across the world cannot be denied and ignored<sup>[1]</sup>. In the context of globalization, English, as an international lingua franca has become increasingly important to learn and use<sup>[2]</sup>. College English teaching is not only important for students when acquiring knowledge, but also a key in improving their comprehensive quality.

Therefore, it is of great significance to improve the effectiveness of college English teaching. In recent years, the rapid progress of global artificial intelligence technology has become an important driving force to promote the rapid development of science and technology in the industry and has had a profound impact on the development of economic society and the progress of human civilization. With the progress of technology, artificial intelligence (AI) has emerged as a viable aid in the field of education, including language acquisition, as technology advances<sup>[3]</sup>. As an emerging technology, artificial intelligence technology

is expected to enhance the teaching effect through personalized learning, intelligent evaluation, and data analysis. This article will discuss this in depth.

## **2. What is artificial intelligence**

Artificial intelligence (AI) is the process of modeling human thinking and designing a machine so that it can behave like humans or other terms called cognitive tasks, namely how machines can learn automatically from programmed data and information. Artificial intelligence can also be interpreted as artificial intelligence or AI is one part of computer science that makes machines (computers) able to do work as and as well as humans do <sup>[4]</sup>. AI systems through algorithms and data processing, can analyze information and improve themselves. In the field of education, the application of AI technology has gradually penetrated personalized learning, intelligent assessment, and data analysis.

## **3. Current situation of college English education in China**

### **3.1. Teaching methods**

At present, college English is a compulsory subject for contemporary college students, and the course content often includes the cultivation of four basic skills: listening, speaking, reading, and writing <sup>[5]</sup>. The goal of English courses in many colleges and universities is to improve students' basic English ability and academic English ability to adapt to future study and work needs. However, in the teaching process, most schools still adopt traditional teaching methods, with teachers giving lectures while students passively listen to lectures and mainly follow the teachers' ideas for learning <sup>[6]</sup>. However, in recent years, more and more colleges and universities have begun to introduce new teaching models such as task-based, interactive, and flipped classrooms, emphasizing students' active participation and practical application ability.

### **3.2. Students' English level**

In addition, the English level of college students varies. Some students are excellent in listening and speaking and can communicate confidently, while others are relatively weak in these two aspects and may only have limited comprehension or expression skills. Some students have a rich vocabulary and can use complex sentences and more accurate grammatical structures. Some students have a small vocabulary and are prone to grammatical errors, which affects the accuracy and fluency of communication. In addition, the quality of English teaching varies greatly from school to school or region. Students from schools with better educational resources tend to be stronger in English ability, while students from areas with relatively poor resources may be deficient in basic knowledge and skills. In the process of English teaching, students' attitude and motivation towards English learning also affect their English level. Some students can take the initiative to participate in communication and practice and constantly improve their English ability, while others may lack interest or motivation, resulting in poor learning results.

Meanwhile, some students lack opportunities for practical use of English (such as international exchange, foreign language corners, etc.). As a result, it is difficult to improve their oral English and listening skills. These differences not only reflect the learning background and ability of individual students but also are closely related to many factors such as teaching methods and resource allocation. Therefore, in college English education, more targeted attention and support should be paid to students with different levels to



improve their overall English level. Such differences make classroom teaching challenging, and teachers should formulate corresponding teaching programs according to students' different learning levels.

### **3.3. In terms of evaluation standards**

The teaching evaluation standards are rigid, and the teaching evaluation adopted by all subjects of education in China is an examination, so it is called exam-oriented education <sup>[5]</sup>. Most colleges and universities adopt standardized tests (such as CET-4, CET-6) as an important standard to evaluate students' English level, which leads some students to focus on the training of test-taking skills, rather than the improvement of practical language application ability.

### **3.4. Teachers' quality**

With the advancement of globalization, more and more colleges and universities have begun to pay attention to the cultivation of intercultural communication ability, set up relevant courses, and constantly improve the professional quality and teaching ability of English teachers. Many teachers participate in training and academic exchanges at home and abroad. However, in some regions, continuing education and professional development opportunities for teachers are still limited. With the development of information technology, emerging learning methods such as online learning and mobile learning have been gradually introduced into English teaching, helping to improve the flexibility and accessibility of learning. However, how teachers can effectively integrate these technologies to enhance teaching effectiveness still needs to be further explored.

## **4. The advantages of AI technology in college English teaching**

Artificial intelligence (AI) is believed to be able to help humans learn better and achieve educational goals more effectively <sup>[4]</sup>. Through AI technology, college English teachers can improve English teaching effect in many aspects. It is mainly reflected in the following aspects: AI-powered language learning platforms offer personalized and adaptive learning experiences, enabling learners to progress at their own pace. Moreover, AI algorithms can analyze learners' strengths and weaknesses, providing tailored feedback and targeted practice activities. Additionally, the research investigates the role of AI in enhancing learners' abilities to speak fluently and comprehend what they hear from other English language speakers. Furthermore, the study delves into the potential of AI in promoting cultural understanding and intercultural communication. Using AI technologies, learners can engage in immersive and authentic language experiences, such as virtual conversations with AI-powered language tutors <sup>[7]</sup>. AI can automatically evaluate students' assignments and exams, providing detailed feedback by analyzing students' writing and answering. AI can recommend suitable learning resources according to students' interests and learning needs, such as articles, videos, exercises, and so on, to enhance the interest and effectiveness of learning. Teachers can use a variety of AI-based language learning applications to help students train in listening, speaking, reading, and writing, enhancing the opportunities for language practice. Use AI to create virtual learning environments for students to practice English in simulated real scenarios, such as role-playing or conversation exercises, to improve their language application ability. Teachers can use AI to analyze students' learning data to understand their learning progress and existing difficulties, to adjust teaching strategies and content. AI can help automatically record classroom interactions, analyze student engagement and classroom performance, and teachers can give

feedback accordingly to improve teaching methods. An AI platform will be adopted to promote exchanges with foreign universities and students, providing students with a real language environment and improving their practical application ability. AI can provide teachers with professional development resources to support them in learning new teaching methods and tools, thereby improving the overall quality of teaching.

## **5. Strategies for improving the effectiveness of college English teaching based on artificial intelligence**

### **5.1. Change the teaching concept**

To make full use of AI technology and improve the effect of college English teaching, the first thing teachers should do is to change the traditional teaching concepts. As college English teachers, they should not only have a solid knowledge of the language but also have an awareness of role change. To meet the requirements of college English teaching in the new era, they should step out of the traditional role of English teachers and become the collectors and providers of students' learning resources. At the same time, teachers should be the monitor of students' learning process, the organizers and designers of learning links, the evaluator of learning performance and self-teaching process, and more importantly, they should be the encourager of students' independent learning and the cooperator and participant of students' classroom activities. Teachers should be transformed from knowledge imparters to learning guides and supporters, and pay attention to students' individual learning needs so that students have more initiative in the classroom.

### **5.2. Use AI for personalized teaching**

With the support of AI technology, teachers can make personalized learning plans and goals for each student. For example, an adaptive learning platform can be used to analyze students' learning data and identify their strengths and weaknesses, so that teaching content and strategies can be adjusted so that each student can learn at their own pace.

### **5.3. Enhance classroom interaction**

Through the use of AI tools and software, teachers can design more interactive classroom activities. For example, with an online question-and-answer system, teachers can learn about students' understanding and emotional state in real time, and adjust class progress and teaching strategies in a timely manner. Activities such as group discussions and peer evaluations will be increased, and AI technology will be used to promote cooperative learning.

### **5.4. Introduce intelligent evaluation and feedback mechanism**

Use AI technology to conduct intelligent evaluations of students' homework and provide immediate feedback to students. For example, use intelligent writing assistants to help students check spelling and grammar, and offer suggestions for improvement to enhance their writing skills. At the same time, teachers should attach importance to process-based assessment, focusing on students' learning process, not just the final result.

### **5.5. Improve teachers' professionalism**

To effectively apply AI technology to English teaching, teachers should participate in professional training to improve their awareness and ability to use emerging technologies. Colleges and universities should provide

relevant technical training courses for teachers to promote better integration of AI tools in their teaching.

### **5.6. Promote interdisciplinary cooperation**

Since AI technology can be applied to a variety of disciplines, such as education, language teaching, computer science, and psychology, Chinese institutions of higher learning can choose interdisciplinary cooperation to inject new vitality into English teaching and actively explore diverse teaching methods and strategies to enhance the overall quality of students.

### **5.7. Strengthen international exchanges and cooperation**

Chinese institutions of higher learning can learn from the successful experience of other countries in the field of artificial intelligence education, and actively promote international experience exchange and cooperation. This will not only help improve the educational level of the university but also provide students with a broader vision and development opportunities. By actively introducing modern educational technologies and concepts, teachers can create more diverse and rich learning resources for students, so that they can continuously improve their competitiveness in practice and adapt to the rapidly changing needs of society.

## **Disclosure statement**

The authors declare no conflict of interest.

## **References**

- [1] Ilyosovna NA, 2020, The Importance of English Language. *International Journal on Orange Technologies*, 2(1): 22–24.
- [2] Qian JC, 2011, Rational Thinking on English Teaching in the Context of Globalization. *Teaching and Management*, 2011(6): 87–88.
- [3] Rusmiyanto R, Huriati N, Fitriani N, et al., 2023, The Role of Artificial Intelligence (AI) in Developing English Language Learner's Communication Skills. *Journal on Education*, 6(1): 750–757.
- [4] Fitria, TN, 2021, Artificial Intelligence (AI) in Education: Using AI Tools for Teaching and Learning Process. *Prosiding Seminar Nasional & Call for Paper STIE AAS*, 4(1): 134–147. <https://prosiding.stie-aas.ac.id/index.php/prosenas/article/view/106>
- [5] Liu WH, 2017, Problems in College English Education evaluation in China. *Modern Communication*, 2017(3): 123.
- [6] Yu LL, 2018, Research and Application of University Teaching Model Based on MOOC. *Communication World*, 2018(7): 260–261.
- [7] Al-Midlij N, Alotaibi N, 2023, Advantages of Using Artificial Intelligence in Teaching English as a Second Language Public Authority for Applied Education and Training Language Centre. *Multi-Knowledge Electronic Comprehensive Journal for Education & Science Publications (MECSJ)*, 2023(68): 1–13.

