

# **Journal of Contemporary Educational Research**

Editors-in-Chief

**Purificacin Alcaide-Pulido**

*Universidad Loyola Andaluc Communication and Education, Spain*

**Jandhyala B. G. Tilak**

*Council for Social Development, India*

BIO-BYWORD SCIENTIFIC PUBLISHING PTY LTD

(619 649 400)

Level 10

50 Clarence Street

SYDNEY NSW 2000

Copyright © 2023. Bio-Byword Scientific Publishing Pty Ltd.

Complimentary Copy



## Journal of Contemporary Educational Research

### Focus and Scope

*Journal of Contemporary Educational Research* is an international, peer-reviewed and open access journal which is to promote the evaluative, integrative, theoretical and methodological research on contemporary education; shape a novel, broader view of issues in contemporary education; enhance the caliber of humanities research through active use of best domestic and foreign practices; and integrate the achievements of various sciences and knowledge areas with unconventional approaches.

All relevant papers are carefully considered, vetted by a distinguished team of international experts, and rapidly published. Original articles, short communications, case studies and comprehensive review articles can be submitted online via the journal's submission and peer review site.

### About Publisher

Bio-Byword Scientific Publishing is a fast-growing, peer-reviewed and open access journal publisher, which is located in Sydney, Australia. As a dependable and credible corporation, it promotes and serves a broad range of subject areas for the benefit of humanity. By informing and educating a global community of scholars, practitioners, researchers and students, it endeavors to be the world's leading independent academic and professional publisher. To realize it, it keeps creative and innovative to meet the range of the authors' needs and publish the best of their work.

By cooperating with University of Sydney, University of New South Wales and other world-famous universities, Bio-Byword Scientific Publishing has established a huge publishing system based on hundreds of academic programs, and with a variety of journals in the subjects of medicine, construction, education and electronics.

### Publisher Headquarter

BIO-BYWORD SCIENTIFIC PUBLISHING PTY LTD

Level 10

50 Clarence Street

Sydney NSW 2000

Website: [www.bbwpublisher.com](http://www.bbwpublisher.com)

Email: [info@bbwpublisher.com](mailto:info@bbwpublisher.com)



## Table of Contents

1	<b>Practical Strategies to Improve the Quality of Teachers in Higher Vocational Colleges in the New Era</b> <i>Yujie Li</i>
7	<b>Teaching Strategy of Higher Vocational Interior Design Based on “Internet Plus” Thinking</b> <i>Linzi She</i>
12	<b>Application of BIM + Virtual Simulation Technology in Road Engineering Construction Technology and Organization Course</b> <i>Taotao Gao, Liming Zhao, Jun Lin</i>
18	<b>Research on Innovative Ways of Integrating Aesthetic Education with Ideological and Political Education in the New Era</b> <i>Siwen Wang, Yang Zhang, Xuexin Wang, Jiwei Feng, Yinbiao Wang</i>
26	<b>Research on the Practical Path of Collaborative Innovation Talent Training in Supply-Side Applied Undergraduate Colleges</b> <i>Min Peng, Jingming Xie, Maohua Xiong, Yunxiang Liu</i>
31	<b>Research on the Reform Strategy of Integrating Labor Education into Landscape Design Curriculum</b> <i>Xue Wei</i>
37	<b>Research on the Construction of Entrepreneurship Course Clusters for Students in Agriculture and Forestry Universities</b> <i>Xiao Zhao</i>
42	<b>Optimization Strategies for Art Education in Colleges and Universities from the Perspective of Education</b> <i>Yuanyang Yao</i>
47	<b>Exploration of French-Chinese Translation Methods of Electrical Engineering Terminology Using Online Image-Text Retrieval Mode</b> <i>Tian Li</i>
53	<b>Critical Discourse Analysis Based on Halliday’s Systemic Functional Linguistics: Taking The Economist’s First Commentation on the End of China’s Zero-COVID Policy as an Example</b> <i>Chuyan Wang</i>

**60**      **Transmission and Development of Musical Art**  
*Tianchang Li*

**64**      **Contrast and Fusion: The Role of Regional Culture in Shaping Jiangsu Paper-Cut Art**  
*Yan Gu*

# Practical Strategies to Improve the Quality of Teachers in Higher Vocational Colleges in the New Era

Yujie Li\*

Chongqing Energy College, Chongqing 402260, China

\*Corresponding author: Yujie Li, 417225852@qq.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** In this paper, practical strategies are proposed to improve the quality of teachers in higher vocational colleges. Research and analyses have shown that the key to improving the quality of teachers in higher vocational colleges lies in the improvement of professionalism, subject knowledge, and teaching ability. Thus, the following practical strategies are proposed: strengthen teachers' moral development, establish a teacher training system, focus on curriculum construction and teaching method innovation, and strengthen the teaching quality monitoring and evaluation mechanism. These measures can effectively improve the quality of teachers in higher vocational colleges and promote the development of higher vocational education.

**Keywords:** Higher vocational colleges; Teacher quality; Student quality; Educational philosophy

**Online publication:** June 26, 2023

## 1. Introduction

Higher vocational education is a form of education different from traditional general undergraduate education. Its goal is to cultivate talents with certain theoretical knowledge and strong practical skills. In order to ensure that, the quality of higher vocational teachers is of paramount importance. The teaching level and teaching effect of higher vocational teachers directly affect the quality of education and teaching in higher vocational colleges. Therefore, improving the quality of teachers is the top priority of the current teacher training work in higher vocational colleges. Against this background, it is necessary to research and analyze practical strategies for improving the quality of teachers in higher vocational colleges. This would be an effective way to improve the quality of teachers in higher vocational colleges.

## 2. Importance of improving the quality of teachers in higher vocational colleges in the new era

### 2.1. Conducive to the improvement of the quality of higher vocational education

The goal of higher vocational education is to cultivate skilled talents, and the quality of teachers directly affects the quality of higher vocational education. Teachers are the backbone of higher vocational education. Not only do they need to have a solid subject foundation and rich practical experience but also good teaching ability and innovative consciousness. Only by improving the quality of teachers can we improve the quality of higher vocational education and better satisfy societal demands for skilled talents <sup>[1]</sup>.

## **2.2. Conducive to the improvement of the quality of students**

Higher vocational education is aimed at cultivating skilled talents. The quality of teachers not only affects the quality of teaching but also directly affects the growth and development of students. The teaching level and educational philosophy of teachers have a profound impact on students' ideas, outlook on life, and career planning. Only by improving the quality of teachers can we better support students in their development and cultivate their practical skills and innovative consciousness. In addition, the education level and professional background of teachers also have an impact on students' career development and future choices. If teachers have more professional experience and a higher level of education, they can provide students with a more comprehensive and in-depth knowledge base and practical learning opportunities, which would help students better adapt to the requirements of social and professional development.

## **2.3. Conducive to the construction of teaching teams**

Constructing a higher vocational teaching team is the key to improving the quality of higher vocational education. The growth of teachers embodies a continuous process of learning and improvement. Only by improving the quality of teachers can we better promote the construction of higher vocational teaching teams. In the training of teachers, their professional and moral development is an important aspect. Ethical, high-quality, and sensible teachers can better promote the quality of the teaching staff.

## **2.4. Conducive to the development of higher vocational education**

Higher vocational education is an important part of the country's economic and social development. It is also the key link in personnel training. Teachers are the backbone of higher vocational education, and thus the quality of teachers is related to the development of higher vocational education. Only high-ability and high-quality teachers with innovative consciousness can promote the development of higher vocational education and make greater contributions to the country's economic and social development [2].

## **3. Existing challenges affecting the quality of teachers in higher vocational colleges**

### **3.1. Lacking an understanding of subject knowledge**

Teachers in higher vocational colleges teach highly practical professional courses, but some teachers lack an understanding of their subject knowledge. This is mainly manifested in the fact that some teachers have less subject knowledge reserves, are unable to comprehensively and deeply grasp the professional knowledge taught or closely integrate the teaching content with application scenarios, and lack innovation and practical skills. Therefore, teachers in higher vocational colleges should strengthen their understanding of the professional fields they teach, improve their subject knowledge, and master relevant knowledge of the application to better guide students in learning and practice.

### **3.2. Inflexible teaching methods**

The teaching methods in some higher vocational colleges are relatively simple, relying only on classroom lectures. The lack of teaching skills and methods is evident. Due to the practicality of higher vocational education, the teaching methods used should be more flexible and diverse, focusing on cultivating students' practical skills. Therefore, teachers in higher vocational colleges need to actively explore various teaching methods, innovate existing teaching models, and carry out various forms of teaching activities, such as classroom lectures, experimental teaching, internships, practical sessions, *etc.*, in order to develop students' practical skills [3].

### **3.3. Outdated educational concepts**

Some higher vocational colleges practice outdated educational concepts, lack an understanding of the role of higher vocational education in the new era, and are unable to adapt to the diverse needs of students. Modern higher vocational education has transformed from pure skill training to quality education, which requires teachers in higher vocational colleges to possess comprehensive and humanistic qualities. Therefore, teachers in higher vocational colleges should be aware of new educational concepts, focus on the all-round development of students, develop students' innovation skills and entrepreneurial spirit, as well as encourage independent learning among students.

### **3.4. Poor moral development**

Teachers in higher vocational colleges must pay attention to moral development, as an important component in teacher training. Some teachers in higher vocational colleges have poor morality, as evident by their lack of responsibility, disrespect for students, and indifference to student development. All these have negative impacts on students and affect the quality of education and teaching. Therefore, teachers in higher vocational colleges should pay attention to their moral development, actively cultivate their own professional ethics, improve their sense of responsibility and education mission, respect the development needs and personality of each student, and set an example for students by precepts and deeds.

## **4. Practical strategies to improve the quality of teachers in higher vocational colleges in the new era**

### **4.1. Strengthen teachers' moral development**

Strengthening teachers' moral development is an important aspect of improving the quality of teachers in higher vocational colleges. The essence of higher vocational education is the cultivation of applied talents. An important factor in shaping students' morality and attitude, the morality of teachers is the cornerstone of the quality of higher vocational education. First of all, in order to strengthen teachers' moral development, self-cultivation, and quality enhancement are the two components that must be emphasized. Teachers must keep their words and actions consistent, teach by precepts and deeds, and influence the attitude and morality of students with their own behavior. At the same time, teachers should lead by example, practice ethics, be honest and trustworthy, respect students, care for students, and help students feel their warmth and care <sup>[4]</sup>.

Second, in order to strengthen teachers' moral development, it is necessary to establish a sound assessment and supervision mechanism. Ethics assessment and education should be carried out on a regular basis for teachers in higher vocational colleges. Their moral performance should also be monitored, and teachers who violate professional norms should be promptly dealt with and educated. In this way, an incentive mechanism can be established to guide teachers to continuously improve themselves in terms of ethics and professional norms, so as to better serve students.

Lastly, in order to strengthen teachers' moral development, a strong educational and cultural environment must be formed. Teachers in higher vocational colleges should cultivate students' moral quality, create a healthy and progressive educational environment, and inherit the excellent traditional culture of the Chinese nation and the socialist core values in their education and teaching practice. At the same time, higher vocational colleges should pay attention to education and teaching management, strengthen the management and guidance of teachers, as well as create a safe and stable environment for education and teaching. In short, strengthening the teachers' moral development is an important aspect of improving the quality of teachers in higher vocational colleges. While higher vocational colleges should create a good environment for teachers' moral development, teachers in higher vocational colleges must first work on themselves and continuously improve their own quality. Only in this way can higher vocational education serve the country and society as well as contribute to the realization of the Chinese dream.

## **4.2. Establish a teacher training system**

Continuous learning with knowledge and skill development is important for improving the quality of teachers in higher vocational colleges. Therefore, it is necessary to establish a sound teacher training system. First of all, higher vocational colleges should put effort into pre-employment training for teachers. With the support of the Ministry of Education, experts, scholars, and university leaders should be encouraged to formulate training plans based on the actual needs of teachers in higher vocational colleges, focusing on educational theories, teaching skills, education regulations, ethics in education, professional ethics, and other aspects of knowledge and skills to improve their overall quality <sup>[5]</sup>.

Second, higher vocational colleges should carry out professional training on specific subjects to improve teachers' knowledge levels. Various experts and industry professionals can be invited to conduct these training to improve teachers' subject knowledge and practical skills. In that way, teachers can better guide the learning of students <sup>[6]</sup>. In addition, higher vocational colleges can consider using a combination of online and offline methods for teacher training, such as online education and distance education. They should also form alliances with leading enterprises in the industry to set up training bases for dual-qualified teachers, improve the training system and curriculum system for these teachers, and carry out customized and personalized training. These new education methods can provide teachers with more convenient learning channels and, at the same time, promote the modernization, informatization, and intelligence of higher vocational education.

Lastly, higher vocational colleges should incorporate the teacher training system into the school management system; establish an evaluation and incentive mechanism for continuing education and training; evaluate, assess, and reward teachers who participate in training; and further stimulate teachers' enthusiasm for learning and initiative. In short, the establishment of a sound teacher training system is one of the ways to improve the quality of teachers in higher vocational colleges, which enhances not only the education and teaching level but also the teaching quality and effect <sup>[7]</sup>.

## **4.3. Pay attention to curriculum construction and teaching method innovation**

In order to improve the quality of teachers in higher vocational colleges, it is crucial to pay attention to curriculum construction and teaching method innovation. In today's era, the focus of education has shifted from simply imparting knowledge to cultivating comprehensive abilities among students. Teachers in higher vocational colleges must adapt to this trend and focus on curriculum construction and teaching method innovation in order to improve the quality of students and their skills <sup>[8]</sup>. First of all, paying attention to curriculum construction is the key to improving the quality of teachers. Teachers in higher vocational colleges need to constantly pay attention to the content of the courses they teach, carry out in-depth research and evaluation on the course content, as well as make adjustments and updates in a timely manner based on students' feedback and social needs. In the process of curriculum construction, teachers must also pay attention to the pertinence and practicality of the curriculum and integrate theoretical knowledge with practical application to improve students' practical skills. At the same time, teachers need to pay attention to the comprehensiveness and intersectionality of courses and take advantage of the connections between different subjects to cultivate students' interdisciplinary skills <sup>[9]</sup>.

The innovation of teaching methods is also the key to improving the quality of teachers. Teachers in higher vocational colleges should adopt different teaching methods based on the needs of students and the teaching content in order to achieve better teaching effects. For example, experimental teaching, projects, *etc.*, can be used to encourage students to participate and deepen their understanding of certain theoretical knowledge; in classroom teaching, interactive teaching, group discussions, and other methods can be used to enhance students' learning initiative and teamwork spirit. In the process of innovating teaching methods, there is a need to integrate information technology and adopt multimedia teaching, network courses, and

other methods to improve the efficiency and quality of teaching. In short, focusing on curriculum construction and teaching method innovation is an important way to improve the quality of teachers in higher vocational colleges. Targeted curriculum construction and innovation of teaching methods should be carried out based on the needs of students and the teaching content. In addition, in order to improve the teaching quality and effect, teachers must keep up with the new developments in educational concepts and instructional methods. At the same time, higher vocational colleges should provide corresponding support and resources, such as professional training, teaching equipment, and teaching resources, to help teachers complete their teaching tasks.

#### **4.4. Strengthen the teaching quality monitoring and evaluation mechanism**

Strengthening the teaching quality monitoring and evaluation mechanism is an effective means of ensuring the teaching quality of teachers in higher vocational colleges. It is also an important way to improve the overall quality of teachers in higher vocational colleges. This mechanism enables teachers to quickly identify their strengths and weaknesses as educators, allowing them to continually improve their instructional strategies and teaching quality.

First of all, a comprehensive evaluation system, which includes student evaluation, peer evaluation, and expert evaluation, should be established. Student evaluation is an important indicator of teaching quality in which students are given the opportunity to evaluate their teachers from various angles, including classroom teaching quality, teaching content design, teaching methods, *etc.* <sup>[10]</sup>. On the other hand, peer evaluation allows teachers to evaluate each other and thus promotes communication and mutual learning among teachers. Expert evaluation provides professional opinions and suggestions to help teachers discover their own shortcomings and thus improve their teaching.

Second, the management of the teaching process, including teaching progress management, homework assignment, correction, assessment, and scoring, *etc.*, must be strengthened. Teachers need to keep track of students' learning and modify their teaching strategies to ensure that students can fully and effectively master the knowledge and skills they have learned. At the same time, an incentive mechanism should be established to encourage teachers in higher vocational colleges to actively participate in teaching work. Teaching achievement rewards and honorary of outstanding teachers would encourage teachers to further explore and innovate in teaching.

Lastly, it is important to make full use of modern technological means. With the rapid development of information technology, modern technological means would play an important role in improving the teaching quality monitoring and evaluation mechanism. Internet technology can be used to establish an online evaluation platform to facilitate students' evaluation and feedback on teaching; at the same time, technical means such as data analysis and artificial intelligence can be used to monitor and evaluate teaching quality.

In short, strengthening the teaching quality monitoring and evaluation mechanism would help improve the teaching quality as well as the learning effect and quality. Therefore, higher vocational colleges must strengthen the teaching quality monitoring and evaluation mechanism and the management of the teaching process, establish a comprehensive and scientific evaluation system from multiple levels as well as an incentive mechanism, and make full use of modern technology to provide high-quality education. All these would provide a strong guarantee for the improvement of the teaching quality of teachers in vocational colleges.

#### **5. Conclusion**

In conclusion, improving the quality of teachers in higher vocational colleges is very important for schools and the entire higher education undertaking. In this new era, higher vocational colleges should adhere to

the “people-oriented” educational concept, establish scientific management mechanisms, strengthen the training and education of teachers, implement democratic management, and ensure that the campus culture relates to young people, so as to improve the quality of teachers and provide greater strength for the development of higher vocational education.

### Disclosure statement

The author declares no conflict of interest.

### References

- [1] Wang C, 2022, Reflections on the Quality Improvement of Teachers in Higher Vocational Colleges Under the Perspective of Everyone’s Excellence. *Human Resources Development*, 2022(03): 73–74.
- [2] Li H, 2021, Research on the Improvement of Teachers’ Quality and Ability of Ideological and Political Theory Courses in Higher Vocational Colleges. *Journal of Hebei Energy Vocational and Technical College*, 21(02): 78–80.
- [3] Meng L, 2021, Research on the Professional Quality of “Study Travel Teachers” in Higher Vocational Colleges, thesis, Sichuan Normal University.
- [4] Liu L, 2021, Research on the Improvement of Ideological and Political Teachers’ Quality and Ability in Higher Vocational Colleges in the New Era. *Journal of Jinan Vocational College*, 2021(02): 69–71.
- [5] Hu L, He Z, Xu H, 2020, Research on the Current Situation and Improvement Strategies of Teachers’ Quality in Higher Vocational Colleges. *Green Technology*, 2020(13): 236–237 + 240.
- [6] Chen H, Yu Q, 2020, Some Experiences of Teachers in Higher Vocational Colleges Participating in National Training for Teachers’ Quality Improvement Program. *International Public Relations*, 2020(01): 192.
- [7] Zhao J, Li Q, Lu X, 2022, Research on the Quality Training and Implementation Path of “Double-Qualified” Teachers in Agricultural Vocational Colleges. *New Education Era Electronic Magazine (Teacher Edition)*, 2022(20):110–112.
- [8] Chu L, Zheng L, 2022, Research on the Training Path of “Double-Qualified” Quality Teachers in Higher Vocational Colleges—Take Zhejiang as an Example. *Journal of Zhejiang Vocational and Technical College of Industry and Trade*, 22(1): 6–11.
- [9] Zhang X, 2022, The Current Situation and Countermeasures of the Construction of Teachers in Higher Vocational Colleges—Based on the Background of High-Quality Development of Modern Vocational Education. *Journal of Guiyang University (Social Science Edition)*, 17(1): 83–88 + 94.
- [10] Li S, Li B, 2022, Research on the Construction of Famous Head Teacher Studios in Higher Vocational Colleges Under the Background of Quality Improvement and Training. *China Adult Education*, 2022(4): 70–73.

#### Publisher’s note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



# Teaching Strategy of Higher Vocational Interior Design Based on “Internet Plus” Thinking

Linzi She\*

Chongqing Energy College, Chongqing 402260, China

\*Corresponding author: Linzi She, 329384946@qq.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** “Internet Plus” thinking has been widely adopted in the teaching of interior design in colleges and universities, and its application has significant implications that cannot be disregarded. “Internet Plus” thinking not only realizes the innovation of interior design teaching but also significantly improves the level and quality of teaching. Through an analysis of the advantages of “Internet Plus” education platform and the current situation of higher vocational interior design teaching, effective strategies for higher vocational interior design teaching based on “Internet Plus” thinking are proposed in this paper in hope that this study will contribute to the efficient development of interior design teaching activities.

**Keywords:** “Internet Plus” thinking; Teaching strategy; Interior design

**Online publication:** June 26, 2023

## 1. Introduction

In recent years, the application of “Internet Plus” in people’s daily work, life, and education has become very common. When teachers in higher vocational colleges carry out interior design teaching, they must be aware of the disadvantages of the teaching mode used in the past and strengthen the application of “Internet Plus” thinking to interior design teaching, so as to effectively make up for the gaps in past education, achieve a more ideal teaching effect, and continue to supply high-quality interior design talents to the society.

## 2. Advantages of “Internet Plus” education platform

First, the reform and innovation of interior design teaching based on “Internet Plus” thinking renders students’ learning methods more adjustable and flexible. As long as there is a network, students can use their smartphones or computers to log in to the online teaching platform at any time and thus use the resources on the platform to learn. Second, based on “Internet Plus” thinking, higher vocational colleges can carry out barrier-free information exchanges with related companies to timely and comprehensively understand the current development trends in the industry, objectively recognize new industry concepts and technologies, and gain a comprehensive understanding of the industry’s development trends. The courses that are currently implemented are being improved and optimized to ensure that the professional knowledge and skills students learn are in line with the current development of the industry. Third, the establishment of “Internet Plus” education platform provides a new medium for interaction between teachers and students. When students use the resources on the platform for independent learning, they may come across certain problems; the platform allows them to raise questions anytime and anywhere, and teachers can help students analyze their problems and questions as well as provide answers via the platform. In addition, teachers can

provide detailed explanations during classroom lessons in response to students' questions and doubts, so as to ensure the relevance of classroom teaching.

### **3. Current situation of interior design teaching in higher vocational colleges**

In recent years, colleges and universities have continued to expand the scale of enrollment, which has led to a continuous decline in the quality of students in higher vocational colleges. According to surveys, many students majoring in interior design in higher vocational colleges lack learning autonomy and have a relatively weak foundation. Although we have now entered the information age, there are still some higher vocational teachers who have not been able to keep up with the pace of the times and are still using the previous teaching mode. The issues they face in teaching are reflected in three situations. First, students come from different regions; thus, there are significant differences in their basic knowledge. In the previous teaching mode, it is impossible to take into account of every student and meet their individual needs in a 45-minute class. Second, the interior design major involves a wide range of knowledge, including psychology, advertising, ergonomics, and other related fields, and the teaching materials used by teachers are unable to keep up with the speed of material and concept update that varies with the aesthetic changes of the times, thus limiting the knowledge taught in the classroom. Third, the dull classroom environment, the lack of interaction between teachers and students, and the poor teaching effect of the previous teaching mode hinder the motivation of students to grow a strong interest in learning.

### **4. Effective strategies for higher vocational interior design teaching based on “Internet Plus” thinking**

#### **4.1. Innovative teaching concept**

Based on “Internet Plus” thinking, the primary task of teachers when teaching the subject in higher vocational colleges is to actively innovate their own teaching concepts. With the help of advanced internet technology, teaching methods and means of interior design can be innovated and reformed. Establishing a teaching platform based on “Internet Plus” not only provides students with a variety of training methods to choose from but also creates more opportunities for students to be involved in practical operations<sup>[1]</sup>. Under the guidance of “Internet Plus” thinking, when designing interior design teaching platform modules, teachers must place the students at the center of their design, take into account the current learning situation and students' individual needs, and encourage students to use the resources on the platform for in-depth learning and to understand the laws of interior design. In the classroom, teachers can create different scenarios through the use of “Internet Plus” based on the teaching content, and students can then choose one of the scenarios based on their preference. Students will then need to use the “Internet Plus” education platform to express their design ideas within the time specified by their teachers. In this process, teachers must be aware that they only play the role of a guide and instructor, while the students are the main subjects of education. Therefore, they must not interfere with the expression of students' design ideas. This would be conducive to the enhancement of students' innovation skills and stimulate their design inspiration. For example, when carrying out special design teaching, teachers can guide students in using three-dimensional (3D) design software to express their design ideas through the combined space and monitor their operations in the background. In this way, teachers can rectify the mistakes made by students promptly, deepen their learning experience, and supervise their learning behavior, thus preventing them from engaging in activities that have no bearing on learning. 3D design software can also be used to make the interior design more textured.

#### **4.2. Design practical teaching modules**

The innovative reform of higher vocational interior design teaching based on “Internet Plus” thinking aims

at the organic integration of the teaching content with the “Internet Plus” education platform, guiding students in the use of advanced Internet software and accurately completing interior design drawings, as well as providing more opportunities to students to practice drawing. Interior design is a practical subject. For this reason, teachers must pay adequate attention to the design of practical teaching modules when innovatively reforming teaching based on “Internet Plus” [2]. Before carrying out practical teaching, teachers should help students understand the operations and precautions of the materials that are commonly used in interior design through the Internet platform, so as to prepare for pre-class learning. In this way, students will be able to grasp some of the contents involved in interior design before the practical session. In addition, students will have more time for practical operations, the workload of teachers in class will be reduced, and students’ ability to learn independently will improve. Under the guidance of “Internet Plus” thinking, by strengthening cooperation with related companies when establishing the “Internet Plus” education platform, higher vocational colleges will also learn about the current requirements of enterprises for interior design talents and the trend of development in the industry.

#### **4.3. Strengthen the integration of production and education**

Under the guidance of “Internet Plus” thinking, teachers should strengthen the integration of production and education when innovating and reforming the teaching of interior design, so as to better realize the cultivation of interior design talents. The skills of students majoring in interior design in higher vocational colleges vary among individuals, and some students may find it difficult to complete interior design projects on their own. In response to this, students should be divided into different groups, and each group should democratically select a team leader [3]. The team leader will be responsible for the overall arrangement of the project tasks of the group, and the other members will have to cooperate with each other to complete the tasks. For example, in the case of an assigned project task, requiring students to come up with office space design drawings, the team leader must divide the work among the members according to the project tasks in a reasonable manner. The team members must discuss the project tasks and generate design inspirations through brainstorming; then, the team leader will have to collect, sort them out, and put forward the most creative design concept. Subsequently, the members responsible for completing the preliminary expansion of the design drawings and the deepening of the design drawings would have to complete their tasks. After each member has completed his/her task, all members of the team will come together to review and inspect the overall design plan.

Such a teaching mode with a clear division of labor would not only fully utilize the strengths of each student and build their self-confidence in learning, but also help students enhance their cooperation skills and team awareness. After each group has completed their project tasks, the teacher should inform the students of certain problems in their design, commonly the irregularity in drawings that affects the overall drawing effect. The teacher can consider recording a video and sharing it with the students. In that way, the students would be able to pinpoint the problem instinctively.

#### **4.4. Improve the evaluation system**

The reform of higher vocational interior design teaching based on “Internet Plus” thinking has replaced the relatively backward teaching mode in the past. Knowledge learning is no longer restricted to classroom learning. Students can use the Internet to learn anytime and anywhere during their spare time [4]. It is evident that the teaching of interior design following innovation and reform is more conducive to the development of students’ independent learning. Since the teaching mode has been innovated, it is also necessary to strengthen the evaluation system, so as to better improve the teaching quality and achieve the teaching effect of yielding twice the result with half the effort. **Table 1** shows the evaluation methods.