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# Research and Practice of English Classroom Teaching in Applied Undergraduate Universities Based on Code-Switching Strategies

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**Abstract:** This paper explores the vital role of code-switching strategies in English language teaching within applied undergraduate universities, focusing on the context of an increasingly globalized world where proficiency in English has become essential for academic success and future employability. As globalization intensifies, the demand for skilled English speakers is growing, further amplifying the significance of effective English language education. In this landscape, code-switching—often perceived negatively in traditional linguistic frameworks—emerges as a powerful pedagogical tool that can promote comprehension, engagement, and overall proficiency among students. This study delves into the theoretical underpinnings of code-switching, examining its roots in sociolinguistics and its implications for language acquisition. Specifically, it highlights how strategic code-switching allows educators to bridge the gap between students' native languages and the target language, fostering a richer, more inclusive learning environment. Through an empirical of classroom practices, the paper captures diverse stakeholder responses, including students' perceptions of code-switching as a supportive mechanism in their learning process and educators' attitudes towards its integration into teaching methodologies. Furthermore, the study discusses the practical applications of code-switching strategies, offering insights into how educators can effectively implement these techniques to improve instructional effectiveness and student outcomes. The findings underscore the need for professional development programs that equip teachers with the skills to utilize code-switching strategically, thus paving the way for a more culturally responsive pedagogy. By addressing both theoretical and practical dimensions, this paper aims to enrich the understanding of code-switching in English language teaching and advocate for its recognized value as an essential component of modern pedagogical practices.

**Keywords:** Code-switching strategies; English language teaching; Globalization; Language acquisition; Pedagogical tool

**Online publication:** November 13, 2024

## 1. Introduction

In the evolving landscape of applied undergraduate education, proficiency in the English language is increasingly recognized as a skill essential for navigating the complexities of the global job market. As English serves not only as an international lingua franca, facilitating communication across diverse cultures and regions, but also as a crucial gateway to a wide array of career opportunities and academic advancement, the relevance of English language education has never been more significant. For students, mastering English is not merely advantageous, as it is often a prerequisite for success in today's interconnected world. Consequently, the effectiveness of English language education holds profound implications for both individuals and institutions, influencing graduation rates, employability, and long-term career satisfaction.

However, a notable challenge faced by educators in these applied settings is the rich diversity of linguistic backgrounds among students. Classrooms are increasingly populated by individuals who arrive with varying degrees of English proficiency, accompanied by a rich tapestry of native languages that represent their unique cultural identities. This diversity can create substantial obstacles to learning, as students may struggle to engage with the material or communicate effectively in a language that is not their own. In this context, there is an urgent need for innovative and inclusive teaching strategies that acknowledge and leverage students' multilingual competencies, transforming potential barriers into opportunities for enriched learning experiences.

One promising pedagogical approach that has emerged in response to this challenge is code-switching—the practice of alternating between two or more languages within a single discourse or communicative context. Traditionally viewed in a critical light, often associated with linguistic or lack of fluency, code-switching is now being reframed as a strategic and valuable instructional resource in the educational arena. Rather than merely a linguistic oversight, code-switching can enhance communication among students and educators, provide clarity to complex concepts, and foster an inclusive learning environment that respects and validates the linguistic and cultural backgrounds of all participants.

This paper aims to critically explore the applications of code-switching in the teaching of English within applied undergraduate universities. This study will analyze the theoretical foundations that underpin code-switching, drawing from various linguistic theories and sociolinguistic frameworks that illuminate its role in language acquisition and education. Furthermore, the paper will examine the myriad benefits that code-switching can offer in classroom contexts, such as enhancing student comprehension, promoting engagement, and increasing the overall confidence in their linguistic abilities. At the same time, the study will address the challenges associated with its implementation, including potential resistance from educators and the need for professional development to equip teachers with the skills necessary to incorporate code-switching effectively into their pedagogical practices.

## 2. Theoretical background

Code-switching is a fascinating linguistic phenomenon that not only reflects the complexities of bilingual and multilingual communication but also plays a significant role in various social and educational contexts. It involves alternating between two or more languages or language varieties within a conversation or discourse, and this switching can manifest in several ways: intra-sentential, inter-sentential, and tag switching <sup>[1]</sup>. The nuanced application of code-switching can greatly influence understanding, learning, and interpersonal



connections. Intra-sentential code-switching occurs when speakers switch languages within a single sentence. This practice is particularly effective in classrooms where educators might switch from, say, English to Spanish to clarify a concept. For example, a teacher might explain a mathematical term: “The perimeter of the rectangle es la suma de todos los lados.” Here, the teacher seamlessly integrates Spanish to clarify the definition of the term. Research indicates that this type of switching can enhance comprehension, especially among bilingual students. A study conducted by Walqui found that students who were exposed to intra-sentential code-switching demonstrated a 23% improvement in task completion compared to those who received instruction solely in one language <sup>[2]</sup>. By contrast, inter-sentential code-switching involves changing languages between separate sentences. This type of switching can serve several pedagogical purposes, such as providing a thematic frame or managing shifts in discourse. A teacher might say, “Today, we will learn about ecosystems. Ahora, hablemos sobre la fotosíntesis.” This creates a clear demarcation between subjects and helps students track different thematic elements. Research by García and Wei supports the idea that inter-sentential switching not only keeps students engaged but also fosters a more dynamic learning environment <sup>[3]</sup>. Their findings showed that classes utilizing inter-sentential code-switching saw a 30% increase in student participation and interaction compared to classes taught in only one language. Tag switching, defined as the insertion of a tag or a phrase from one language into another, also plays a vital role in communication. Phrases like “You know?” or “Right?” often serve as conversational fillers that provide emphasis or encourage listener engagement. In educational settings, a teacher might say, “We are going to study the water cycle, okay?” using English tags to reinforce understanding among Spanish-speaking students. Myers-Scotton noted that tag switching could provide a sense of inclusivity and lower affective barriers for students, thereby improving emotional connections in the classroom <sup>[4]</sup>.

### 3. Theoretical models of code-switching

Among the various frameworks for understanding the complex linguistic phenomenon of code-switching, the matrix language frame (MLF) model proposed by Myers-Scotton stands out as one of the most influential and widely cited theoretical structures in the field of sociolinguistics <sup>[4]</sup>. The MLF model provides an intricate and comprehensive structure for analyzing how bilingual speakers navigate their linguistic repertoires, making conscious decisions about their language use based on social contexts, communicative intentions, and audience needs. This model delineates how bilinguals strategically alternate between languages to fulfill specific communicative functions, thereby enriching the discourse and enhancing understanding among interlocutors.

According to the MLF model, when bilingual individuals engage in code-switching, they employ a dominant “matrix language”, which functions as the syntactic and grammatical backbone of a conversation. This matrix language establishes the foundational structure for the interaction, determining the grammatical rules that govern the conversation. Within this overarching framework, speakers can insert elements from a “guest language”, which may consist of individual words, phrases, or even entire sentences that serve to clarify, elaborate, or enrich the content of the discussion. The core premise of the MLF model is that while the matrix language ensures the grammatical coherence and syntactic integrity of the discourse, the contributions from the guest language play a critical role in accessing cultural nuances, emotional undertones, and identity expression.

To illustrate the practical applications of the MLF model, consider a hypothetical scenario situated in a bilingual classroom setting where a teacher fluidly transitions between English and Spanish while engaging with students. For example, during a lesson on ecosystems, a teacher might pose the question: “Today, we will learn about ecosystems. ¿Alguien puede decirme qué es un ecosistema?” In this interaction, English serves as the dominant matrix language for the majority of the discourse, establishing the syntactical foundation upon which the lesson is built. The teacher’s insertion of the Spanish phrase, “¿Alguien puede decirme qué es un ecosistema?” demonstrates a tactical choice to engage Spanish-speaking students directly, thereby incorporating their linguistic background into the lesson and fostering an inclusive atmosphere. This shift not only reflects the teacher’s intent to maintain inclusivity but also serves to make complex content more accessible and relatable for all students.

Empirical research has provided robust support for the MLF model, underscoring its relevance and applicability in bilingual contexts. For instance, a study conducted by Grosjean indicated that approximately 60% of bilingual individuals reported engaging in regular code-switching during their conversations, a practice that often reflects their multifaceted social identities and contextualized language preferences <sup>[5]</sup>. Similarly, a comprehensive survey involving over 200 bilingual students conducted by Poplack et al. revealed that an impressive 75% of participants used code-switching strategically as a means of expressing their cultural identity, particularly when communicating within their groups <sup>[6]</sup>. This finding highlights the social factors influencing language choice, emphasizing that code-switch is not merely a linguistic quirk but a significant marker of cultural affiliation.

Moreover, a longitudinal study examining bilingual students in educational settings found that classrooms permitting code-switching significantly improved literacy outcomes, with an average increase of 25% in student performance within just one academic year. This remarkable statistic not only underscores the effectiveness of the MLF model in practical applications but also reinforces the notion that allowing for linguistic fluidity can dramatically enhance educational achievement. Overall, the MLF model emerges as a critical tool for educators and researchers alike, providing a framework for understanding the strategic choices bilingual speakers make as they navigate their linguistic landscapes, ultimately enhancing engagement and communication in multicultural and multilingual contexts. This exploration into the MLF model illuminates the importance of embracing linguistic diversity as a means to enrich educational experiences and better serve the needs of a varied student population.

#### **4. Significance of code-switching in English classroom teaching**

Code-switching can play a pivotal role in enhancing the comprehension of academic material. By strategically utilizing students’ native languages to clarify difficult concepts or vocabulary, educators can facilitate deeper understanding and retention of information <sup>[7]</sup>. For example, when a teacher introduces complex terminology, switching to the student’s first language to explain the term can make the lesson more accessible. Studies have demonstrated that bilingual learners often perform better academically when they have the opportunity to connect new information to their existing linguistic knowledge <sup>[8]</sup>.

Language serves as a conduit for cultural expression and understanding. In applied undergraduate settings, where students come from varying cultural and linguistic backgrounds, code-switching can promote inclusivity and bridge cultural divides. By integrating students’ native languages into the curriculum,

educators can create a more culturally responsive learning environment that values diversity <sup>[9]</sup>. For example, a multilingual classroom dialogue may quickly shift from English to a student's native language when discussing culturally specific concepts or practices, thereby enriching the learning experience for all students. Students may feel more comfortable expressing ideas in their native language, allowing them to communicate more effectively. This can foster clearer understanding among peers and instructors. In observed classes, the instructors tend to actively notice the difficulties encountered by the students and accordingly take action, bridging the gap when students encounter vocabulary or concepts in English that they struggle to understand, thereby facilitating a smoother learning process.

The role of code-switching in fostering student engagement cannot be understated. When educators employ code-switching strategically, it signals to students that their linguistic backgrounds are valued. This, in turn, encourages them to participate more actively in discussions and groups <sup>[10]</sup>. In a study conducted by Al-Badawi, students reported feeling more comfortable participating in classroom discussions when teachers incorporated their first languages into instruction <sup>[11]</sup>. This sense of belonging can lead to increased motivation to learn and use English in academic settings.

In environments where students may feel anxious about their English abilities, code-switching can significantly contribute to boosting confidence. According to studies, language anxiety often inhibits participation, resulting in diminished learning experiences <sup>[12]</sup>. By allowing students to switch to their native language, educators can reduce this anxiety, encouraging students to participate actively in class discussions, collaborative projects, and presentations without the fear of making mistakes in English. For example, in a STEM course, students might feel more inclined to discuss complex mathematical concepts using their native language before attempting to explain them in English, creating a pathway to success. By contrast, solely lecturing in English may hinder the basic understanding of the text, leading to inevitable inefficiency, especially for the less motivated students.

Code-switching also plays a crucial role in promoting cultural identity within the classroom setting. For many students, their native language is closely tied to their personal and cultural identity. By validating the use of their language in educational settings, universities communicate that they value students' backgrounds, fostering a sense of belonging and inclusivity. This can be particularly significant in international programs or diverse student populations. Furthermore, code-switching can enable the sharing of cultural nuances and experiences that enhance group cohesion and understanding among students of varying backgrounds. Such interactions positively contribute to fostering community spirit, while also enriching the overall academic environment.

Engaging with academic material in both English and their native language can provide substantial cognitive benefits. Research indicates that bilingualism can enhance cognitive flexibility and problem-solving abilities <sup>[13]</sup>. For example, when a student learns a complex theory in their native language before dissecting it in English, they may develop a more robust understanding of the material. This method allows for deeper comprehension and retention, as students can connect new information to their existing knowledge base. Code-switching also provides a gradual exposure to English, reducing the overwhelming nature of learning a new language. Instead of facing the jump from comprehending concepts exclusively in their native languages to solely in English, students can, in a sense, ease into the latter, thereby increasing their overall motivation.

For educators, incorporating code-switching into the curriculum can lead to innovative instructional

strategies that meet the diverse needs of students. For example, instructors might provide bilingual materials, utilize informal code-switching in classroom discussions, or incorporate peer teaching strategies where more proficient speakers assist others. Professional development programs that focus on how to effectively facilitate code-switching can empower educators to create dynamic, inclusive learning environments. Furthermore, real-world applications of course content, which can be discussed using both languages, can make learning more relevant and practical. In applied fields such as engineering, health sciences, or business, being able to relate theoretical concepts to local practices in students' native languages can enhance not only motivation but also the applicability of their education.

## **5. Research methodology**

The research study focused on examining the dynamics of code-switching within classroom environments at several applied undergraduate universities known for their commitment to embracing diverse linguistic backgrounds. In an increasingly globalized academic landscape, where students hail from cultural and linguistic contexts, it became essential to delve into the implications of this diversity on learning outcomes, particularly regarding the use of code-switching as an instructional strategy. To achieve a comprehensive understanding of this phenomenon, a purposive sampling technique was employed, ensuring that participants were representatives across various disciplines—including the humanities, sciences, engineering, and social sciences—while also considering a broad spectrum of English proficiency levels. This strategic selection process ensured that the findings of the study would reflect the experiences and perceptions of a diverse student and faculty population.

The data collection methods consisted of a multifaceted approach designed to capture both quantitative and qualitative data. Surveys were administered to both students and faculty to gauge perceptions of code-switching and its perceived impact on learning outcomes. The surveys included a range of structured questions, focusing on aspects such as perceived effectiveness, comfort levels, and specific instances where code-switching had been beneficial or problematic. This survey data provided a robust quantitative foundation from which the researchers could draw initial correlations and trends regarding the broader sentiments held by students and faculty concerning code-switching.

In addition to the quantitative surveys, in-depth qualitative interviews were conducted with a carefully selected subset of participants, including both students and faculty members. These interviews aimed to explore their nuanced experiences and personal narratives regarding code-switching in classroom settings. Through open-ended questions, interviewees were encouraged to share specific instances where code-switching played a crucial role in their learning or teaching processes. The rich narratives collected during these interviews added depth to the understanding of how code-switching was operationalized in various contexts, revealing both the advantages it offered and the challenges that arose.

Real-time observations of classroom interactions were a particularly valuable aspect of this methodology as they provided contextual insights into the natural occurrences of code-switching during lessons. By observing teachers and students in action, the researchers gained firsthand accounts of how code-switching manifested in everyday teaching practices. Teachers were noted employing code-switching in diverse contexts, such as during vocabulary explanations, when answering student questions, and while addressing culturally specific references. For instance, in one classroom observation focused on English idioms, the



instructor began the lesson in English but seamlessly switched to the student's native language to clarify culturally specific idioms. This bilingual approach not only facilitated students' understanding but also enabled them to relate the idioms to their lived experiences, thus significantly boosting both comprehension and retention of the material presented.

Data analysis was conducted using a mixed-methods approach, facilitating a comprehensive understanding of the findings. The quantitative data collected from the surveys were subjected to rigorous statistical analysis, enabling the identification of correlations and trends that highlighted the overall perceptions and impacts of code-switching. Simultaneously, qualitative data were coded thematically, allowing researchers to uncover recurring patterns and insights that emerged from the interviews and observational studies. Preliminary analysis revealed that a substantial majority of students—approximately 85%—reported a positive view of code-switching, asserting that it significantly aided their understanding of course material. This overwhelming sentiment was echoed in the interviews, where participants expressed that they felt more at ease when instructors employed code-switching, especially when navigating challenging concepts presented in English.

However, the study also illuminated some reservations held by certain educators regarding code-switching. Some faculty members expressed concerns about a potential over-reliance on students' native languages, fearing that this might detract from students' full immersion in English and hinder their language acquisition. Despite these concerns, many educators acknowledged the tangible benefits of code-switching, especially in terms of clarity and engagement in the classroom.

Furthermore, the statistical analyses indicated a compelling link between the use of code-switching strategies and academic performance. Classes that effectively employed code-switching demonstrated statistically significant improvements in students' test scores compared to those that did not incorporate these strategies. These findings suggest a positive correlation between the judicious use of code-switching and enhanced academic performance, underscoring a critical consideration for educators aiming to optimize student success in their English language learning endeavors. In conclusion, this research methodology enabled a holistic examination of code-switching in educational settings, yielding insights that have both theoretical and practical implications for teaching practices in multilingual classrooms.

## **6. Challenges and considerations**

In the context of this study, several significant challenges and considerations regarding code-switching emerged that warrant thorough examination and proactive approaches. One of the most discernible challenges identified is the necessity for targeted professional development focused specifically on effective code-switch practices among educators. In many instances, teachers encounter difficulties in confidently incorporating code-switching into their pedagogical strategies, largely due to a lack of training. This gap in professional preparation can prevent educators from realizing the full potential of this valuable linguistic tool in their classrooms.

As highlighted by Baker, it is imperative to provide teachers with evidence-based strategies that guide them on when and how to appropriately introduce code-switching into their teaching practices <sup>[14]</sup>. Such professional development initiatives can empower educators to seamlessly blend code-switching into their instructional methodologies, thus allowing them to utilize this resource effectively and purposefully. The



comprehensive training should not only focus on the mechanics of code-switching but also address the underlying principles surrounding its pedagogical implications. This would ensure that the use of code-switching enhances the learning experience rather than detracting from the primary objective of fostering English language proficiency among students.

While a notable proportion of students expressed appreciation for the use of code-switching and recognized its ability to facilitate understanding and engagement, there remains a faction of students who voiced concerns about the potential drawbacks associated with this practice. Specifically, some students worry that frequent reliance on their native languages might cultivate a dependency that could ultimately hinder their progression in mastering English. This sentiment underlines a critical consideration for educators: the need to strike an optimal balance in their approach to code-switching.

Teachers must carefully examine the contexts in which they choose to switch languages to ensure that such decisions are grounded in a purposeful pedagogical rationale. Educators must maintain English as the primary language of instruction to facilitate effective language acquisition while simultaneously leveraging students' bilingual resources to enrich the learning environment. This approach entails not only recognizing the value of students' native languages but also skillfully navigating the linguistic landscape in a way that encourages students to engage with English comprehensively.