**Table 1.** Evaluation methods

Evaluation method	Time	Content	Purpose
Diagnostic evaluation	Before learning	Understand students' basic foundation, learning interests, motivation, <i>etc.</i>	Clarify the understanding of students before learning, existing problems, <i>etc.</i>
Formative assessment	During learning	Understand the basic situation of students' learning process	Address students' problems and promote their development
Summative evaluation	After learning	Check the completion of learning tasks	Provide feedback to students about their situation, prompting them to understand their strengths and weaknesses

When constructing an evaluation system, teachers need to adhere to the basic principle of comprehensiveness. They should take into consideration of students' learning attitudes, professionalism, values, ideology, morality, social adaptability, *etc.*, in addition to their mastery of professional knowledge and skills to make an evaluation<sup>[5]</sup>. Second, teachers need to adhere to the basic principle of diversification. For a qualified interior design talent, he/she needs to have a wide range of skills, many of which cannot be accurately measured through written tests. Therefore, when establishing an evaluation system, the diversity of evaluation subjects and methods must be ensured<sup>[6]</sup>. Third, teachers need to adhere to the basic principle of dynamism. In order to ensure that the evaluation results accurately reflect students' overall development, the evaluation must be based on the whole learning process instead of a single examination at the end of the semester. For example, under the guidance of "Internet Plus" thinking, teachers can record the overall performance of students in the classroom with the aid of advanced information technology and use the information system to track and evaluate students' classroom performance. Lastly, teachers need to adhere to the basic principle of motivation. The evaluation system must be able to fully tap the potential of students and create a certain incentive effect on students, which would be more conducive to the full use of the evaluation link itself.

#### 4.5. Establish a school-enterprise dialogue mechanism with the aid of "Internet Plus"

The interior design major has a wide range of content. The knowledge and skills related to interior design are also evolving with the advancement of science and technology and the continuous development of society. In order to encourage students to learn new industry knowledge and technologies, a school-enterprise dialogue mechanism should be established with the aid of "Internet Plus" under the guidance of "Internet Plus" thinking. First of all, through a school-enterprise dialogue mechanism, enterprises can upload the latest industry developments and technologies onto the cooperation platform, and teachers can sort out these contents, associate them with teaching content to make teaching videos, and upload them onto the "Internet +" education platform through which students can download and watch them on their own. This would expand students' knowledge framework and enrich their professional skills. Second, enterprises can upload the interior design tasks they undertake onto the school-enterprise cooperation platform for students to view. When discussing design project tasks between the students and teachers, followed by uploading their design works, it can also inspire cooperative companies. Third, schools can share the works of students with enterprises through the school-enterprise cooperation platform to create opportunities for students to carry out internships or secure their employment in these enterprises. It can be seen that the establishment of a school-enterprise dialogue mechanism under "Internet Plus" thinking is conducive to the improvement of students' professional level.

## 5. Conclusion

With the continuous development and progress of society, the requirements for interior design talents continue to increase. In order to encourage students to learn new industry knowledge and technologies, a school-enterprise dialogue mechanism can be established with the aid of “Internet Plus” based on “Internet Plus” thinking. In addition, teachers can actively innovate the backward teaching concepts, clarify their roles in the classroom, carefully design practical teaching modules, and strengthen the development of production-education integrated teaching, so as to impart professional knowledge to students, while vigorously cultivating their skills in a comprehensive manner. Teachers should also use “Internet Plus” to establish a school-enterprise dialogue mechanism, while broadening students’ professional knowledge framework, providing students with more practical opportunities, strengthening the connection between students and enterprises, and creating employment opportunities for students.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] Li H, 2021, Analysis on Countermeasures of Using “Internet +” in Interior Design Teaching. *Light Industry Science and Technology*, 37(09): 189–190.
- [2] Wang W, 2021, Research on the Penetration Strategy of Pottery Culture in the Informatization Teaching of Higher Vocational Interior Design Under the Background of “Internet +”. *Theoretical Research and Practice of Innovation and Entrepreneurship*, 4(01): 97–100.
- [3] Huo L, 2020, Exploration on Teaching Reform of Interior Design Major in Higher Vocational Education under the Context of “Internet +”. *Modern Vocational Education*, 2020(43): 226–227.
- [4] Yang L, 2020, The Application of the “Internet +” Studio System Teaching Model in the Teaching of Interior Design Majors in Higher Vocational Colleges. *Artist*, 2020(09): 142.
- [5] Dai G, 2019, Analysis of Higher Vocational Interior Design Practical Teaching Reform Based on Internet Thinking. *Science Education Journal*, 2019(26): 53–54.
- [6] Wang Y, 2019, Discussion on the Construction of Higher Vocational Interior Design Practical Teaching Based on Internet Thinking. *Chinese Artists*, 2019(05): 256.

### Publisher’s note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

# Application of BIM + Virtual Simulation Technology in Road Engineering Construction Technology and Organization Course

Taotao Gao\*, Liming Zhao, Jun Lin

Chongqing Engineering College, Chongqing 400056, China

\*Corresponding author: Taotao Gao, gaotaotao1986@126.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** We focus on the goal of undergraduate talent training, consider the course features of Road Engineering Construction Technology and Organization, analyze the problems existing in the practical teaching of the course, use the advantages of BIM + virtual simulation technology, design a scientific and reasonable practical teaching content of Road Engineering Construction Technology and Organization, and address the contrast between the strong practical aspect of the traditional Road Engineering Construction Technology and Organization course and the lack of practical instruments in hope to improve students' learning autonomy, enhance the quality of practical teaching, achieve the training objectives of the course, and nurture applied technical talents.

**Keywords:** BIM + virtual simulation technology; Road Engineering Construction Technology and Organization; Course content integration and implementation

**Online publication:** June 26, 2023

## 1. Introduction

Chongqing Engineering College is a general university aiming to cultivate application-oriented technical talents. The knowledge system is mainly designed for the grassroots and the first line of production, while the curriculum of the personnel training program emphasizes more on engineering practice and application, which nurtures students with strong hands-on skills and certain technology development and innovation skills<sup>[1]</sup>.

Road Engineering Construction Technology and Organization is a comprehensive and practical core course focusing on roads and bridges in civil engineering. The course provides the necessary professional skills for road construction, inspection, supervision, and management. Therefore, the corresponding engineering practical skills must be cultivated in the teaching process.

On the one hand, since the course involves a wide range of practical aspects, road construction project volume, complex construction environment, raw materials, and equipment investment, there are certain safety hazards and peculiarities, which might cause difficulties in hands-on practice when completing practical tasks. Moreover, the course has two kinds of classroom practices, one of which is conventional laboratory tests (*e.g.*, asphalt three-index tests, mix design, compaction test, *etc.*), which are usually limited by the type of test and deter students from internalizing and understanding the construction process as a whole (*e.g.*, mix ratio design and mixing); the second is the road and bridge model designed and invested by the school or typical construction processes (such as pile foundations, steel reinforcement cages, and

other concealed projects), which are restricted by the quantity and size of the models or physical objects and at a disadvantage of being time-consuming and costly.

Therefore, course instructors are required to introduce more intuitive, realistic, and innovative teaching methods adapted to the development of engineering in traditional practical teaching. After two years, the teachers found that the use of BIM + virtual simulation technology can effectively solve certain problems in the practical teaching of the traditional Road Engineering Construction Technology and Organization course. They are constantly optimizing the teaching design with an aim to improve the teaching effect and quality of the course. Based on the development trend of BIM in foreign countries and China as well as the application of virtual simulation, through the reform, the part that covers the course teaching plan will be removed, while the part that involves the cultivation of knowledge and skills needed by the society will be enhanced, so as to improve the overall quality of talents, enhance the competitiveness of graduates, and provide the society with high-level innovative talents.

## **2. Basic idea of BIM + virtual simulation technology in the course teaching**

With the continuous development of science and technology, BIM and computer simulation technology are widely used in various fields of society. The core of BIM technology is to create a virtual three-dimensional (3D) model of a specific construction project in the computer <sup>[2]</sup>, while using digital technology to ensure that this model is complete and consistent with the actual situation of the building engineering information base through a real simulation software before the building is completed, *i.e.*, a preview of the whole construction process in advance, in order to achieve a foolproof construction process. The intention of using BIM is to establish a model information base, depict the entire life cycle of construction projects, and realize the synthesis and sharing of information based on building models between different stages and different professions. Virtual simulation, also known as virtual environment or virtual reality, is a more advanced computer technology that involves sensing, simulation, microelectronics, and other computer-integrated technology with 3D simulation of the real environment.

The application of BIM + virtual simulation technology can theoretically address the problems of “difficult to see, high risk, and abstraction” in practical teaching to a large extent. BIM + virtual simulation technology can be used to simulate the virtual environment, construction progress, construction plan, construction cost, and virtual scene roaming. The incomparable simulation function is the core feature and advantage of simulation technology. BIM + virtual simulation technology can also be used in road construction, road base construction, road mixing, asphalt pavement surface installation, foundation construction, and other high-simulation activities.

## **3. Current situation of Road Engineering Construction Technology and Organization course teaching**

### **3.1. Gap in theoretical learning and engineering practice**

In terms of economics and operability, it is unrealistic to acquire and operate given the needs of undergraduate teaching. There is a significant time gap between the theoretical learning of this part of knowledge via classroom lectures and the course practice or engineering practice internship, resulting in the fragmentation of the two aspects of learning and the poor effect from the integration of theoretical and practical learning.

### **3.2. Difficulty in learning the internal composition of equipment and carrying out practical operations during practical sessions**

Due to large road construction equipment and difficulties in loading and unloading, students are unable to visually appreciate the internal composition and functional realization of each part of the equipment during

practical sessions. This would affect their understanding of subsequent learnings. At the same time, the high cost and complex control of the equipment deprive students of participating in the operation and control of the mixing plant. As a result, they lack an understanding of the control of the production parameters of the mixing plant. All these would significantly affect students' knowledge about mixing plants, especially when they are exposed to such equipment during an internship.

### **3.3. Primitive understanding of large equipment composition and lack of engineering experience among university teachers**

Road engineering construction processes are complex and diverse. In recent years, with the development of unmanned technology and the intelligentization of construction, these mechanical aspects of knowledge are beyond the conventional knowledge framework of teachers. On the other hand, there are many factors that affect road construction organization and production quality control as well as unforeseen circumstances, which are complicated and evident against the background of new technologies and materials, requiring rich practical engineering experience for students to understand in a comprehensive manner<sup>[3]</sup>. The above situation has brought about limitations to the teaching of the course.

### **3.4. Practical teaching limited by time and content**

The Road Engineering Construction Technology and Organization course has 32 credit hours (22 hours of theory classes and 10 hours of practical classes). Restricted by class hours and the type of content, such as roadbed compaction test, roadbed pavement leveling test, pavement bending test, asphalt penetration test, asphalt softening point test, and asphalt ductility test, other contents such as road slope operation and slope volume calculation, earthwork construction simulation, asphalt mixture ratio design and road mixing, *etc.*, cannot be fulfilled.

## **4. Application of BIM + virtual simulation technology in Road Engineering Construction Technology and Organization course**

In order to address the problems in the practical teaching of traditional Road Engineering Construction Technology and Organization course, the teaching team analyzed the course content based on the civil engineering professional personnel training objectives and course objectives, extracted the practical teaching contents that can be integrated with BIM + virtual simulation technology, used existing BIM + virtual simulation technology for contents that are difficult for students to understand, as well as integrated and optimized the content to stimulate students' learning interest, strengthen the training of students' skills, and effectively improve the practical teaching effect. The teaching team used BIM + virtual simulation technology in three modules.

### **4.1. Integration Module I: Slope Release Operation and Slope Release Volume Calculation**

In the pre-construction stage, the road site needs to be leveled. Through BIM technology, the teaching team can make full use of the advantages of 3D road-level design information modeling technology and students' extracurricular time, thus expanding the hours of practice. In addition, high accuracy and precision of slope volume calculation can be achieved through Civil 3D software<sup>[4]</sup>. Using Civil 3D, students can apply slope tools and slope commands, set specific slope rules according to the actual situation, create slopes and slope groups automatically, create ground surfaces and design surfaces through the slope groups, further calculate the volume enclosed by the ground and design surfaces, balance the volume of earth, and ensure the quality of the project while pursuing economic rationality, thereby improving students' design capability.



#### **4.2. Integration Module II: Earthwork Construction Simulation**

By integrating theoretical knowledge with the embedding point of the engineering project in advance, combining the simulation nodes of BIM technology to sort out and divide the teaching content, helping students further systematize and concretize their understanding of theoretical knowledge, and allowing students to watch the simulation animation, students would have a macro grasp of the virtual environment, construction progress, construction plan, and construction cost. On the basis of perfecting construction drawings, students can use Civil 3D to form the topographical features where the project is located, use Revit to build the BIM model of the main construction stages, which include slope construction and roadbed pavement construction<sup>[5]</sup>, select the content library for the plan layout, and explain in relation to the specific layout of the teacher. In that way, they will be able to better grasp the knowledge as if they were on site. The whole animation process should be in line with the actual construction process of the project. When showing the students the construction process and construction materials of any roadbed pavement engineering construction project, a clear construction visualization simulation of the key process would help students better understand the construction process involved in roadbed pavement engineering.

#### **4.3. Integration Module III: Virtual Simulation Experiment on Construction Principle and Production Control of Intermittent Asphalt Mixing Plant**

- (i) Optimization of the asphalt mix ratio design, especially the aggregate gradation design. The aggregate occupies more than 90% of the quality of the asphalt mixture; its grade has an influence on the performance of the mixture, such as the high temperature. The design grade is based on the cold material dosage of the mixing station, the hot material sieve specifications, the hot material dosage, and other adjustments.
- (ii) The actual project mixing plant production parameters, including aggregate heating temperature, asphalt heating temperature, hot material sieve specifications, and many other mixing plant parameters, are determined, as they play an important role in determining the quality of the mixture. It can be seen that on the basis of mastering the construction of an intermittent asphalt mixing plant, the asphalt mix ratio design is optimized, and the targeted mixing plant production parameters are determined so that the mixing plant can produce asphalt mixes with stable quality in accordance with the design purpose. This is of great significance to ensure the pavement quality<sup>[6]</sup>.

Through the virtual simulation experiment platform, students can build a highly simulated model of intermittent asphalt mixing plant with an interactive operation mode, relying on virtual simulation, multimedia, human-computer interaction, database, and network communication technology, so as to achieve the following experimental purposes:

- (i) master the principle of asphalt mixing plant construction;
- (ii) master the asphalt mixture production process;
- (iii) master the asphalt mixture production ratio and target ratio content;
- (iv) master the key production control parameters of the asphalt mixing plant.

The introduction of virtual simulation experiments not only helps students understand the steps in the design and the specific implementation process of the mixing plant but also supports them in optimizing the design and mixing parameters to obtain the results and corresponding scores, thereby effectively improving their enthusiasm for learning. Online virtual simulation experiments can achieve what actual teaching has found difficult to implement, namely the asphalt mixing plant workflow and quality control operations, resolving issues such as the inability to meet teaching requirements and the restriction of student participation in field practice. Through independent interactive learning, students may be more motivated, and they can enhance their professional skills by completing virtual simulation experiments independently<sup>[7]</sup>.

## **5. Advantages of using BIM + virtual simulation technology to integrate the course content**

### **5.1. Realize virtual construction using BIM**

The intuitive image of virtual construction allows students to gain familiarity with construction aspects in advance and realizes the integration of theory and practice. In addition, virtual construction using BIM technology that displays hidden details in a project <sup>[6]</sup> or components that cannot be practiced on the basis of guiding theoretical learning enables students to fully understand the construction intention and details, as well as the safety hazards and construction difficulties. Virtual modeling technology provides comprehensive data support and real-time information feedback for engineering construction, provides detailed and accurate information to participants, and improves the development efficiency and construction quality of engineering construction.

### **5.2. BIM visualization simulation application**

In order to help students learn the content of road engineering in the construction of sub-projects, students can be led into the virtual site, walking them through the entire process of a project from construction site planning to its completion <sup>[7]</sup>. Through this, students would gain experience and learn the specific construction plan of each sub-project, and master relevant operational skills in the course.

### **5.3. Addressing the insufficient practical class hours**

By making use of extracurricular time and the learning modules based on BIM + virtual simulation technology, students can spend more time practicing as well as learning and understanding the impact of different parameters on materials and construction processes in road engineering construction projects through independent exploration by using different parameters or adjusting the construction process. This would save time and reduce the cost of trial and error.

### **5.4. Cultivate students' comprehensive design and innovation skills**

According to the principle of “strengthen the foundation, improve skills, and provide comprehensive training,” we should start by cultivating students' practical skills and innovation consciousness, put forward personalized and innovative BIM + virtual simulation experiment projects, and build a step-by-step BIM + virtual simulation practical teaching system. Then, we can strengthen the training of professional skills for students and cultivate their comprehensive design and innovation skills. By adhering to the needs of industrial development, we should make full use of BIM + virtual simulation technology to help students achieve comprehensive and systematic development as well as nurture new talents that can truly meet the development needs of the industry.

## **6. Conclusion**

- (i) Integrating the Road Engineering Construction Technology and Organization course content using BIM + virtual simulation technology creates a deep integration between the theoretical aspect and the practical aspect of teaching and renders the practical teaching content consistent with the development of construction technology, thereby ensuring that the practical teaching content and the needs of frontline enterprises and the society are synchronized.
- (ii) The use of BIM + virtual construction, with visualization simulation and information expression, effectively enhances students' perceptual understanding of engineering, aids students in visualizing the construction intention, details, and process, as well as motivates students to learn actively.
- (iii) A lot of time and effort are required to build a BIM library and create virtual simulation experiments. However, the quality and quantity have yet to reach the ideal state. In the teaching process, students can only complete the relevant tasks during lessons held in ordinary smart classrooms or computer rooms,

resulting in a low assignment submission rate. In addition, due to energy, time, and economic constraints, it is impossible to design and build more virtual simulation experiments to carry out different practical training tasks, which would be assigned to each student simultaneously <sup>[8]</sup>.

## Funding

This work was supported by the Chongqing Engineering College Educational Teaching Reform Research Project “Practical Teaching Research of Road Engineering Construction Technology and Organization Course Based on BIM + Virtual Simulation Technology” (Project No. JY2021310).

## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] Wang Z, Wen X, 2009, Proceedings of the Second Engineering Construction Computer Application Innovation Forum, September 24–25, 2009: Research on the Application of BIM Technology in Design, Shanghai, 185–188.
- [2] Wang X, 2012, Research on the Drying and Heating System of Intermittent Asphalt Mixing Plant, thesis, Changsha University of Technology.
- [3] Zhang X, 2022, Application of BIM Technology in Engineering Construction Control. Sichuan Cement, 2022(01): 178–179.
- [4] Liu J, 2012, Research on the Application of Virtual Construction Technology Based on BIM, thesis, Xi'an University of Architecture and Technology.
- [5] Zhang JP, 2014, Research and Application of BIM Technology in the Construction of Xingfen Expressway Project. Construction Technology, 43(18): 92–96.
- [6] Zhang C, 2015, Discussion on the Application of BIM Technology in the Teaching Reform of Road and Bridge Engineering. Science Times, 2015(11): 246.
- [7] Gao J, Jiang P, Liu Z, 2017, Reform and Practice of Highway Engineering Costing Curriculum Based on BIM Technology. Liaoning Journal of Higher Education, 19(09): 58–59 + 96.
- [8] Liu J, Li Y, 2011, Exploring the Application of Virtual Construction Technology Based on BIM. Computer Knowledge and Technology, 7(29): 7266–7268.

### Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

# Research on Innovative Ways of Integrating Aesthetic Education with Ideological and Political Education in the New Era

Siwen Wang<sup>1</sup>, Yang Zhang<sup>2</sup>, Xuexin Wang<sup>3</sup>, Jiwei Feng<sup>1</sup>, Yinbiao Wang<sup>1\*</sup>

<sup>1</sup>Xinxiang Medical University, Xinxiang 453003, Henan Province, China

<sup>2</sup>Universiti Sains Malaysia, Penang 11800, Malaysia

<sup>3</sup>The Second Senior High School of Huixian City, Huixian 453600, Henan Province, China

\*Corresponding author: Yinbiao Wang, wangyinbiao118@163.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** Aesthetic education and ideological and political education undertake the educational responsibilities of educating people with beauty and cultivating people with morals, respectively. The innovation of aesthetic education and the reform of ideological and political education have common educational goals and target students. Integrating aesthetic education with ideological and political education can promote the overall healthy development of students, which has both historical and practical significance. In this paper, the importance and characteristics of integrating aesthetic education with ideological and political education in colleges and universities are analyzed from multiple dimensions, and four feasible ways of integrating aesthetic education with ideological and political education are proposed. The latter draws on extracurricular activities, emotional touch, a pleasant aesthetic atmosphere, and educational synergy to improve students' aesthetic literacy and cultivate correct ideological and political concepts among students. A survey of 1,047 students showed that the understanding and acceptance of ideological and political education were strengthened and improved after implementing these innovative integration ways. Taken together, the exploration and practice of these integration ways contribute to expanding the effect of ideological and political education in the new era and constitute important parts of the reform of college and university education in the new journey.

**Keywords:** Aesthetic education; Ideological and political education; Integration ways; Practice and effect

**Online publication:** June 26, 2023

## 1. Introduction

In colleges and universities, ideological and political education is an important cornerstone for guiding students in establishing correct views of history, nationality, and culture, cultivating noble sentiments and beautiful souls, enhancing students' cultural confidence, and serving the needs of high-quality societal development. Now, we are in times of unprecedented changes, filled with complex and harsh national and international situations that are constantly undergoing profound transformations. The risks and challenges are unpredictable, and the urgency of strengthening ideological and political education for college and university students is extremely pressing. However, there is a tendency for current ideological and political education in colleges and universities to overemphasize the inculcation of ideological concepts and moral norms but neglect the mental development and cognitive level of students <sup>[1,2]</sup>. Hence, it is difficult for

students to acquire direct guidance for their mental problems, resulting in the loss of interest in ideological and political education with arising resistance against indoctrination. The disadvantage of the traditional way of conducting ideological and political education in colleges and universities is becoming more evident. Creating innovative ways for ideological and political education to be carried out in the new era is a concern that warrants comprehensive and extensive investigations.

The idea of aesthetic education has long existed as an essential element in shaping individuals. Aesthetic education aids in the integral development of students' emotions and cognition and allows students to better understand themselves and live creatively and naturally. In China, aesthetic education was first proposed as a content of modern education by Cai Yuanpei who promoted aesthetic education in parallel with physical, intellectual, ethical, and worldview education<sup>[3]</sup>. In the early days of the founding of the People's Republic of China, the main policy of education was to "enable the educated to thrive through moral, intellectual, and physical education and become educated workers with socialist awareness." On October 15, 2020, China's central authorities issued a set of guidelines on strengthening and improving aesthetic education in schools in the new era. The guideline aims at encouraging schools to integrate aesthetic education into the cultivation of students at each grade and sets the goal of establishing a diversified, modern, and high-quality system of aesthetic education by 2035.

Both aesthetic education and ideological and political education play key roles in the healthy development of students. The goal of aesthetic education is to develop an aesthetic sense of beauty and an ability to perceive, experience, create, and evaluate aesthetic qualities<sup>[4]</sup>. This is highly consistent with the essence of ideological and political education, which aims at helping students maintain the correct worldview, outlook on life, and values, as well as enhance their sense of responsibility and mission. In addition, the various types of aesthetic activities, such as drawing, visiting museums, reading poetry, and playing musical instruments, could be potential ways of conducting ideological and political education to help students enhance morality, cultivate good ethics, and strengthen cultural confidence. Based on the current social background and the needs of the times, we analyzed the importance and characteristics of integrating aesthetic education with ideological and political education for college and university students in the new era and proposed four practical ways to ensure a natural and effective integration. Moreover, all four ways were put into practice in this study, and the response of students to these innovative integration ways was investigated and summarized, providing a sound reference for future studies.

## **2. Importance and characteristics of integrating aesthetic education with ideological and political education**

Ideological and political education plays an essential role in individual growth and comprehensive development. To understand the importance of ideological and political education, one can ask himself or herself the following questions: Are we willing to send our children to be educated by our students who become teachers in the future? Could they offer noble sentiments and good values to our children? Are we willing to be treated by our students who will become doctors in the future? Could they obey and uphold medical ethics and professional norms? Are we willing to buy products from our students who will become engineers in the future? Will they be honest and responsible to consumers? These questions are undeniably related to the worldview, outlook on life, values, and sense of responsibility that ideological and political education intend to communicate.

In the new era, ideological and political education for college and university students is faced with many unexpected challenges. As natives of the digital age born after 2000, these students are deeply influenced by the Internet in all aspects of their lives, including their studies. Although the internet has made life convenient, it contains various ideologies that can interfere with the shaping of correct worldviews, outlook on life, and values and lead to a dramatic shift in students' understanding and

acceptance of ideological and political education, which poses considerable challenges to such education. For example, materialism and celebrity obsession may cause depression among students who take celebrities and possessions as touchstones. However, the current form and method of ideological and political education lack diversity, with a tendency toward indoctrination and cramming, making it difficult to attract students and weakening the permeability and permanence of ideological and political education.

Aesthetic education is an important carrier for establishing morality and cultivating students. It is an education that can enhance aesthetic literacy, cultivate sentiments, nourish the soul, and stimulate creativity. Central authorities in China have stressed the need to comprehensively strengthen and improve aesthetic education in schools, educate people about beauty and culture, as well as improve students' aesthetic and humanistic qualities on various occasions. In the context of aesthetic education, creating an open, inclusive, and innovative environment for ideological and political education can help students better understand national and global conditions, encourage students to explore truth, and enable them to view themselves as equals of any other in the world.

### **2.1. Aesthetic education can enrich the forms of ideological and political education to help students absorb the correct values**

Aesthetic education occurs in many different forms, such as painting, handcrafting, calligraphy, and sketches. The integration of aesthetic education with ideological and political education can engage students and turn static learning into a dynamic one, enabling students to understand and construct knowledge more actively. As their learning experience diversifies, ideological and political education can be better understood and accepted. An engaging environment conferred by aesthetic education would help students realize the spirit of solidarity and hard work, learn to respect and cooperate with each other, and recognize the true meaning of beauty and kindness; these are the listed content embedded in the core socialist values (equality, fairness, honesty, the rule of law, and so on).

### **2.2. Aesthetic education is conducive to improving the effectiveness of ideological and political education**

There are various teaching methods in aesthetic education, including classroom teaching, practical teaching, and emotional experiences. It can do away with indoctrination and teaching-based education, stimulate students' subjective initiative, and subtly guide students' values in a comprehensive, all-process, and all-round manner. Meanwhile, aesthetic education has the potential to evoke students' emotional resonance. Through language expression, behavior, and emotional communication, the emotional touch within students can be aroused, increasing their likelihood to understand and accept the content of ideological and political education. When students resonate emotionally with the content of ideological and political education, they tend to internalize and remember it well as well as retain their identification and support for it over time. In addition, their emotional resonance can promote their mental development, enhance their self-awareness and self-value, as well as improve their humanistic literacy and sense of social responsibility. The integration of various types of aesthetic education with ideological and political education renders the impact of ideological and political education on students more persistent and profound.

### **3. Practical ways of integrating aesthetic education with ideological and political education in the new era**

In essence, both aesthetic education and ideological and political education in the new era prioritize cultivating morality and fostering virtue. College and university students can be influenced by both aesthetic education and ideological and political education through colorful campus life and activities.

Ideological and political education and aesthetic education share a natural foundation for mutual integration and promotion.