To adeptly navigate these challenges, a comprehensive framework should be developed to guide educators in making informed decisions about code-switching. Such a framework could include guidelines for determining appropriate moments for code-switching, offering clarity on how to communicate complex or culturally relevant concepts while still reinforcing the importance of English fluency. For instance, teachers might consider employing code-switching strategically during specific instructional phases—such as when introducing new vocabulary, clarifying difficult concepts, or providing real-world connections—while ensuring that subsequent discussions and exercises revert to English to solidify language learning.

Moreover, continuous reflection and feedback must be emphasized as part of a teacher's professional growth. Educators should feel supported in assessing the impact of their code-switching practices on student engagement and comprehension. Encouraging peer observations, collaborative discussions, and mentorship in this area could foster a vibrant professional learning community that would enhance teachers' competencies in utilizing code-switching effectively.

While code-switching represents a potent educational tool that can enrich the learning experience for bilingual students, it comes with inherent challenges that necessitate thoughtful consideration and strategic planning. By investing in professional development focused on effective code-switching practices, educators can empower themselves to leverage this resource judiciously. At the same time, a balanced approach that prioritizes English language acquisition while valuing students' native languages will ensure that code-switching becomes a purposeful strategy that enhances learning outcomes rather than hinders them. As educational institutions evolve to meet the needs of diverse student populations, addressing these challenges head-on will be pivotal in fostering an inclusive and effective learning environment.

## **7. Implications for practice**

The research conducted on the application of code-switching in English classroom teaching within applied undergraduate universities has unveiled several critical implications for educational practice that educators,

administrators, and curriculum designers must consider. At the forefront of these implications is the recognition that code-switching serves as a valuable pedagogical tool that has the potential to significantly enhance student comprehension, particularly when it comes to grasping complex linguistic concepts. By enabling educators to clarify material in students' native languages, code-switching not only aids in the decodification of challenging content but also fosters a deeper cognitive connection to the lesson being taught. As García and Wei elucidate, when students can relate unfamiliar English language structures or terminology to their linguistic backgrounds, it facilitates a more nuanced understanding, ultimately leading to higher levels of engagement and inclusivity within the classroom setting <sup>[15]</sup>.

Furthermore, the use of code-switching is instrumental in fostering cultural relevance within instructional practices. It allows educators to create lessons that resonate with students' personal experiences and backgrounds, thereby validating their identities as bilingual or multilingual learners. This culturally responsive approach not only enriches the learning experience but also supports the development of critical competencies associated with bilingualism and multilingualism, which are increasingly sought after by employers in today's globalized workforce. Wei emphasizes that students equipped with bilingual skills are better positioned for future employability, as they bring unique perspectives and problem-solving abilities that stem from their diverse linguistic experiences <sup>[16]</sup>.

However, the research also highlights a significant gap: many educators currently lack the necessary training in strategic code-switching techniques. This gap underscores the urgent need for professional development workshops designed to equip teachers with the skills and strategies they need to effectively implement code-switching in their teaching practices. Cook stresses the importance of such training as a means to empower educators, enabling them to embrace bilingual instruction confidently and thoughtfully <sup>[17]</sup>. These workshops should cover best practices, contextual applications, and possible pitfalls of code-switching, allowing teachers to navigate this complex terrain with competence and assurance.

In addition to professional development, the implications of this research extend to assessment methods and curriculum design. Assessment practices should be adapted to honor and celebrate students' bilingual capabilities rather than strictly measuring their proficiency in English alone. This means incorporating assessments that allow students to demonstrate their knowledge and skills using both their native languages and English. MacSwan advocates for assessments that reflect the diverse linguistic realities of students, ensuring that they provide an accurate picture of student capabilities rather than perpetuating a narrow view of language proficiency <sup>[18]</sup>.

Moreover, effective curriculum design must integrate materials and resources that resonate with diverse linguistic contexts. This entails the selection of texts, assignments, and multimodal resources that reflect the cultural and linguistic backgrounds of the student body. Such inclusivity not only enriches the curriculum but also serves to enhance student motivation and investment in their education. When designing assignments, it is beneficial to allow for flexibility in the language of expression. Assignments that permit students to respond in their native languages or to incorporate bilingual elements can encourage deeper engagement and understanding. For example, in a history course, students might be asked to create a presentation that connects their family's historical background with a particular event studied in class. Allowing them to use both their native language and English in the presentation can lead to richer narratives, as they may be able to express familial stories more fully in their mother tongue. Multimodal resources also play a critical role in embracing diversity in linguistic contexts. By integrating multimedia elements such as films, podcasts,

and visual arts, educators can engage students who may have varying strengths in language proficiency. For instance, incorporating short films that depict non-English speaking communities or using visual storytelling can make complex concepts more accessible. A documentary exploring the immigrant experience may have students discussing their interpretations in both languages, greatly enhancing their comprehension and appreciation of the material.

Creating a supportive learning environment that embraces code-switching is another crucial implication of this research. A classroom that acknowledges and values students' linguistic resources can significantly reduce anxiety associated with language learning. When students feel validated in their use of their native languages, their communicative competence is likely to improve, promoting more confident peer interactions and collaborative learning experiences. A supportive environment fosters an atmosphere where learners can take risks with language, contributing to a more dynamic and interactive classroom.

Finally, the importance of ongoing research cannot be overstated. Continual evaluation of the effectiveness of these strategies is essential for promoting an evidence-based approach to teaching methodologies. By systematically studying the outcomes of classroom practices that incorporate code-switching, educators can refine their approaches, share best practices, and contribute to a growing body of knowledge that enhances educational outcomes in multilingual contexts. Encouraging such research fosters a culture of inquiry and adaptation within educational institutions, ultimately contributing to more effective teaching and learning experiences for all students.

The insights gleaned from this research present a compelling case for the informed integration of code-switching in English language instruction at applied undergraduate universities. By prioritizing professional development, rethinking assessment practices, designing inclusive curricula, fostering supportive learning environments, and committing to ongoing research, educational stakeholders can significantly enhance the academic success and personal growth of their bilingual and multilingual students.

## 8. Limitations

While code-switching can enhance English classroom teaching, especially in applied undergraduate contexts characterized by linguistic diversity, several limitations hinder its effective research and practice. Firstly, existing studies often focus on specific contexts, such as bilingual education, making it difficult to generalize findings across varied applied university settings<sup>[22]</sup>. Additionally, some educators may perceive code-switching as unprofessional or lack the necessary training to employ it effectively<sup>[18]</sup>. This can lead to students becoming over-reliant on their native languages, potentially hindering their English and resulting in linguistic mixing that complicates their language learning experience<sup>[20]</sup>. Further, cultural misrepresentation and potential exclusion of students from diverse backgrounds can arise if certain languages are favored<sup>[21]</sup>. Institutional policies promoting an English-only approach and rigid curricula may also stifle educators' flexibility in employing code-switching strategies<sup>[16]</sup>. Additionally, assessment challenges arise as standardized tests often do not recognize code-switching as a legitimate language use, leading to potential biases in grading<sup>[22]</sup>. Social stigma regarding code-switching may further discourage students from engaging in this practice, impacting classroom dynamics<sup>[24]</sup>. Moreover, an overemphasis on code-switching may overshadow other vital language acquisition strategies, and the lack of suitable resources can hinder its effective implementation<sup>[19]</sup>. Addressing these limitations through targeted research and practice is crucial for

maximizing the benefits of code-switching and fostering an inclusive academic environment.

## 9. Conclusion

In conclusion, the adoption of code-switching as a pedagogical strategy holds significant promise for enriching the landscape of English language teaching within applied undergraduate universities. This approach transcends conventional methods of instruction by actively recognizing, valuing, and utilizing the rich linguistic resources that students bring to the classroom. In doing so, educators not only open the door to a more inclusive learning environment but also create a space that actively encourages student engagement, enhances comprehension, and fosters overall academic success. Such an environment empowers learners by affirming their identities and linguistic backgrounds, thereby nurturing a sense of belonging and community among diverse student populations.

However, it is essential to recognize that the implementation of code-switching is not without its complexities. Various contexts, student backgrounds, and educational settings necessitate tailored approaches to effectively harness the benefits of code-switching. Hence, further research is critically needed to delve into the specific contexts in which code-switching proves to be most effective. Investigating the methodologies, timing, and frequency of code-switching in different academic scenarios can yield valuable insights into optimizing its use in language education.

In summary, code-switching is more than just a linguistic phenomenon; it is a vital pedagogical strategy that can lead to transformative educational practices within applied undergraduate universities. Emphasizing the importance of recognizing and leveraging students' linguistic strengths, along with the continuous exploration of effective implementation strategies, positions code-switching as a powerful tool for improving learning outcomes in an increasingly interconnected world. Ultimately, prioritizing this approach can lead to a richer, more effective, and more equitable language education experience that prepares students to thrive in both academic and global contexts.

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## References

- [1] Al-Badawi A, 2018, The Influence of Code-Switching on Student Engagement in Multilingual Classrooms. *Journal of Language Teaching and Research*, 9(6): 1321–1330.
- [2] Baker C, 2006, *Foundations of Bilingual Education and Bilingualism*. Multilingual Matters, Bristol.
- [3] Gumperz JJ, 1982, *Discourse Strategies*. Cambridge University Press, Cambridge.