### **3.1. Using extracurricular activities to ensure that ideological and political education has a long-lasting effect**

Apart from conducting ideological and political education in classroom teaching, extracurricular activities play a significant role in the process of integrating aesthetic education with ideological and political education. By conducting various extracurricular activities such as painting, calligraphy, sketches, handcrafting, and volunteer teaching, patriotism and the spirit of model workers, hard work, and craftsmanship can be better communicated to students. For example, making souvenirs and handicrafts from used paper in a relaxed and cooperative manner would avail students to experience the spirit of dedication and professional ethics. Involving students in activities such as plays, singing and dancing, and poetry recitations can expose them to the aesthetic ideas and emotions the artists convey and render them more patient and patriotic. Arranging students for volunteer work as teachers to teach children in rural areas whose parents have left home to search for work in the city would allow students to enhance their skills and qualities in practical fields and understand more about the national reality and thirst for knowledge among children in less developed regions. The effect of ideological and political education becomes more real-time, subtle, and long-lasting with the integration of aesthetic education and ideological and political education in the form of extracurricular activities, which is far more engaging than the traditional way of ideological and political education, which focuses on cramming the mind with information.

### **3.2. Creating emotional experiences to enrich the integration of aesthetic education with ideological and political education**

Aesthetic education intends to create a harmonious relationship between reason and emotions, which cultivates both logical reasoning and habits of aesthetic appreciation in students <sup>[5]</sup>. Visiting medical museums and watching films can enhance students' visual experiences, increase their aesthetic awareness, and appeal to their emotions. For example, by watching a film about the construction of the Hong Kong-Zhuhai-Macau Bridge, the world's longest sea crossing, students may come to appreciate the endeavors and devotions of designers, engineers, and workers; feel the creativity, resolve, and perseverance of the Chinese people; and strengthen their belief that China is a country that performs miracles through hard work. Visiting anatomy museums in medical schools is conducive to the cultivation of noble values of medicine and the conviction of putting life above everything else. On Qingming Festival (Tomb Sweeping Day), offering flowers and reciting thanksgiving poems show students' respect and gratitude for the body and increase their awareness of body donation. By visiting museums of Chinese revolutionary history, students can deepen their understanding that the era of peace is forged by the revolutionary martyrs who bravely laid down their lives to establish, defend, and develop the country and it is important to carry forward the revolutionary traditions and heritage by gaining a better understanding of the revolution history. The emotional touch formed at the bottom of their hearts would be drawn on for inspiration and to forge patriotism.

### **3.3. Creating an aesthetic atmosphere to facilitate the mental development of students**

In addition to satisfying students' basic needs for living, colleges and universities ought to create an aesthetic atmosphere that actively takes into account students' personalities and mental development. Since most ancient Chinese academies possessed pleasant ecological and humanistic environments that were consistent with Confucian humanism, aesthetic education was imparted to students at all times and in all places <sup>[6]</sup>. Aesthetic education can engage students emotionally and intellectually through the harmonious

arrangement of colors, light, and shadows <sup>[5]</sup>. In order to create a good learning and living environment for contemporary college and university students, the layout, equipment, and facilities at these institutions should conform to the laws of students' physical and mental growth and the spiritual elements of aesthetic education.

For example, green plants, celebrity calligraphy and paintings, textured rest facilities, and fresh colors such as light green, sky blue, and light pink would create a relaxed and comfortable environment for students. A sense of freedom in studying, exercising, reading, relaxing, and resting can help students internalize the core elements of psychological guidance, mental enlightenment, and employment instruction into their hearts as well as achieve the synchronization of students' physical and mental development.

### **3.4. Forming an educational synergy to enhance the overall quality of students**

Student counselors are the frontline workers for ideological and political education in colleges and universities, and it is undeniable that their work should revolve around students. However, there is currently a mistaken belief that any work related to students should involve counselors. This increases the burden on counselors, and they unconsciously take on a lot of additional work outside their core duties. Students have better opportunities for growth and development if they are surrounded by people who believe in them and support them. All human resources on campus, including academic tutors, administrative personnel, and peers, should make an effort in this area. In specific, tutors can guide students to think from different perspectives in their everyday learning and life, with a focus on cultivating students' innovative thinking and independent thinking skills. The administrative office should be set up in students' dormitories to shorten the distance between counselors and students and encourage students to seek psychological guidance, employment direction, and solutions to various issues related to their interests. Outstanding senior students can serve as mentors and role models to students in the lower grade, as peer mentorship is known to provide a stable and upward educational environment for both aesthetic education and ideological and political education. In addition, new media platforms such as Weibo and WeChat could also be used to provide ideological guidance to students and respond to students whenever doubts are raised. These platforms make it easier for teachers, administrative personnel, and students to communicate and interact with one another more effectively and efficiently. The coordination of all these resources allows the comprehensive development of students in academic aspects, aesthetic literacies, and ideological and political thinking.

## **4. Survey of students' acceptance of the integration ways**

In this study, we analyzed the effect of innovative ways of integrating aesthetic education with ideological and political education through a survey that included 1,217 college students born after 2000, with 1,047 valid questionnaires.

### **4.1. Engagement in extracurricular activities helps improve ideological and political education**

According to the survey, 815 students (77.84%) believed that aesthetic activities such as painting and handicrafts had a substantial positive influence on improving their ideological cognition, 167 students (15.95%) thought that the effect was average, and 65 students (6.21%) believed that the effect was insignificant; 937 students (89.49%) felt that aesthetic activities such as stage plays, recitations, singing, and dancing have greatly enriched the forms of ideological and political education. In response to the question "Do you think that aesthetic activities can cultivate sentiments and alleviate psychological pressure?", 961 students believed that they could, while the remaining 86 students thought they could not, accounting for 91.79% and 8.21%, respectively. All students participating in making handicrafts from waste paper understood the importance of craftsmanship better and believed that intangible cultural heritages such



as paper cutting and watercolor painting should be protected, inherited, and developed in contemporary China. The students working as volunteer teachers in rural areas saw the real China in the fields and gained a better understanding of rural life and education.

These results demonstrated that breaking the traditional didactic form of ideological and political education and integrating aesthetic education with ideological and political education can enhance students' understanding of national reality, cultivate their sentiments, and alleviate their psychological pressure.

#### **4.2. Appropriate emotional experiences preserve the effect of ideological and political education**

According to the survey, 785 students (74.98%) believed that visiting medical museums, anatomy museums, and life museums had a significant effect on promoting their understanding and acceptance of ideological and political education in the new era; they were deeply touched by the invaluable contribution of body donation, which enables them to study the complexity of the human body in a way that is not possible by any other means and thus strengthens their determination to study harder to alleviate human suffering in the future. By watching a film about the construction of the Hong Kong-Zhuhai-Macau Bridge, the students realized that industrialization has sped up the economic development and urbanization in China, promoted the progress of science and technology, and improved the livelihood of people. This greatly enhanced their confidence in the strength of the great rejuvenation of the Chinese nation. All students reported that visiting museums of Chinese revolutionary history led them to ponder on what they could do under those historical circumstances, and they were determined to continue working hard and serve the motherland.

These results demonstrated that emotional touch can be elicited in students through visual communication and immersive experiences and the effect of emotional resonance is not transient, but rather lingering, which can preserve the effect of ideological and political education.

#### **4.3. A pleasant aesthetic atmosphere effectively promotes the personal growth of students**

The survey showed that 976 students (93.22%) believed that adding green plants, celebrity calligraphy and paintings, textured rest facilities, and color designs into living spaces, such as school gyms, supermarkets, leisure and entertainment venues, libraries, study rooms, laundry rooms, and shower rooms, can help alleviate their mental burden and make them feel calm, comfortable, and more willing to internalize the elements of ideological and political education; 930 students (88.83%) believed that the relationship between aesthetic education and ideological and political education is complementary in that they can integrate with and promote each other in a comfortable aesthetic atmosphere.

These results demonstrated that by creating an aesthetic atmosphere, the living and learning environment will be pleasant, thus effectively promoting the physical and mental development of students and enabling them to more willingly accept the influence of ideological and political education.

#### **4.4. The educational synergy of human resources on campus greatly strengthens the route of ideological and political education**

In addition to the aesthetic atmosphere, the surrounding environment constituting the available human resources on campus, including teachers and administrative personnel, is also crucial for mental growth and forming correct worldviews.

The survey showed that 924 students (88.25%) believed that teachers of different subjects and peer mentors can guide them to think things from different perspectives and cultivate their innovative thinking and independent thinking skills; 850 students (81.18%) felt that setting up a counselor's office in the dormitory have broken the barrier between teachers and students, making it easier for them to seek psychological guidance, employment instruction, and emotional relief; 827 students (78.99%) believed that new media platforms such as Weibo and WeChat had a beneficial effect on the exchange of ideas and

communication of emotions; 901 students (86.06%) believed that outstanding senior students can help them understand their school life more readily and alleviate their negative emotions at the point of care.

These results demonstrated that by coordinating the efforts of all human resources on campus and forming an educational synergy, students can develop their qualities in an all-round manner.

## 5. Conclusion

Both aesthetic education and ideological and political education play key roles in students' overall development. Ideological and political education aims at helping students form correct worldviews, and outlooks on life and values, while aesthetic education focuses on helping students nurture their aesthetic literacy, emotion, and personality. Based on the same educational goals and target students, the two can integrate with and complement each other both in theory and practice. In fact, several education policies in China have already assumed the effort of strengthening and improving aesthetic education as an important task in the new era and proposed to integrate aesthetic education into the cultivation of students at each grade. In order for the integration to happen, innovative ways are required, along with the involvement of teachers and administrative personnel, feedback from students, and multiple rounds of practice and improvement.

By analyzing 1,047 questionnaires, we summarized the specific implementation of four integration ways and found that through extracurricular activities, experiencing emotional touch, creating a pleasant aesthetic atmosphere, and forming an educational synergy with all human resources on campus, the ideological and political education for contemporary college students in the new era can be better enhanced. The effective applications of these four ways enable students to improve their aesthetic, ideological, and comprehensive qualities in a “stress-free” environment. In other words, the effect of ideological and political education can be amplified and extended by the integration of aesthetic education.

In conclusion, we use the principles and forms of aesthetic education to supplement ideological and political education in colleges and universities, endowing ideological and political education with a sense of liveliness, enhancing the attractiveness of ideological and political education, and opening up a new channel for ideological and political education.

## Funding

This study was supported by Research Projects from Xinxiang Municipal Social Science Circles Federation (SKL-2023-126 and SKL-2023-136).

## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] Momanu M, 2012, The Pedagogical Dimension of Indoctrination: Criticism of Indoctrination and the Constructivism in Education. *Meta: Research in Hermeneutics, Phenomenology and Practical Philosophy*, 4(1): 88–105.
- [2] Zhao X, 2015, Construction of a Novel Ideological and Political Education Management System Based on HACCP. *Advance Journal of Food Science and Technology*, 9(12): 970–975.
- [3] Luo N, 2021, Cai Yuanpei's Vision of Aesthetic Education and His Legacy in Modern China. *Nordic Journal of Comparative and International Education (NJCIE)*, 5(2): 51–64.

- [4] Denac O, 2014, The Significance and Role of Aesthetic Education in Schooling. *Creative Education*, 5(19): 1714–1719.
- [5] Caranfa A, 2009, Art and Science: The Aesthetic Education of the Emotions and Reason. *Journal of Art & Design Education*, 20(2): 151–160.
- [6] Walton L, 2017, The “Spirit” of Confucian Education in Contemporary China: Songyang Academy and Zhengzhou University. *Modern China*, 44(3): 313–342.

**Publisher's note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

# Research on the Practical Path of Collaborative Innovation Talent Training in Supply-Side Applied Undergraduate Colleges

Min Peng, Jingming Xie\*, Maohua Xiong, Yunxiang Liu

Guangzhou Business School, Guangzhou 510425, Guangdong Province, China

\*Corresponding author: Jingming Xie, 20220019@gcc.edu.cn

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** The cultivation of supply-side collaborative innovation talents mainly focuses on four elements: labor, capital, technology, and system. The improvement of these four elements is essentially a long-term process, which determines the potential growth rate in the medium and long term. In this paper, we analyzed the current situation, put forward two major problems, the low degree of specialization and insufficient participation, and focus on the research on the practical path of collaborative innovation talent training in applied undergraduate colleges from the perspective of the system.

**Keywords:** Supply-side; Collaborative innovation

**Online publication:** June 26, 2023

## 1. Introduction

China is currently in an era of accelerated industrial upgrading and gradual deepening of economic restructuring. "Green growth" is becoming the theme of the development of the times. The relationship between the supply and demand of talents in China has also undergone significant changes, and there is an urgent need to increase the supply of high-quality collaborative innovative talents to meet the present needs of economic and social development. The reform of collaborative innovation education is imminent. As an important breakthrough in the new round of comprehensive reform of higher education, aiming at cultivating students' innovative spirit, entrepreneurial consciousness, collaborative innovation ability, and team collaboration, considering all students, paying attention to classified training methods and individualized methods, combining disciplines and specialties, and strengthening practical operation and application are initiatives to promote students' all-round development <sup>[1]</sup>.

The essence of supply-side reform is to promote the cultivation of innovation ability. Collaborative innovation is the power source of the social economy. In the face of the social and economic structure adjustment of the supply-side reform, colleges and universities play a fundamental task in moral education, conscientiously implementing the national innovation-driven development strategy and the strategic deployment of mass entrepreneurship and innovation, and in ensuring appropriate school development strategy and talent training goal orientation. Under the background of supply-side reform, talents possess characteristics of innovation, professionalism, cross-cutting, and synergy. In the process of cultivating innovative and compound talents, colleges and universities should aim at the industrial structure and development layout at home and abroad.