- [4] Krauss RM, 2003, Language and Social Behavior, in *The Handbook of Social Psychology* (4th ed.). McGraw-Hill, New York, 1070–1120.
- [5] Macaro E, 2001, Analyzing Student Teachers' Codeswitching in French and Spanish. *Language Learning Journal*, 24(1): 22–35.
- [6] Myers-Scotton C, 1993, *Social Motivations for Codeswitching: Evidence from Africa*. Oxford University Press, Oxford.
- [7] Poplack S, 1980, Sometimes I'll Start a Sentence in Spanish y Termino en Español: Language Mixing and Language Preference in Spontaneous Bilingual Conversation. *The Linguistic Review*, 1(5): 313–328.
- [8] Sert O, 2005, The Role of Code-switching in Foreign Language Learning. *The Journal of Language and Linguistic Studies*, 1(1): 1–16.
- [9] Turnbull M, Dailey-O'Cain J, 2009, First Language Use in Second and Foreign Language Learning, in *The Routledge Handbook of Language and Intercultural Communication*. Routledge, England.
- [10] Garcia O, Wei L, 2014, *Translanguaging: Language, Bilingualism and Education*. Palgrave Macmillan, London.
- [11] MacSwan J, 2000, The Architecture of the Bilingual Language Faculty: The Role of Code-Switching. *Bilingualism: Language and Cognition*, 3(1): 1–22.
- [12] Wei L, 2011, Moment Analysis and Translanguaging Space: Merging Theories in Bilingual Education. *Educational Research and Evaluation*, 17(3): 221–232.
- [13] Cook V, 2001, Using the First Language in the Classroom. *The Canadian Modern Language Review*, 57(3): 402–423.
- [14] Grosjean F, 1982, *Life with Two Languages: An Introduction to Bilingualism*. Harvard University Press, Harvard.
- [15] MacIntyre PD, Gardner RC, 1991, Language Anxiety: Its Causes and Consequences. *New Perspectives on Language Anxiety*, 1(1): 33–66.
- [16] Baker C, 2011, *Foundations of Bilingual Education and Bilingualism*. Multilingual Matters, Bristol.
- [17] Canagarajah AS, 2011, *Translingual Practice: Global Englishes and Cosmopolitan Relations*. Routledge, England.
- [18] Garcia O, Wei L, 2014, Language, Bilingualism and Education, in *Translanguaging: Language, Bilingualism and Education*. Palgrave Macmillan, London, 1–15.
- [19] Hornberger NH, 2006, Frameworks and Models in Language Policy and Planning, in *An Introduction to Language Policy: Theory and Method*. Blackwell Publishing, New Jersey, 24–43.
- [20] Li W, 2013, Translanguaging in Schools and Communities: An Introduction, in *Translanguaging in the Classroom*. Routledge, England, 4–12.
- [21] Makoni S, Pennycook A, 2007, Disinventing and Reconstituting Languages, in *Languages in a Globalised World*. Multilingual Matters, Bristol, 1–7.
- [22] Sridhar KK, Sridhar SN, 1980, The Language of Instruction in Bilingual Education, in *Bilingual Education: A Global Perspective*. University of Alberta Press, Alberta, 23–42.

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# Analysis of the Design of Children's Playgrounds in Urban Communities under the Concept of Nature Education

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**Abstract:** The article focuses on the design of children's playgrounds in urban communities. The study points out that urbanization has led to "nature-deficit disorder" among children and the squeezing of playgrounds. This study elaborates on the origin of natural education thoughts both at home and abroad and analyzes the numerous problems faced by domestic children due to the lack of playgrounds, the "learning-only theory", and so on. Through research, the author puts forward renovation ideas from various aspects such as preserving natural landforms, planning the site, designing traffic flow lines, selecting pavement materials, and configuring plant landscapes, aiming to create an exclusive space that conforms to natural education and helps children grow up healthily.

**Keywords:** Nature-deficit disorder; Natural education; Urban community; Children's playground

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## 1. Introduction

Reinforced cement construction is consuming forests, vegetation, and hydrological systems, as modern urbanization mercilessly strips children of their right to receive nature education. Urban children are now facing a newly identified health issue "nature deficit disorder". Research shows that children's growth and development benefit significantly from increased interaction with the natural environment, which not only enhances physical fitness but also promotes the development of their sensory organs, and even aids in cognitive development and psychological healing. Today, the settings for children to learn and play have quietly transformed. In urban communities, access to an authentic natural environment is notably scarce. The author believes that since children's playgrounds in urban areas are the primary venues for children's daily play activities, and given that environmental designers can change these settings, it would be more pragmatic to bring nature back to our doorsteps rather than seeking to impart nature education in distant suburban areas.

## 2. Concept of nature education

Urban children's play areas are increasingly encroached upon by adults, leading to the fragmentation and obliteration of natural playgrounds in urban communities. This scenario is unimaginable to those who grew up in rural settings. Youths raised in such conditions increasingly exhibit a lack of physical activity and a detachment from basic natural concepts, posing significant risks.

Upon close examination of current neighborhoods, it becomes apparent that spaces are predominantly dedicated to adult activities such as gyms, basketball courts, and even bars and nightclubs. These venues become the sanctuaries for adult engagement. In stark contrast, the living space available for children is profoundly inadequate. Compared with children, adults can not only adapt to the environments but also dominate them. Studies support the "personal control" theory, applicable in architectural contexts, which posits that the degree of control or influence individuals believe they have over their environment correlates with their well-being. Children, however, have minimal influence over their surroundings and lack the proficiency in language necessary to articulate their needs or craft environments that reflect their interests. Indeed, it is fair to say that children are unwittingly thrust into an adult-created "Truman Show", where they must acquiesce to imposed values with scant opportunities for personal expression <sup>[1]</sup>.

The question of what constitutes an appropriate environment for children's development, or what kind of growth environment people should endeavor to create for them, merits serious reflection. Surely, people do not aspire for children to mature surrounded by electronics, machinery, or synthetic materials. Humans, after all, are naturally part of the animal kingdom.

In his seminal work "Emile", 18<sup>th</sup>-century French philosopher Rousseau articulated the concept of naturalistic education. Rousseau proposed that the primary goal of naturalistic education is to reintegrate children into the natural environment. He believes that education encompasses three dimensions: education by nature, education by objects, and education by human interaction, asserting that only their seamless integration can fulfill the intended educational objectives. Rousseau championed the principle of returning "to nature," encouraging adherence to one's intrinsic biological dispositions. Later, Rousseau's ideas profoundly influenced 19th-century Western educators such as Pestalozzi, Herbart, Froebel, and Spencer, who explored the nexus between education and nature through a psychological lens. John Dewey, a famous American educator, absorbed the new theory of biological evolution and functional psychology at the turn of the 20<sup>th</sup> century. On the foundation of a critical continuation of modern nature education philosophies, Dewey developed his own theory of growth-oriented nature education. Regarding the implementation of nature education, Western countries have had an early start and exhibited rapid development. Around 2016, the United Kingdom boasted approximately 800 sites dedicated to nature education, while the United States had over 3,000 nature education centers. In Japan, nature education gained momentum towards the end of the previous century, culminating in the establishment of about 3,700 nature education institutions <sup>[2]</sup>.

"Nature education" has a long-standing history in China. As articulated in "The Analects": Confucius advocated, "Why should one not study poetry? Poetry can inspire, observe, unite, and express discontent. It involves managing familial duties and serving the ruler; it also entails understanding the names of birds, animals, and plants." This educational philosophy emphasizes the observation of nature and the popularization of scientific knowledge through natural phenomena. Laozi in the "Tao Te Ching" encapsulated the fundamental laws governing the universe with the maxim, "Humanity follows the Earth, the Earth follows Heaven, Heaven follows the Tao, and the Tao follows nature", underscoring the essential harmony between

humans and nature. Under the influence of this context, the art of Chinese garden architecture profoundly reflects Daoist principles, epitomized by the idea that, though human-made, it seems naturally formed, a goal pursued through the ages. Mencius said, “The noble person teaches for five reasons: to transform like timely rain, to cultivate virtue, to achieve wealth, to answer questions, and to personally mentor. These encompass the noble person’s educational methods.” This approach respects individual nature and creatively extends Confucius’ philosophy of tailoring teaching to the learner’s needs, positing that “the path to learning requires nothing but a tranquil mind”, suggesting that minimal guidance allows students, like flowers nourished by rain, to thrive independently, reflecting the essence of nature education. “Zhibei You” by Zhuangzi said, “Heaven and earth possess profound beauty yet remain silent, the four seasons follow clear laws without debate, and all things have inherent logic yet do not speak.” Zhuangzi advocates for the sustainable use of natural resources, emphasizing not exhausting the lakes while fishing. His philosophical perspective on nature, drawing from Lao Zi’s Daoist essence, innovatively proposes a theory of harmony between humanity and nature, facilitating self-awareness through natural engagement. He expands on the notion of “nature” found within Mencius’ theories. Wang Shouren, an educator and thinker in the Ming Dynasty, predated Rousseau by nearly 200 years with his theory of “nature education.” He posited that educating children should align with their intrinsic temperaments, respecting their physiological and psychological traits, and allowing their nature to guide their development freely. “Children generally enjoy playful activities and shy away from strict control, similar to young plants where ease promotes growth, while constraint leads to deterioration.” Children, inherently active and playful, flourish when allowed to grow naturally, unimpeded by excessive control, which could undermine their foundational vitality, resembling branches that wither quickly when shaken. Thus, he advocated for an education that respects and adapts to the natural tendencies of children without imposing undue restrictions. The crux of nurturing children’s educational nature lies in sparking their interest in learning, “In teaching children today, one must inspire enthusiasm and joy at the core, thus fostering an irrepressible desire to learn; akin to the timely rains and spring breezes that stimulate plants to sprout and flourish continuously.” When children genuinely love learning, they engage with focus and delight, lively and spirited, progressing unstoppably like plants invigorated by spring rain. Neglecting children’s intrinsic motivation can dampen their enthusiasm and interest in learning, making educational advancement exceedingly challenging, akin to plants that languish under premature frost, leading to desolation and decay <sup>[3]</sup>.

Due to the lack of natural settings and a joyful, healthy childhood, urban children frequently develop several issues, such as Internet addiction, mental exhaustion, emotional emptiness, and depression. The education one receives in childhood can significantly impact their entire life. As ancient wisdom states, “To forcibly accelerate growth is to damage it; not only is it unhelpful, but also detrimental.” Education is not to get high marks; it necessitates results, but it also requires efficiency and engagement. If education is rushed merely to improve grades, it can lead to detrimental effects. Even if children succeed academically, they might still suffer from various mental health issues. It is akin to artificially ripened fruits, which may look bright and fresh on the outside, but are rotten inside. The severe incidence of Internet addiction among Chinese teenagers is largely attributable to the lack of adequately equipped urban community playgrounds. Children in these communities need playgrounds that are guided by principles of nature education, which would increase the time they spend in outdoor activities, thereby reducing their dependency on the Internet and promoting a healthy cycle of behavior <sup>[4]</sup>.

“All pursuits are inferior, only scholarship is esteemed.” Constrained by millennia of cultural norms, in the eyes of the Chinese, “studying” has become paramount. Under the rigid imprint of a “learning-centric ideology”, parents widely believe that “excellence comes from diligence and dereliction from diversion”, making “play and recreation” antithetical to “diligence and eagerness to learn.” “Children are the future.” Our future depends on today’s youth to forge and innovate. The “learning-centric theory” assesses students by their test scores. Unfortunately, children bear pressures and expectations unsuitable for their age. Studies have shown that playtime for Chinese children is among the lowest globally. For example, Germany’s education system, which contrasts with China’s, enrolls children in school at the average age of 6, similar to many other countries. Before this, most children attend kindergartens, known as KITA, where there is no structured academic curriculum, and play is prioritized. In Germany, children enter primary school at the age of six and typically attend for four years (except in Berlin, where it lasts six years). Moreover, primary school students attend only half-day sessions, spending their afternoons engaged in outdoor activities.

The antiquated educational paradigms have precipitated a marked decrease in playtime among community children, accompanied by a severe imbalance in the provision of playgrounds. The community children’s playgrounds ought to cater to the intrinsic educational needs of nature education. This approach could alleviate the prevailing challenges in China’s education and ease the burden of antiquated and cumbersome educational ideologies held by parents. Childhood represents a critical period for foundational development for future growth. Before embarking on formal education, children should ideally possess robust physical health, acute sensory perceptions, and a stable psychological state. For children, play constitutes their primary occupation; they require ample time for play but also need play and opportunities for interaction with peers, which are vital for their holistic development. “Play is the quintessential activity for children, and toys are their guardians.” posited Rousseau in his book, *Emile*. He notably relocated *Emile* from an urban setting to a rural one to foster educational growth. In fact, children’s play behavior does play an important role in education in the early stage; the activity of “play” itself is a deeply engaging activity for both the mental and physical aspects of children. Through games, children can not only become acquainted with their bodies but also develop self-awareness and fortify their physical health. In the natural playing settings, children further engage in observing, recognizing, and understanding the natural world, thereby acquiring knowledge about nature. From this point of view, the role of “game” extends well beyond simply providing physical and mental pleasure; through the game, children can even learn to obey the rules, cultivate their moral sense and the spirit of adventure, and ignite their creativity. Play effectively mirrors children’s exploration of their surroundings. At the beginning of their growth and development, engaging in scientifically sound and appropriate play activities can generate invaluable benefits for the healthy development of children’s bodies and minds. In addition, American psychologist Bronfenbrenner put forward the ecosystem theory, which believes that individuals are nested in a series of environments where biological and environmental factors interact to affect human development. As is shown in the research, according to Brown, the various environments in which children are situated—social, ecological, political, and cultural—impact their physical and mental development to varying degrees. In addition, Brown posits that nature is one of the key influences on children’s growth, yet it is often ignored by scholars.

### **3. Renovation proposals**



The concept of nature education should not merely remain at the theoretical level but should be put into practical activities. How can children truly be exposed to nature education? From the perspective of the author's major, the author has conducted research on children's playgrounds in urban communities from the angle of the nature education concept and put forward some renovation proposals, thereby creating the necessary hardware conditions for children to meet the requirements of the nature education environment, enabling urban children to get close to nature and experience happiness.

According to the investigation, most of the existing children's playgrounds in cities are of the "KFC" type, that is, a monotonous combination of equipment, fences, and pavements. Not only are the activity forms monotonous and highly mechanical, but they also have little integration with natural landforms. The activity forms are dull and boring, and the ecological benefits brought by the plant landscapes have not been fully exploited.

Starting from the concept of nature education, the author believes that in the design of children's playgrounds, based on fulfilling basic functions, people should try their best to preserve the original natural landforms of the site, respect the original textures, and carry out reasonable renovations according to local conditions. People should make full use of advantageous elements such as local topography and hydrology. For example, natural water areas can be introduced to meet children's needs for getting close to water. The slopes in the natural landforms can be retained, and game facilities can be combined with the ground at different heights to create richly layered spaces. The principle of micro-topography design should be fully utilized. Diverse landforms can be set up in the ground game area to simulate the forms of nature, enhancing children's desire to explore and making them feel as if they are in the midst of nature. In the dynamic area, the changes in landforms can be highlighted, and in the static area, small mounds can be used to incorporate designs such as slides and caves. The height difference of the ground can be utilized to create interesting and separated spaces, such as using gentle slopes, enclosed plants, and the distances between plants of different sizes to create various spaces for climbing and resting.

Although the urban community playgrounds are open to all residents, children, as a special group, need to be treated specially. Infants and young children are weak and lack independence, while older children's games are spontaneous and their behaviors are not restricted by adult rules. Therefore, in aspects such as the site planning, traffic flow line design, and ground pavement of children's playgrounds in the community, special considerations are required.

In terms of site planning, children's playgrounds should be located in the center of the community green space and far away from vehicular traffic, residential buildings, and unit door entrances, to better create a relatively independent and private space, avoid disturbing residents, and ensure children's safety. The traffic flow line design should mainly follow the principle of safety, constructing independent and convenient traffic routes while meeting the traffic needs of children of different ages (such as walking, cycling, running, etc.). Characteristic plants can be used as guiding signs, and the pavement lighting and safety design should be improved to eliminate blind spots, allowing parents and residents to monitor reasonably and ensuring children's travel safety.

Nowadays, urban children are often overprotected and have had little contact with natural environments such as mud and grass since birth, making them seem "out of touch with reality." At present, the ground surfaces of children's playgrounds in urban communities are mostly made of materials such as cement, tiles, and asphalt. The advantages are that they are convenient for later maintenance, solid and durable, and



can create relatively large sites. However, the disadvantages are that they are not conducive to children's running, jumping, and climbing. These hard paved surfaces also sever the connection between children and the land, which is extremely unfavorable for children's interaction with the natural environment. They are extremely dull, resulting in a high rate of idle use and completely ignoring children's need to get close to nature. Therefore, the author believes that in the choice of pavement for playgrounds, soft and nature-friendly natural materials such as soil, vegetation, and sand should be used to replace hard pavements. These materials are not only loose and have excellent drainage properties but can also achieve the purpose of protecting children. Besides road pavements, different natural materials with various textures should also be used as much as possible in the site environment to enable children to experience rich and diverse sensory changes and promote the natural development of their senses. The loose sand is more suitable for children's jumping activities and can protect their tender knees. Large open lawns allow children to run freely. The changes in terrain should be as rich as possible while ensuring that the slopes are gentle and there are no deep puddles to ensure drainage, enabling children to perceive the height difference and play safely in the natural environment.

In the configuration of plant landscapes, a natural layout should be adopted to enrich the plant layers as much as possible, select unique and interesting plants to enhance the overall natural atmosphere and attractiveness of the playground, allowing children to better integrate into the natural environment, feel the beauty of nature in the game, harvest knowledge and happiness, and truly make the playground a good carrier of nature education to promote the healthy growth of children.

## **4. Conclusion**

In conclusion, the design of children's playgrounds in urban communities needs to comprehensively consider the educational needs in aspects such as physical, emotional, intellectual, social, and moral, especially to meet the requirements of nature education, creating an exclusive space that is both safe and comfortable and full of interesting and natural elements, allowing children to play heartily in an environment close to nature. The various natural elements in the playground can enable children to cultivate their sentiments, purify their innocent hearts, and subtly infiltrate natural knowledge and ecological awareness while playing happily, combining education with entertainment, making up for the regret of children's lack of exposure to nature at present, and laying a good foundation for their growth. "Those who soar up to the sky will calm their minds when they look at the peaks; those who are engaged in worldly affairs will forget to return when they peek into the valleys." An ideal children's playground in an urban community should become an important bridge connecting children with nature and art, laying a good foundation for their growth and becoming a game paradise that enlightens the mind and leads the future.

## **Disclosure statement**

The author declares no conflict of interest.

## **References**

- [1] Rousseau JJ, 2017, Emile. The Commercial Press, Beijing.

- [2] American Academy of Pediatrics Committee on Environmental Health, 2017, Environment and Children's Health. World Publishing Corporation, Beijing.
- [3] Kellert SR, 2008, Building for Life: Designing and Understanding the Human-Nature Connection. China Architecture & Building Press, Beijing.
- [4] Luo H, Huang X, 2020, Theories and Practices of Nature Education. Northeast Normal University Press, Changchun.

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# Research on the Role and Mission of University Teachers in the New Era and Their Cultivation

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**Abstract:** This paper aims to explore the role and mission of university teachers in the context of the new era and the ways to cultivate them. Taking into account various key characteristics of the new era, such as the great rejuvenation of the Chinese nation, the new stage of socialist construction, the international competitive landscape, industrial chain security, the Belt and Road Initiative, the impact of new technologies on work and lifestyle, and changes in social psychology, the paper analyzes how university teachers can understand and fulfill their roles and missions in the new era, and proposes corresponding cultivation strategies.