## **2. Analysis of the current situation of supply-side reform on collaborative innovation education in applied undergraduate colleges**

### **2.1. Low degree of specialization in universities as suppliers of collaborative innovation talents**

Under the background of supply-side reform, the space for collaborative innovation development is given, but the problems existing in the construction of collaborative innovation specialization in local application-oriented universities are worthy of attention. First, the understanding and positioning of collaborative innovation education are relatively vague, and collaborative innovation education is out of touch with professional education. Collaborative innovation education and classroom knowledge teaching are considered two completely independent systems, causing the curriculum construction of collaborative innovation and professional practice teaching to lack effective professional method training. Moreover, the professional connotation construction around technological innovation and connection with entrepreneurship are lacking, affecting the cultivation of innovation ability and the improvement of entrepreneurial skill training. Collaborative innovation education requires teachers with both the theoretical basis and practical experience. Second, the practical value of collaborative innovation education lacks attention to practical action. As an open system, the cultivation of collaborative innovation talents requires the joint participation and cooperation of all levels of society. The insufficient technical connection between collaborative innovation and social subjects, the imperfect mechanism of collaborative education, the lack of technological innovation and achievement transformation platform construction, the futile professional technology research and development (R&D) and service, as well as the inadaptability of enterprises to the demand for talents, result in a disconnection between theory and practice, indicating that the collaborative innovation education in many applied undergraduate colleges in China is relatively simple and there is a considerable gap to the goal of supply-side reform <sup>[2]</sup>.

### **2.2. Insufficient participation of enterprises as collaborative innovation demanders**

The cultivation of talents in colleges and universities follows the law of the development of higher education. At present, in the process of transformation and development of application-oriented colleges and universities, although there is a certain gap between talent training and the demand for talents such as new social industries and high-tech talents, enterprises, as the talent demand side, have not actively participated in collaborative innovation talent training, which is also the reason for the imbalance of talent supply structure. The unclear definition of the responsibility of enterprises and other stakeholders in providing resources leads to problems such as resource allocation deviation, or non-docking; thus, the potential and literacy of collaborative innovation talents cannot be brought into full play. At the same time, the R&D of high-tech projects and the transformation of achievements into economic benefits are affected. As known to all, talent training requires financial, material, and human input, and being a long-term entity, it is slow to take effect, but its future potential development and social benefits have a significant impact. As an economic organization, the essence of enterprises is to pursue profit maximization as the goal and “cost-benefit” as the dominant principle as well as to actively invest in industries with fast returns. Generally speaking, enterprises do not intervene much in the training of collaborative innovation talents, thus rendering low participation. Therefore, the synergy, openness, and innovation of talent training are lacking to varying degrees <sup>[3]</sup>.

## **3. Practical path of supply-side reform on collaborative innovation education in applied undergraduate colleges**

Under the background of supply-side reform, there is a gap between talent training in colleges and universities and the demand for talents with social and economic development. Therefore, by adjusting the talent training structure to solve the problem of mismatch between supply and demand, colleges and

universities take collaborative innovation as a breakthrough in the reform of higher education, thus meeting the needs of industrial transformation, upgrading, and restructuring. In order to promote the construction of a collaborative innovation talent training system, it is necessary to improve the quality and ability of talent training, integrate collaborative innovation education and professional education into the whole process of talent training, highlight the characteristics, and achieve results in the practice of education and teaching reform, create conditions for the development of application-oriented undergraduate colleges, and provide support for practical programs. From the perspective of supply-side reform, on the one hand, colleges and universities shoulder the important historical responsibility of cultivating high-quality technical and skilled talents for economic and social development. On the other hand, for college students to learn innovation and entrepreneurship as well as participate in collaborative innovation activities, colleges and universities play a role in structural adjustment in terms of educational content and helping entrepreneurship meet their specific needs.

### **3.1. Attach importance to system management construction in collaborative innovation education**

The performance of collaborative innovation education is an important part of teachers' professional title evaluation, job promotion, and performance appraisal. In terms of policy measures, institutional settings, funds, personnel, venues, and other aspects, schools provide a guarantee, act as the "combination punch" to promote collaborative innovation education, form a long-term mechanism to promote collaborative innovation education, and ensure the smooth progress of collaborative innovation education. At the same time, in order to strengthen the organization and management, a leading group of collaborative innovation education has been established, and the "top project" has been implemented to ensure that all departments work together for in-depth, sustainable, and efficient development of collaborative innovation education. According to the requirements of the new situation and the reality of each school, a collaborative innovation college can be established as an important carrier and practical platform for the school to carry out collaborative innovation education.

### **3.2. Construction of a collaborative development system in collaborative innovation education**

The construction of a collaborative development system is mainly to promote the reform of the collaborative innovation talent training mode, integrate collaborative innovation education with disciplines, entrepreneurship education, and entrepreneurship competition, as well as integrate practical teaching and training.

### **3.3. Strengthen the construction of collaborative innovation education teachers**

According to the professional-based principle, full-time and part-time combination, the idea of strengthening the practice of teachers, the selection of scientific and technological commissioners, and the employment of enterprise technical backbones, entrepreneurs, entrepreneurial successes, *etc.*, a "double-qualified and double-skilled" collaborative innovation education and entrepreneurship employment guidance team, comprising teachers, is established, thus strengthening the collaborative innovation employment guidance. In order to improve the professional and technical title evaluation and performance appraisal standards, the performance of collaborative innovation education is included as a part of the important indicators: teachers' professional and technical title evaluation, employment, and performance appraisal. Relying on teachers' teaching and education development center, teachers are trained in the teaching concept, teaching reform, and teaching ability of collaborative innovation education. By arranging teachers to work in enterprises, teachers are encouraged to participate in the collaborative creation of social industries.

### **3.4. Innovative teaching management system and mechanism**

Taking students as the focus, we have carried out heuristic, discussion-based, case-based, and research-based teaching, focusing on cultivating students' critical and creative thinking, and overcoming the issue of traditional classroom teaching prioritizing knowledge transmission and curriculum teaching over skill training and practical teaching. In the selection of "famous teachers for teaching," "famous teachers for collaborative innovation education" has been added to commend and reward those who have made outstanding achievements in collaborative innovation education and teaching. In addition to the efforts made, we are expanding the scope of small class teaching, encouraging teachers to introduce scientific research projects, industrial technology, and academic frontier achievements into the classroom, and working on inspiring students for collaborative innovation. Moreover, a collaborative innovation credit accumulation and conversion system has been established, and students are continually encouraged to obtain credits through invention, technology development, and entrepreneurial practice. Students participating in collaborative innovation are encouraged to transfer to relevant majors, and they are allowed to apply for collaborative innovation practices and projects as their graduation internships and thesis. The implementation of a flexible school system allows students to leave school to start their businesses or work while learning, extending the undergraduate period to 8 years <sup>[4]</sup>.

### **3.5. Carry out collaborative innovation guidance services and research**

In addition to conventional entrepreneurship courses and career planning guidance, a relatively ideal collaborative innovation guidance service system and innovation and entrepreneurship mentor system have been established to provide guidance services to all students as well as targeted and continuous assistance to students with entrepreneurial intentions and potential.

Through the whole-process guidance and one-stop services, special tracking guidance and expert guidance can be arranged for entrepreneurs with special needs, and "greenhouse" efforts can be carried out for small and micro enterprises that are venturing into science parks and incubators, with the provision of comprehensive care to help them grow. Each collaborative innovation case is recorded in detail, with the lessons learned summarized, the demonstration effects exerted, and the innovation and entrepreneurship success rate improved. Careful consideration is given to collaborative innovation education theory and practice research and the establishment of collaborative innovation education special research.

## **4. Conclusion**

Guided by the supply-side reform and looking forward to the future, we will further deepen the reform of the talent training mode, attach importance to the talent training process and the formulation of quality standards, improve the collaborative innovation education integration mechanism, as well as strengthen students' innovative spirit, entrepreneurial awareness, and collaborative innovation ability. We will also further strengthen the construction of the collaborative innovation education practice platform and explore the use of social capital to establish a collaborative innovation practice platform for college students; improve the innovation and entrepreneurship education operation mechanism by establishing a management system and operation mechanism with "streamlined organization, efficient operation, clear rights and responsibilities, and clear goals"; continue to adhere to the implementation of the national innovation development strategy and the mass entrepreneurship innovation strategy; and forge ahead toward regional economic and social development and industrial transformation and upgrading with high-quality collaborative innovation talents. In short, the integration of supply-side reform and collaborative innovation education in colleges and universities can cultivate new talents that meet the requirements of the times.

## Funding

This work was supported by the 2021 Guangdong Province General Universities Special Project in Key Areas (New Generation Information Technology) “Research on Building an Education Knowledge Graph Model for Higher Vocational Construction Major Supported by Artificial Intelligence” (Project No. 2021ZDZX1112).

## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] Jin B, Liu X, 2016, Theoretical Logic and Practical Path of Supply-Side Structural Reform of Higher Education. *Education and Economy*, 2016(06): 17–23.
- [2] Chen X, Liang J, Chen Y, 2018, The Exploration and Practice of Innovation and Entrepreneurship Education in Application-Oriented Universities From The Perspective of Supply-Side Reform – Taking Zhaoqing University as an Example. *Research on Applied Higher Education*, 3(02): 42–47.
- [3] Chen Z, Zhu D, 2017, The Supply-Side Structural Reform of Higher Education: Objectives, Content and Path. *Modern Education Management*, 2017(02): 23–29. <https://doi.org/10.16697/j.cnki.xdjygl.2017.02.005>
- [4] Duan W, 2022, Thoughts and Explorations on the Supply-Side Structural Reform of Education. *Lucheng Journal*, 34(01): 84–85 + 90.

### Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



# Research on the Reform Strategy of Integrating Labor Education into Landscape Design Curriculum

Xue Wei\*

Zibo Vocational Institute, Zibo 255300, Shandong Province, China

\*Corresponding author: Xue Wei, 17860910359@163.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** With the development of the new era, the concept of three-whole education has put forward a requisite where teaching must begin from the current state of student labor, integrate labor education into subject teaching, and cultivate and improve students' awareness of labor through practice and guidance. In this paper, the importance of integrating labor education into landscape design courses and the current state of integration are discussed. On this basis, the reform strategy of integrating labor education into landscape design curriculum is explored, laying a foundation for a better implementation of labor education.

**Keywords:** Labor education; Landscape design; Curriculum reform; Teaching strategy

**Online publication:** June 26, 2023

## 1. Introduction

The government has repeatedly advocated at important meetings that it is necessary to strengthen the promotion of labor spirit among students and educate students to respect labor, admire labor, and understand labor. Students can create life through labor as they grow. Building a labor model with all-round development (morality, intelligence, physique, aesthetics, and labor) and forming a more scientific talent training system would contribute to this effort. Therefore, all levels of education in China have begun paying more attention to labor, regarding labor education as important educational content, and integrating it into subject teaching to promote the smooth development of labor education. Combining the characteristics of each discipline allows the establishment of a more optimized labor education model.

## 2. Necessity of integrating labor education into landscape design curriculum

Under the comprehensive promotion of three-whole education and quality education, the reform of ideological and political education has begun nationwide, increasing the requirements for students' comprehensive quality. Labor education is an important part of quality education. At present, labor education in China is carried out in primary and secondary schools, with hardly any vigor and practice. College and university students will soon engage in social labor. If their labor awareness and ability are lacking, their adaptation to society will be affected, leading to the marginalization of labor awareness in their thinking.

Colleges and universities are important institutions that supply high-quality and high-skilled talents to society. The development of labor education is conducive to the cultivation of high-quality talents and the

improvement of students' comprehensive abilities. Through labor education, students will cultivate a sense of responsibility and cooperation, labor habits, and a hard-working spirit. Not only does education cultivate students' labor skills and enable them to work and love labor, but also cultivates students' labor spirit and the craftsmanship spirit of excellence, enhances their creativity, strengthens their labor quality and skills, and creates a better future for students.

However, judging from the current development of labor education in art courses, the effect is inapparent. Most landscape design works are performed outdoors at relatively remote construction sites. As the environment is completely different from the learning environment of students, there are relatively high requirements for the cultivation of students' labor ability and hardworking spirit. Through arduous labor training, it is possible to cultivate the spirit of hard work in students. College and university students are easily influenced by the internet and lack awareness of labor learning. Even in professional courses, they do not take classes seriously or study in detail <sup>[1]</sup>. Therefore, cultivating students' habits of thinking, communicating, and asking questions is a major challenge. If we do not pay attention to the cultivation of students' awareness of labor and labor ability when teaching, students will not learn to love labor and may even behave lazily. Therefore, in colleges and universities, it is necessary to strengthen the cultivation of labor awareness and ensure the labor ability of students.

### **3. Analysis of the current situation of labor education in landscape design curriculum reform**

#### **3.1. A need to optimize the form of labor education**

Landscape design is one of the contents of art courses. In the teaching of landscape design, teachers mainly emphasize the cultivation of students' design ability and artistic innovation abilities. However, landscape design is slightly different, as students are required to have a certain labor practice ability to participate in on-site construction, thereby raising the standards for students' labor ability. However, judging from the current development of labor teaching, labor education pays too much attention to the cultivation of artistic innovation but little to the development of students' labor abilities. As a result of the single-minded education, the creativity of labor and the arrangement of labor practice is insufficient. It is difficult to cultivate students' labor awareness and labor ability, thus affecting their interest in labor when studying.

#### **3.2. Severe generalization of labor education**

In the development of landscape design work, it is necessary to integrate the content of curriculum ideological and political education, build a professional curriculum system in art design, and emphasize the development of teaching practice based on professional skills and professional knowledge, supplemented by humanities and aesthetic education. In the current teaching of landscape design, most of the teaching contents are based on project introduction. Although labor education has set the requirements for craftsman spirit and other relevant labor literacy, the implementation effect is relatively weak <sup>[2]</sup>. There is no difference from other professional labor activities. It is similar to ideological and political education and lacks targeted education content of labor education.

#### **3.3. Absence of a scientific evaluation mechanism**

In order to strengthen the assessment of students' ability for landscape design, creative thinking-oriented content is incorporated into the assessment, responsibility awareness and design innovation are assumed as comprehensive assessment items during the training process, different assessment contents are classified according to the assessment requirements, and the proportion of comprehensive practice is relatively high, reaching about 50%. The assessment mechanism integrates a significant amount of curriculum ideological and political content and conducts a comprehensive exploration of the assessment content, items, and methods. The current professional quality assessment is aimed at the assessment of students' skills,

teamwork, and innovative spirit. It has not been integrated with labor education to introduce scientific assessment and evaluation standards. The lack of emphasis on labor in the assessment will inevitably affect students' emphasis on labor learning.

#### **4. Reform strategy of integrating labor education into landscape design curriculum**

##### **4.1. Organize labor-themed education activities**

The integration of labor education into the teaching of landscape design is neither a short-term educational model nor a strategy for coping with educational strategies. Therefore, it is necessary to ensure the regularization, normalization, and effectiveness of labor education as well as that labor education can play its due educational role. In teaching, it is necessary to organize and carry out activities to achieve the effect of educating people. According to the professional characteristics of students, a series of labor-themed activities can be carried out. For example, the school can be used in landscape content design <sup>[3]</sup>. Students can be provided with a design theme or requested to summarize the design theme and carry out design activities based on the school site, including the scenic spots on campus, the scenic spots in different colleges, *etc.* It is necessary to ensure that the design content is consistent with the location and connotation of the scenic spot. In addition, we can organize an Educational Publicity Week, carry out activities related to the theme "Labor Creates Design Value," and provide opportunities for students to showcase their labor results through design and production or actively carry out design activities such as "I wear new clothes for my hometown" and hometown landscape design competitions. The development of labor-themed activities can help students experience the joy of labor and the fruits of labor. For outstanding works, recommendations can be made to the corresponding units. However, all design work must include outdoor field trips, effectively integrate design activities with labor work, and encourage students to participate in labor activities.

##### **4.2. Form a targeted course content system**

In essence, labor education is considered an ideological and political content of the curriculum. Hence, the content of labor education should be combined with landscape design activities. It is crucial to make full use of the training rooms in colleges and universities, integrate professional competition activities into teaching, and achieve the purpose of labor education by promoting learning through competitions. Landscape design curriculum aims at cultivating innovative and entrepreneurial thinking as well as the craftsman spirit to form a united labor education model and help students form correct views of labor. At the same time, in terms of developing labor attitudes, students need to organize landscape design courses before, during, and after labor to improve their labor awareness and ensure the efficiency of practical training. It is also important to guide students to maintain a positive working attitude and take the initiative to undertake works that are dirty and tiresome. Through the guidance of labor behavior, students should be led to participate in field inspections of projects, including garden landscape design, landscape research, and other practical activities, to optimize students' professional skills and labor ability <sup>[4]</sup>.

##### **4.3. Cultivate students' voluntary labor consciousness**

In the cultivation of relevant labor education documents in landscape design colleges and universities, the primary task is to promote the understanding of teachers and students about the connotation of labor education and guide students to realize self-education from the perspective of voluntary service. Through voluntary labor activities, students' sense of responsibility is enhanced, and labor practice becomes an impetus for students' growth. At the same time, an active volunteer service environment should be built on campus. Through its influence, students are subtly aided in forming a labor concept and students majoring in landscape architecture can give full play to their professional advantages. In addition, the development

of students' professional values can be strengthened through the Internet. For example, content with a call for voluntary labor can be uploaded on websites that students use, such as Douyin, Kuaishou, and Xiaohongshu. The release of landscape design bidding documents, landscape pruning volunteer service documents, *etc.*, through the development of these voluntary activities, can provide students with more practical opportunities and achieve better labor practice results.

#### **4.4. Establish an ideal labor volunteer service system**

In the development of labor service work, it is necessary to use voluntary service labor as the main carrier to promote the all-round development of students. Therefore, it is necessary to build a management system based on students' voluntary service to provide support for students to engage in voluntary labor work <sup>[5]</sup>. First of all, in the development of voluntary labor activities, a better guarantee can be achieved by strengthening the improvement of labor organizations. Colleges and universities can set up voluntary service work guidance groups, organize voluntary service programs, and cultivate more optimized voluntary service teams through voluntary service organization leadership. Secondly, in order to ensure adequate voluntary financial support, labor volunteer services also require capital <sup>[6]</sup>. Students themselves do not have financial resources, and the demand for financial support in landscape design colleges and universities is high. Schools can establish a voluntary service guarantee funding system and cooperation opportunities with enterprises to obtain more financial support, guarantee students' daily voluntary service trips, provide accident protection, *etc.* Furthermore, it is necessary to strengthen the implementation and improvement of policies, reinforce the legislation and policy support for education work, respond to students' voluntary service requirements, assist students in completing voluntary labor registration, insurance systems, *etc.*, as well as provide legal aid and rights protection <sup>[7]</sup>.

#### **4.5. Establish an ideal course assessment and rating system**

The integration of labor education into landscape design leads to the modification of the original assessment and evaluation, the integration of the content of labor literacy into the literacy assessment project, and the formulation of the evaluation method, content, and weight of labor literacy, so as to truly address the problems faced by teachers and students in landscape design. The lack of attention to labor in teaching promotes the effective implementation of the labor assessment system. In the labor assessment standards, the requirements for labor literacy are as follows: ensuring the spirit of teamwork, hard work, and other aspects of spiritual quality in on-site surveys <sup>[8]</sup>; cultivating good study habits and making comprehensive preparations before the start of labor; ensuring that all affairs can be carried out in an orderly manner; and promoting the continuous advancement of teaching procedures. Through the guidance of assessment standards, students can form a good labor concept in course practice and effectively master labor skills <sup>[9]</sup>.

#### **4.6. Teachers play the labor role of teaching by precept and example**

In landscape design labor teaching, teachers are the main body of labor education, so teachers need to use their values and ideology to guide and influence students. At the same time, teachers are the implementers of landscape design courses. In teaching preparation and course analysis, it is necessary to strengthen the excavation and analysis of labor elements to ensure that the teaching content of labor education can be integrated with the course environment. In the teaching of landscape design, teachers should adhere to the teaching principle of labor first and set an example of labor for students, create a strong labor education environment on campus, cultivate the correct labor concept and labor awareness among students, as well as promote the improvement of students' labor ability.

## **5. Integrating labor education into landscape design curriculum**

### **5.1. Improving students' aesthetics through labor**

In the teaching of landscape design, it is necessary to analyze from the perspective of art design courses. In classroom teaching, students must be guided to complete the design of landscape works through labor practice. Through specific labor activities, students are encouraged to give real and comprehensive feedback on the thoughts and creative consciousness in their minds through works and drawings. Therefore, in the learning of landscape design courses, labor process guidance is combined with the artistic beauty of landscape design, so that students can appreciate the creative needs of labor for beauty and improve their aesthetic ability.

### **5.2. Promoting labor innovation through labor**

Labor can enhance students' subjective initiative and help students optimize their landscape design. In the teaching of landscape design, students may encounter various problems when they first engage in labor practice. Teachers must teach students how to come up with effective solutions on their own and encourage students to practice divergent thinking, expand their research ideas, and create a variety of landscape design works<sup>[10]</sup>. For example, for garden landscape design, teachers can guide students to form different elements to express different aspects. Specifically, in the landscape design of cultural ancient cities, the Chinese garden style can be adopted to design elements such as pavilions, rockery, and overlapping water. If the effect of a simple Chinese classical garden is unsatisfactory, a variety of labor methods can be used to stimulate students' creative inspiration and ensure an ideal garden landscape creation.

### **5.3. Raising the level of education through labor**

In the teaching of landscape design, students can be divided into different groups through the establishment of competition project content, such as the construction of multi-person cooperation groups, and through the comprehensive study of courses, making full use of design principles and design methods, as well as designing traditional cultural landscapes. In this process, students need to ensure the proper collection of preliminary data, plan conception, and management, carry out labor activities well, form more coherent labor behaviors, ensure the combination of landscape design professional knowledge and skills with labor, cultivate healthy labor education concepts, optimize the labor process, and form a high-quality talent team.

## **6. Conclusion**

In the curriculum construction of landscape design major, it is necessary to strengthen the integration of labor education goals, promote the improvement of students' professional landscape design skills and labor literacy, cultivate students' love and respect for labor, labor spirit, and craftsman spirit, help students understand the important role of labor, and promote students' labor innovation.

## **Disclosure statement**

The author declares no conflict of interest.

## **References**

- [1] Zhang G, 2022, Promoting Labor Education Through Culture and Curriculum. People's Education, 2022(15): 122.
- [2] Su X, 2020, Research on Teaching Space Design of Primary and Secondary Schools Adapting to Educational Changes—Taking First-Tier Cities as an Example, thesis, South China University of Technology.

- [3] Liu Y, 2022, School-based Curriculum Design and Practice of Labor Education Based on 3D Printing Technology. *Educational Information Technology*, 2022(9): 77–80.
- [4] Yang Q, 2020, Discussion on the Design of Labor Education Curriculum System in Vocational Colleges in the New Era. *Vocational Education Communication*, 2020(6): 24–30.
- [5] Xie Q, Shao Z, 2021, A Probe into the Design of Middle School Labor Education Curriculum System in the New Era. *Curriculum. Textbooks. Teaching Methods*, 41(9): 130–136.
- [6] Wen W, Luo W, Wu H, et al., 2023, Rural Landscape Design Based on Low-Carbon Concept—Taking Shangde Village Labor Education Practice Base as an Example. *Modern Horticulture*, 46(6): 82–84.
- [7] Zhou X, 2023, Exploration of College Landscape Architecture Curriculum Practice under the Background of Labor Education—Taking Beijing City University as an Example. *Education and Teaching Forum*, 2023(5): 115–118.
- [8] Gu L, 2021, We Grow Up Happily in the Most Beautiful Labor – The Implementation of Labor Education Courses for Primary School Students. *Chinese Times, Principal Edition*, 2021(11): 64–65.
- [9] Yuan Y, Jin T, You L, 2022, Research on the Construction of Labor Education Courses in Higher Vocational Colleges Based on the Concept of “Service Learning”. *Journal of Ningbo Vocational and Technical College*, 26(2): 98–102.
- [10] Fang Y, 2021, Labor Education in the Implementation of the Course “Seven Gardens · Bonsai Design”—By Project-Based Learning. *Educational Research and Review: Middle School Education and Teaching*, 2021(4): 45–46.

**Publisher’s note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

# Research on the Construction of Entrepreneurship Course Clusters for Students in Agriculture and Forestry Universities

Xiao Zhao\*

Northwest A & F University, Yangling 712100, Shaanxi Province, China

\*Corresponding author: Xiao Zhao, zhaoxiao0323@163.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** Curriculum construction is the key factor in determining the quality of education. The innovation and entrepreneurship course clusters have effectively upgraded entrepreneurship courses in terms of talent cultivation, resource integration, and educational practice. In response to the existing problems and difficulties in the construction of entrepreneurship course clusters in agricultural and forestry universities, suggestions and measures are proposed from macro-, meso-, and micro-level perspectives to reach a consensus on entrepreneurship education, construct interdisciplinary course clusters, and improve the quality and effect of education implementation. This provides a reference for agricultural and forestry universities to construct high-quality entrepreneurship course clusters.

**Keywords:** Agricultural and forestry universities; University students; Entrepreneurship education; Entrepreneurship course; Course clusters

**Online publication:** June 26, 2023

## 1. Introduction

Deepening the reform of innovation and entrepreneurship education in universities is necessary for advancing the national innovation-driven strategy and enhancing graduate employment quality. Offering entrepreneurship courses supplements standard curricula and meets societal needs for innovative talents. As the education reform progresses, standalone entrepreneurship courses can no longer satisfy contemporary higher education needs or students' desire to solve complex problems. Therefore, constructing entrepreneurship course clusters is essential.

## 2. Current state of research on entrepreneurship course clusters

The primary difference between standalone entrepreneurship courses and course clusters lies in the comprehensive integration of teaching resources throughout the learning journey <sup>[1]</sup>. Existing research suggests that these course clusters should have certain characteristics <sup>[2]</sup>.

### 2.1. Theoretical research on entrepreneurship course clusters

#### 2.1.1. Course settings based on university type

Different types of universities emphasize different aspects in the construction of entrepreneurship course clusters <sup>[3]</sup>. Research universities primarily promote entrepreneurship through activities or competitions, teaching universities focus on integrating classroom teaching and practical activities with scientific research,

while vocational universities guide students toward direct entrepreneurial practice.

### **2.1.2. Course settings based on the learning stage**

There have been scholarly arguments about differentiating entrepreneurship courses and activities based on the different entrepreneurial awareness, knowledge, and abilities required by society <sup>[4]</sup>. General entrepreneurship courses focus on raising awareness and are more suited to lower-grade undergraduates <sup>[5]</sup>. Specialized courses integrate entrepreneurial thinking and methodology into professional teaching, while practical courses emphasize team-based and project-based trial-and-error exploration, suited for upper-grade students who have received professional education.

### **2.2. Practical exploration of entrepreneurship course clusters**

Tsinghua University's entrepreneurship education course cluster has distinctive characteristics, centered on subject courses and supplemented by activity-based courses and entrepreneurial practice courses. It complements businesses, academic institutions, and local governments, forming a robust course ecosystem. Universities like Peking University, Zhejiang University, and Shanghai Jiaotong University have established Schools of Innovation and Entrepreneurship, collaborating with businesses to set up innovation and entrepreneurship funds and thus providing students with startup funding and incubation services. The Northwestern Agricultural and Forestry University and others have adopted similar measures, offering a series of courses covering both the theory and practice of innovation and entrepreneurship.

## **3. Problems and challenges in the construction of entrepreneurship course clusters in agricultural and forestry universities**

Compared to science and engineering and comprehensive universities, agricultural universities differ in terms of student backgrounds, professional characteristics, teachers' thinking patterns, social resource networks, and campus culture.

### **3.1. Lack of understanding of entrepreneurship education among teachers and students**

Agriculture is a relatively traditional and conservative industry, and most students in agricultural universities come from rural areas <sup>[6]</sup>. Teachers and students have a relatively narrow and conservative understanding of entrepreneurship education. They have a one-sided understanding of the significance of entrepreneurship education and downplay its role in cultivating entrepreneurial thinking, transforming knowledge outcomes, and enhancing learning in professional courses.