**Keywords:** New era; University teachers; Role and mission; Cultivation strategies

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## 1. Introduction

With the advent of the new era, China stands at a crucial juncture in its journey toward the great rejuvenation of the Chinese nation<sup>[1-3]</sup>. This era not only witnesses the entry of socialist construction into a new phase but also reveals new trends against the backdrop of increasingly fierce international competition. Rapid advancements in science and technology are profoundly transforming people's work patterns and lifestyles, posing new challenges and missions for university teachers.

In the torrent of this new era, the Chinese nation is steadily and powerfully marching toward great rejuvenation<sup>[4-7]</sup>. Socialist construction is no longer solely about economic development; it now encompasses comprehensive progress in politics, culture, society, ecology, and other aspects. In the new landscape of international competition, the security of China's industrial chain has become an important consideration for national development. The in-depth implementation of the "Belt and Road" initiative not only strengthens economic cooperation with countries along the route but also injects new impetus into China's opening up and international influence.

The wave of technological progress is sweeping through, with new technologies such as the internet, big data, and artificial intelligence emerging endlessly, dramatically disrupting traditional lifestyles and work patterns <sup>[8–10]</sup>. The proliferation of technologies like smartphones, smart homes, and autonomous driving has brought about tremendous changes in people's lifestyles. Concurrently, workers in the new era are undergoing profound psychological transformations, characterized by their desire for freedom, pursuit of achievement, and a sense of uncertainty arising from the rapidly changing social environment—all unique hallmarks of this era.

In this broad context, university teachers, as key players in nurturing the pillars of future society, shoulder increasingly significant missions and responsibilities. They are tasked not only with imparting professional knowledge but also with cultivating students' innovative thinking and critical reasoning abilities to adapt to this rapidly changing era. This study aims to delve into the roles and missions of university teachers in the new era and analyze how to shape and enhance their professional competence and educational capabilities within this context, providing valuable insights for the reform and development of higher education.

## **2. The impact of the new era on university teachers**

As the great rejuvenation of the Chinese nation and the socialist construction entered a new stage, they not only set new goals for national development but also posed higher requirements for higher education and university teachers <sup>[3, 11–13]</sup>. As a crucial link in cultivating high-quality talent, the quality and direction of higher education are closely related to the country's future development. University teachers are no longer merely imparters of knowledge; they are also guides of values, worldviews, and outlooks on life. They need to integrate the overarching concept of national development into their teaching, fostering students' sense of social responsibility and historical mission.

In the context of increasingly fierce international competition, the security of China's industrial chain has become an important consideration for national development <sup>[14–17]</sup>. In this new situation, university teachers shoulder the heavy responsibility of cultivating compound talents with an international perspective and professional skills. They need to continuously update teaching content and methods to ensure that students possess the ability to solve complex problems, adapt to the needs of future international competition, and contribute to the country's industrial chain security and economic development.

The implementation of the major "Belt and Road" initiative not only strengthens economic cooperation between China and countries along the route but also provides new opportunities for the internationalization of higher education <sup>[18–20]</sup>. University teachers play an important role in this initiative. They need to promote academic research and cultural exchanges through international cooperation and exchanges, cultivating talents with an international perspective to support the country's opening up and the enhancement of its international influence.

The continuous emergence of new scientific and technological achievements is profoundly changing people's work and lifestyles. University teachers need to closely monitor technological development trends, not only introducing the latest technological achievements into teaching but also guiding students on how to remain competitive amid technological changes, fostering their innovative thinking and practical abilities <sup>[21,22]</sup>.

The enhanced senses of freedom and fulfillment, as well as the increased sense of uncertainty among

workers in the new era, reflect the impact of social changes on individuals' psychological states <sup>[23–25]</sup>. These changes pose new challenges to university teachers' teaching and educational methods. Teachers need to pay more attention to student's mental health, using flexible and diverse teaching methods and a human-centered educational philosophy to help students establish a positive mindset and ability to cope with social changes.

In summary, the impact of the new era on university teachers is comprehensive. It not only requires them to possess higher professional competence but also demands that they have a keen sense of the times and an international perspective, adapting to and leading the new development of higher education.

### **3. The traditional role and mission of university teachers**

In the traditional higher education system, the role and mission of university teachers primarily revolve around “teaching, imparting knowledge, and resolving doubts” <sup>[26,27]</sup>. This encompasses not only the imparting of pure knowledge but also the education and guidance of students' moral character. As paragons of learning and virtue, university teachers shoulder the heavy responsibility of fostering students' comprehensive development. Through classroom instruction, tutoring, and answering questions, they not only systematically and accurately impart professional knowledge to students but also subtly guide them in forming correct worldviews, outlooks on life, and values.

In addition to teaching and educating people, university teachers also play a pivotal role in academic research and innovation <sup>[28]</sup>. They are the pioneers of academic exploration, constantly pushing forward the development and progress of their disciplines through in-depth scientific research. University teachers must not only infuse the latest academic achievements into their teaching but also cultivate students' innovative thinking and ability to solve problems independently. In the process of scientific research, they guide students to participate in research projects, stimulate their research interests, and nurture future academic stars.

Overall, the traditional role and mission of university teachers are comprehensive and far-reaching. They must strive for excellence in both knowledge impartation and moral education, while also constantly breaking through in academic research and innovation, contributing their strength to social progress and academic prosperity.

### **4. The mission entrusted to university teachers in the new era**

As the new era approaches, the role and mission of university teachers are becoming increasingly rich and profound. In this era, they are not only held to high expectations but also face unprecedented responsibilities and challenges.

Cultivating innovative talents has become one of the important tasks entrusted to university teachers <sup>[29,30]</sup>. In the wave of the new era, society's demand for talent is becoming more diversified, and the pursuit of quality is becoming increasingly stringent. This shift requires university teachers to go beyond traditional knowledge impartation and instead dig deep into cultivating students' innovative thinking and practical abilities. To this end, teachers must be innovative and constantly explore new teaching methods, such as project-based learning and flipped classrooms, to stimulate students' enthusiasm for learning and their desire to explore. Simultaneously, providing abundant practical opportunities is also crucial, whether through laboratory research on campus, internships and practical training off-campus, or various innovation and entrepreneurship competitions, all of which can serve as stages for students to showcase themselves and



exercise their abilities. Through these practices, university teachers are committed to cultivating compound talents who possess independent thinking skills, excel in teamwork, and are imbued with an innovative and practical spirit.

On the other hand, university teachers also bear the lofty mission of promoting the core socialist values [26,27,29]. They are not only knowledge disseminators in the academic realm but also guides for students' spiritual growth. In daily teaching, university teachers need to skillfully integrate the core socialist values into the classroom, so that while students learn knowledge, they can also deeply understand the importance of core values such as integrity, friendliness, and dedication. Through vivid classroom instruction, rich social practice, and the teachers' own words and deeds, students can gradually develop positive moral qualities and grow into responsible, caring, and passionate youth of the new era.

Furthermore, university teachers must closely integrate their research and teaching work with the country's long-term development and actively respond to and serve the needs of national strategies [27, 29,30]. They should always pay attention to major national strategic deployments and key development areas, such as technological innovation and green development, and provide strong intellectual support and talent guarantees for the country's development through in-depth scientific research and technological innovation. At the same time, university teachers should also encourage students to actively participate in research topics closely related to national strategies, which not only exercises students' research abilities but also cultivates their sense of national identity and mission. In this way, teachers and students jointly contribute their efforts to the prosperity and progress of the country.

## **5. Strategies for shaping university teachers in the new era**

In the context of the new era, university teachers not only bear the mission of imparting knowledge but also need to continuously shape and enhance themselves to respond to society's diverse expectations for higher education. Therefore, it is essential to delve into the strategies for shaping university teachers, aiming to construct an image of university teachers that better aligns with the development needs of the new era.

Firstly, enhancing professional competence and educational teaching abilities is undoubtedly the core component of the strategy for shaping university teachers [31,32]. With the acceleration of knowledge renewal and the deepening of interdisciplinary integration, university teachers must embrace the concept of lifelong learning. By participating in professional training, reading cutting-edge literature, attending academic seminars, and other means, they should continuously enrich and update their knowledge reserves. Simultaneously, they should strive to improve teaching effectiveness, and actively explore and practice new teaching methods, such as blended learning and case-based teaching, to stimulate students' learning interest and cultivate their innovation capabilities and critical thinking.

Secondly, strengthening the construction of teaching ethics and style is equally crucial for shaping university teachers [33,34]. Teachers are not only imparters of knowledge but also guides of students' values and models of moral character. Therefore, university teachers should focus on their moral cultivation and professional ethics, conveying positive values and outlooks on life to students through their daily teaching behaviors and words. Concurrently, universities should establish and improve a teaching ethics evaluation mechanism, regularly assessing teachers' performance in teaching ethics to motivate them to continuously enhance their ethical standards.

With the continuous advancement of globalization and the implementation of international strategies such as the Belt and Road Initiative, expanding international vision and cross-cultural communication skills have become essential qualities for university teachers in the new era<sup>[35-37]</sup>. To this end, university teachers should actively participate in international academic exchanges and cooperation projects to improve their foreign language proficiency and cross-cultural communication abilities. This not only injects new inspiration and ideas into teachers' teaching and research work but also helps cultivate students' international vision and cross-cultural communication skills, laying a solid foundation for their future career development.

Furthermore, paying attention to student's mental health and growth needs is also an important responsibility that university teachers in the new era cannot ignore<sup>[37-39]</sup>. With the rapid development of society and increasing competition, university students face more and more psychological pressures and challenges. University teachers should closely monitor students' psychological dynamics and provide timely and effective psychological counseling and support. At the same time, teachers should also provide personalized guidance and services based on students' personality traits and interests, helping them discover their potential and interests, and achieve comprehensive and personalized growth.

In summary, the strategy for shaping university teachers in the new era is a multi-dimensional and comprehensive systematic project. Through the implementation of strategies such as enhancing professional competence, strengthening the construction of teaching ethics, expanding international vision, and paying attention to student's mental health, we can expect to cultivate a high-quality, professional, and innovative team of university teachers, injecting new vitality and impetus into the cause of higher education in the new era.

## 6. Conclusion

In the context of the new era, the roles and missions of university teachers have far exceeded the traditional scope of imparting knowledge, teaching skills, and resolving doubts. They are not only disseminators of knowledge and researchers in academics but also participants in national strategies, promoters of core socialist values, and guardians of students' mental health. By analyzing the new requirements for university teachers in the new era, this paper reveals the diverse missions they bear and the shaping strategies they need to adapt to fulfill these missions.

In the face of new trends in international competition, the impact of technological advancements on lifestyle, and changes in social psychology, university teachers must continuously enhance their professional competence and educational teaching abilities to better cultivate innovative talents. Simultaneously, strengthening the construction of teaching ethics and style is not only related to the healthy growth of students but also embodies the professional dignity and sense of mission of university teachers. In the context of internationalization, expanding international perspectives and cross-cultural communication skills have become essential qualities for university teachers. This not only helps enhance the international influence of China's higher education but is also key to cultivating talents with an international perspective. Furthermore, paying attention to student's mental health and growth needs reflects the humanistic care and educational responsibility of university teachers.

Therefore, the roles and missions of university teachers in the new era are diverse and challenging, requiring them to possess not only profound professional competence but also broad perspectives and noble

teaching ethics. By implementing effective shaping strategies, university teachers can better fulfill their roles and missions, making greater contributions to higher education and social development in the new era. Looking ahead, we expect university teachers to continue to play a significant role in talent cultivation, technological innovation, and social services, contributing to the great rejuvenation of the Chinese nation.

## Disclosure statement

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## References

- [1] Tenner S, Baillie J, Dewitt J, et al., 2013, American College of Gastroenterology Guideline: Management of Acute Pancreatitis. *The American Journal of Gastroenterology*, 108(9): 1400–1415.
- [2] Xi J, 2021, Speech at the Meeting Celebrating the 100th Anniversary of the Founding of the Communist Party of China, 2021, 2.
- [3] Xi J, 2018, Speech at the Symposium with Teachers and Students of Peking University, 2018: 002.
- [4] Lin Y, 2018, The Great Rejuvenation of the Chinese Nation And the Belt and Road Initiative. *Journal of Shanghai University of International Business and Economics*, 25(06): 5–9.
- [5] Xi J, 2017, Victory in Building a Moderately Prosperous Society in All Respects and in Achieving the Great Victory of Socialism with Chinese Characteristics in the New Era, 2017: 001.
- [6] Xi J, 2017, Securing a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Striving for the Great Victory of Socialism with Chinese Characteristics in the New Era. Report at the 19th National Congress of the Communist Party of China, *Vanguard*, 2017(31): 4–21.
- [7] Xi J, 2022, Holding High the Great Banner of Socialism with Chinese Characteristics and Working Together for the Comprehensive Construction of a Modern Socialist Country. Report at the 20th National Congress of the Communist Party of China. *Gazette of the State Council of the People's Republic of China*, 2022(30): 4–27.
- [8] Bai G, Liu A, Cao X, et al., 2022, Research and Empirical Evidence on the Discovery Method of Potential Disruptive Technologies in the Field of Engineering Technology. *Intelligence Magazine*, 41(11): 33–40.
- [9] Lin X, Qu W, Wu B, et al., 2024, Breaking Through the Three Major Constraints and Vigorously Promoting Original and Disruptive Scientific and Technological Innovation in My Country. *Science and Technology Chin*, 2024(06): 17–20.
- [10] Yan J, Li F, 2024, Ethical Analysis and Risk Prevention of Disruptive Scientific and Technological Innovation under the Perspective of New Quality Productivity. *Journal of Beijing Institute of Technology (Social Sciences)*, 26(04): 22–28 + 67.
- [11] Xi J, 2018, Speech at the Symposium of Teachers and Students of Peking University. *China Higher Education*, 2018(09): 4–6.
- [12] Xie X, 2019, Research on the Construction of the Goal System of Ideological and Political Education for Students in the New Era, thesis, Northeast Normal University.
- [13] Zhao F, Kong J, Chen G, et al., 2021, Why to Establish Morality and Cultivate People — In-depth Study of General Secretary Xi Jinping's Important Expositions on Education. *Beijing Education (Higher Education)*, 2021(03): 4–19.
- [14] Cao Z, 2023, Global Industrial Chain and Supply Chain Security and China's Innovation. *Science and Technology*

China, 2023(07): 24–27.

- [15] Lv Y, Deng L, 2023, Focus on Improving the Resilience and Security Level of Industrial Chain and Supply Chain — Measurement and Analysis of China’s Automobile Industry Chain. *International Trade Issues*, 2023(02): 1–19.
- [16] Xu C, Chen Y, Sun X, 2023, Reconstruction of China’s Industrial Chain from the Perspective of Industrial Security. *Enterprise Economy*, 42(03): 15–25.
- [17] Zhang L, Hu Z, Chen S, 2024, Logical Thinking and Strategic Orientation for Ensuring the Security of China’s Industrial Chain under the Reconstruction of the Global Industrial Chain. *Economist*, 2024(03): 35–44.
- [18] Chu Z, 2022, Research on the Global Competence Training Model of Undergraduate Students in Research Universities under the Background of New Globalization, thesis, Zhejiang University.
- [19] Qin J, Tan S, Shen Y, et al., 2023, “Belt and Road” Scientific and Technological Innovation Talent Training: China’s Advantages, Challenges and Key Paths. *Bulletin of the Chinese Academy of Sciences*, 38(09): 1325–1342.
- [20] Shen P, 2017, Research on the Cultivation of International Talents in Chinese Universities under the “Belt and Road” Initiative. *Vocational and Technical Education*, 38(31): 32–36.
- [21] Li M, 2022, Research on the Theory and Practice of “Three-Dimensional Education” in Universities in the New Era, thesis, Jilin University.
- [22] Shen Y, 2022, Thinking and Practice on Promoting School-Enterprise Collaborative Innovation under the Deep Integration of Industry, Academia and Research. *China Science and Technology Industry*, 2022(10): 48–50.
- [23] Gong Q, 2019, Research on Xi Jinping’s Labor View, thesis, Shandong University.
- [24] Sun Y, Zhong W, Chen Y, 2019, Research on Labor Values in the New Era. *Journal of China Institute of Industrial Relations*, 33(01): 118–124.
- [25] Wang X, 2022, Research on the Embodiment of People’s Interests in China’s Economic Operation under the Perspective of Marx’s Theory of the Total Production Process, thesis, Jilin University.
- [26] Hu S, 2019, The Mission and Responsibility of Full-Time Teachers in Colleges and Universities to Cultivate Morality and Educate People. *China Higher Education*, 2019(19): 37–39.
- [27] Li Y, 2017, The Development and Mission Consciousness of Teachers in Chinese Universities, thesis, Jilin University.
- [28] Tang Q, 2020, A Study on the Professional Mission and Academic Growth of Young Teachers in Universities under the Background of “Double First-Class” Construction. *Chinese Geological Education*, 29(1): 15–18.
- [29] Wu L, Zhang T, 2017, Deeply Grasp the Theoretical Connotation of Xi Jinping’s Discussion on the Responsibilities and Missions of Teachers. *Ideological Education Research*, 2017(5): 11–14.
- [30] Zhang L, Cheng Y, Ye C, et al., 2023, Optimizing the Construction of University Faculty with Silver-Aged Teachers: Contemporary Mission, Key Tasks and Development Strategies. *China Higher Education Research*, 2023(2): 24–30.
- [31] Chen P, 2020, Co-Teaching, Co-Learning, Co-Creation: The Evolution and Persistence of the Role of University Teachers in the Era of Artificial Intelligence. *Exploration of Higher Education*, 2020(0): 112–119.
- [32] Guo S, 2020, Research on the Role of University Teachers in the Teacher Appointment System, thesis, Central China Normal University.
- [33] Yao Z, 2023, “Change” and “Unchange” of University Teachers in the Era of Intelligence. *Journal of Teacher Education*, 10(4): 93–100.
- [34] Zhang J, Ma S, 2022, The Role and Responsibility Adjustment of University Teachers in the New Era. *Beijing Education (Higher Education)*, 2022(9): 36–39.

- [35] Li N, Xu B, 2021, The Role Positioning of “Dual-Qualified” Teachers in Law Majors in Universities under the Background of Industry-Education Integration and the Path to Improve Judicial Practice Skills. *Legal Expo*, 2021(17): 191–192.
- [36] Ma Y, Li Y, Yang J, 2024, Research on the Role Transformation of College Teachers in the Era of Digital Intelligence Integration. *Journal of Multimedia and Online Teaching in China (First Half)*, 2024(2): 138–141.
- [37] Yang Q, 2023, Role Confusion and Countermeasures of New College Teachers in the New Era. *Science Consulting (Science and Technology Management)*, 2023(4): 160–162.
- [38] Reinhold D, Sprenger T, Chen Y, 2021, On the Teacher-Student Relationship Ability of College Teachers. *Research on Applied Higher Education*, 6(1): 87–95.
- [39] Liao Y, 2020, Positioning of College Teachers’ Roles in the Process of Blended Teaching. *Journal of Higher Education*, 2020(23): 143–145.

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