### **3.2. Ineffective link between entrepreneurship education and professional education**

Entrepreneurship education and professional education in agricultural universities often exist as two separate parts. Entrepreneurship courses are often separated from the professional curriculum system, taking the form of public electives or general education courses. Entrepreneurship education is treated as a branch of professional education, thereby separating it from specialized education. This makes it difficult for students to combine professional knowledge with entrepreneurial knowledge, thus hindering them from integrating what they have learned in the course.

### **3.3. Rigid entrepreneurship course system**

The setup of entrepreneurship course clusters in agricultural and forestry universities is highly homogenous and lacks distinctive features. A homogenized education model cannot fit the differentiated positioning of universities nor serve the personalized needs of talent cultivation for innovation and entrepreneurship. Due to the separation of professional courses, emerging disciplines, and entrepreneurship education, students



from different majors find it difficult to appreciate the relevance of entrepreneurship courses to their majors, thus creating confusion when choosing courses <sup>[7]</sup>.

#### **4. Directions for the construction of entrepreneurship course clusters in agricultural universities**

The construction of entrepreneurship course clusters is a systematic and long-term project. In order to establish high-quality course clusters from a meso-level perspective, it is necessary to carry out the corresponding work from both macro- and micro-level perspectives.

##### **4.1. Establish a universal consensus on entrepreneurship education from a macro-level perspective**

###### **4.1.1. Enhance the perception of entrepreneurship education**

It is vital to view entrepreneurship education not only as a fast track to becoming an entrepreneur but also as a tool for fostering skills and critical thinking. The curriculum should progress systematically, combining broad applicability with focused learning, and creating a multidimensional, tiered, and phased course structure <sup>[8]</sup>.

###### **4.1.2. Boost entrepreneurship education awareness**

Agricultural and forestry universities need to move beyond the one-sided views of entrepreneurship education. By establishing comprehensive promotional platforms and placing equal importance on entrepreneurship and professional courses, we can foster a deeper understanding across the campus and encourage innovative applications of learned knowledge <sup>[9]</sup>.

##### **4.2. Construct a cross-disciplinary entrepreneurship education course cluster from a meso-level perspective**

###### **4.2.1. Strengthen the integration of entrepreneurship education and professional education**

Universities can enhance talent training by integrating entrepreneurial elements into their course planning, content, and teaching, making it central to their curricula. They should construct a tiered system, blending professional and entrepreneurial education and fostering a cross-disciplinary education environment throughout the institution <sup>[10]</sup>. This approach widens the applicability of entrepreneurship courses and encourages interdisciplinary collaboration among students and teachers.

###### **4.2.2. Highlight the characteristics of agricultural disciplines**

It is necessary to highlight the advantages and standing of agricultural-related majors according to the distinctive characteristics of agricultural and forestry universities. At the same time, entrepreneurship courses should be offered in combination with the cross-fertilization of relevant majors, based on the advantages of comprehensive agricultural and forestry universities. Combining with humanities and science and engineering disciplines can further permeate intellectual and management entrepreneurship ideas, respectively, constructing a scientifically reasonable systematic course cluster.

##### **4.3. Improve the quality and effectiveness of implementing entrepreneurship education from a micro-level perspective**

###### **4.3.1. Continuously improve course content and design**

Improving teaching methods and strategies as well as using a variety of teaching methods such as case teaching, team projects, and simulated business environments may aid in the cultivation of students' innovative thinking, teamwork, and practical operation skills. The course content and design of entrepreneurship education should be continuously evaluated and updated to ensure that it meets market and student demands.

#### **4.3.2. Strengthen the construction of the teaching team**

It is imperative to cultivate teachers' entrepreneurship literacy and teaching ability as well as provide relevant training and exchange opportunities. Teachers should be encouraged to participate in innovation and entrepreneurship projects and practices to enhance their practical experience and thus expand case sharing. It is also necessary to enhance the ability and level of professional teachers and entrepreneurship mentors in entrepreneurship consultation, guidance, and support, so as to help students solve problems and improve entrepreneurship plans.

#### **4.3.3. Strengthen practical interaction among students**

We can improve the participation of students in innovative and entrepreneurial exploration practices through team cooperation and project-based practices as well as enhance their innovative and entrepreneurial thinking and abilities through practical experience. Promoting the sharing and cooperation of resources inside and outside the school as well as building an entrepreneurial ecosystem may also be beneficial. By integrating resources, we can provide rich opportunities for entrepreneurial practice, including but not limited to social surveys, internships, innovative and entrepreneurial competitions, roadshows, *etc.*

### **5. Discussion and conclusion**

Facing the needs of future agricultural development, agricultural universities should focus on talent training; establish close cooperation with enterprises, government, social organizations, *etc.*; create an innovation and entrepreneurship ecosystem; cultivate awareness of social issues among students and promote social change; guide students in combining innovation and entrepreneurship with social responsibility; form collaborations to solve agricultural and rural issues; promote the sustainable development of agriculture and rural areas; and create value for farmers, rural areas, and agriculture.

### **Funding**

This work was funded by the Ministry of Education's Industry School Cooperation Collaborative Education Project "Research on the Innovation and Entrepreneurship Education Reform Model of Industry Education Integration and Collaborative Education in the Context of New Agricultural Sciences."

### **Disclosure statement**

The author declares no conflict of interest.

### **References**

- [1] Xu X, 2019, Strategies for Constructing the Innovation and Entrepreneurship Education Ecosystem in Universities during the Transformation and Upgrading Period. *Education Development Research*, 39(Z1): 102–108.
- [2] Zhao L, 2020, Reconstructing the Curriculum System of Universities with Deep Integration of Innovation and Entrepreneurship Education and Professional Education: An Analysis Based on Theory and Practice. *Jiangsu Higher Education*, 232(06): 83–88.
- [3] Zheng H, Wang J, 2019, Analysis of Differences in Innovation and Entrepreneurship Education in Different Types of Universities. *Education and Examination*, 76(04): 60–65.
- [4] Xie B, 2021, From Basic Popularization to Systematic Cultivation: Research on the Construction Path of College Entrepreneurship Curriculum Group. *Journal of Ningbo University (Education Science)*

Edition), 43(01): 74–81.

- [5] Huang Z, Zeng E, Shi Y, et al., 2012, Position-Oriented Entrepreneurship: Strategic Choices for the Transformation and Development of Entrepreneurship Education in Universities. *Education Research*, 33(12): 46–52.
- [6] Zhou J, Peng B, Gao J, 2014, The Structural Change of Undergraduate Students in Agricultural and Forestry Colleges and Universities Jointly Established by the Provincial and Ministerial Governments and Its Thinking – Taking Nanjing Forestry University as an Example. *China Forestry Education*, 32(04): 1–4.
- [7] Tang W, You W, Xue Y, 2023, Research Status and Enlightenment of Innovation and Entrepreneurship Education in Agricultural and Forestry Universities. *Innovation and Entrepreneurship Education*, 14(01): 127–135.
- [8] Zhu J, Shi Z, Zhang F, 2023, Research on the Puzzles and Countermeasures of Innovation and Entrepreneurship Education in Universities from the Perspective of Innovation Driven Development Strategy. *Journal of Higher Education*, 9(10): 56–59 + 63.
- [9] Yin J, Wu W, Ren C, et al., 2023, The Dilemma, Countermeasures, and Prospects of the Connotative Development of Innovation and Entrepreneurship Education in Universities. *Higher Engineering Education Research*, 200(03): 150–154.
- [10] Shi Y, Wang C, 2022, Construction of Innovation and Entrepreneurship Education Teaching System in Universities: Issues, Paths, and Results. *University and Discipline*, 3(02): 104–113.

**Publisher's note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

# Optimization Strategies for Art Education in Colleges and Universities from the Perspective of Education

Yuanyang Yao\*

Zhejiang Business College, Hangzhou 310051, Zhejiang Province, China

\*Corresponding author: Yuanyang Yao, larry677@126.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** With the development of the field of education, art education has become one of the indispensable disciplines in colleges and universities. In order to further strengthen students' comprehensive ability and improve their core literacy, colleges and universities need to optimize the existing art education from the perspective of education. Therefore, the optimization path of art education in colleges and universities is studied from the perspective of education. First, by discussing the value of art education in colleges and universities, analyzing the current situation of art education in local colleges and universities, and then discussing the optimization strategies for art education in colleges and universities from the perspective of education, a systematic summary is made for reference.

**Keywords:** Educational vision; Colleges and universities; Art education

**Online publication:** June 27, 2023

## 1. Introduction

Art is an important discipline that enriches people's spiritual life and improves people's abilities. With the progress and development of society, current art education is becoming more important. From the perspective of education, art education can improve students' comprehensive ability and core literacy, as well as guide students to inherit the great spirit of the Chinese nation and form correct views, which include world views, values, and outlook on life. Colleges and universities play a central role in cultivating students' abilities and helping students strengthen their skills and improve self-cultivation. Therefore, optimizing art education in colleges and universities from the perspective of education is an important effort in the development of the current education field.

## 2. Value of art education in colleges and universities

### 2.1. Create an aesthetic atmosphere

At present, it has become a unified standard for all schools to cultivate students' core literacy and help students improve their overall ability, among which aesthetic ability is also a type of ability under core literacy. With the continuous improvement of people's quality of life, people have shifted their focus to appreciating "beauty" and looking for spiritual satisfaction. In daily life, the element of "beauty" is everywhere; be it the development of film and television art or product packaging design, it can fully reflect "beauty." In order to appreciate "beauty" in daily life, colleges and universities need to cultivate students' aesthetic ability through various forms and identify students with society with the aid of "beauty." Art

education is the most common and convenient way of training that can help students appreciate “beauty” from various perspectives and influence students to accept “beauty,” so as to move toward the goal of creating a better life.

## **2.2. Establish cultural self-confidence**

Our country has a long history, with many heritages and cultures worth promoting. We should further strengthen the dissemination and influence of Chinese civilization, adhere to the stance of Chinese culture, and extract the spiritual symbol and cultural essence of Chinese civilization from history, so as to present a credible, lovely, and respectable image of China to the international community <sup>[1]</sup>. With the help of art education, colleges and universities can walk on the path of differentiated education, help students develop their cultural confidence through traditional Chinese culture, and lead them to experience the local conditions and customs reflected in the works of art, so as to inherit the traditional Chinese spirit and national culture of kindness. The qualities of sincerity and honesty have effectively brought into play the value of the era of high-efficiency art education.

## **2.3. Cultivate comprehensive talents**

Since the introduction of core literacy, the direction of most schools has been moving toward core literacy in the hope to cultivate students’ core literacy in various ways and provide assistance to students to gain a foothold in society. Core literacy includes proficiency in professional quality, professional skills, and professional ethics, as well as various excellent abilities such as collaborative spirit, learning ability, and thinking ability. Art education has many domains, not only music and dance, but also film and television, painting, and others. As art education covers many domains, it can cultivate students’ abilities from various aspects and perspectives and nurture art talents. When carrying out art education, teachers should not only cultivate conventional abilities such as collaborative spirit and thinking ability in students but also cultivate unconventional ones such as aesthetic ability and appreciation ability, while broadening their horizons and nurturing comprehensive talents for society <sup>[2]</sup>.

# **3. Current situation of art education in local colleges and universities**

## **3.1. Sound management**

With the introduction of core literacy, the emphasis on art education has been strengthened in colleges and universities. In addition, these institutions have established art-related courses and systems following the guidance programs and requirements issued by the Ministry of Education. Therefore, art education has become an important discipline in current local tertiary education. The majority of colleges and universities have established a leadership structure and formulated a management mechanism with clear responsibilities and efficient operation based on their situation. These efforts have promoted the effective development of art education. With the improvement of management, art education can then move toward standardization, which would greatly enrich the extracurricular links and provide a direction for students’ hobbies and interests.

## **3.2. Improved teaching conditions**

With the progress and development of science and technology, teaching conditions have been improved and optimized, and the development of both software and hardware conditions is now evident. In terms of software conditions, as art education has gained significance, colleges and universities have strengthened their emphasis on art education and increased their investment in its resources. In terms of the curriculum and the teachers, significant changes have been made compared with the past <sup>[3]</sup>. Even some non-art colleges and universities have recruited professional art teachers. This effort has improved the level of the teaching

staff as a whole. In terms of hardware conditions, vocal music classrooms, multimedia classrooms, dance classrooms, *etc.*, have been set up in accordance with national standards, and the existing teaching hardware conditions have been optimized to ensure convenience for teachers to teach.

### **3.3. Gradual improvement in the evaluation mechanism**

Some colleges and universities have integrated the evaluation mechanism with student performance and developed diversified evaluations based on the original evaluation mechanism. Diversified evaluation is mainly based on two aspects: evaluation content and evaluation methods. In diversified evaluation, the evaluation content is no longer limited to grades; instead, students' creative ability, organizational ability, coordination ability, aesthetic ability, expression ability, and other abilities are used as the evaluation criteria. This type of evaluation further improves the comprehensive strength of students. In diversified evaluation, the evaluation methods are no longer limited to paper examinations, but interviews, practical operations, art design, and other methods are included. It not only enhances students' abilities but also increases the reliability of evaluation.

## **4. Optimization strategies for art education in colleges and universities from the perspective of education**

### **4.1. Strengthen the integration of “five educations”**

The integration of five educations refers to the integration of morality, intelligence, physique, beauty, and labor. When colleges and universities carry out art education, they should integrate five educations from all aspects, so as to train students to become comprehensive and all-round talents. In the process of education, teachers should pay attention to the coordination and comprehensiveness of the five educations and integrate them into classroom teaching to maintain the balance as much as possible and thus avert mistakes in certain aspects of education.

For example, teachers can guide students to appreciate art paintings, and when explaining the painting “Playing on the Ice,” they can integrate physical education with art education, help students to understand ice and snow culture through various methods, teach students to exercise correctly, enhance students' sports skills, and strengthen students' physical quality <sup>[4]</sup>. By guiding students to appreciate “Picture of the Merchant,” students' appreciation ability will improve, and they will establish a sense of labor glory. As a matter of course, labor education will be integrated into art education. Setting questions and answers would also promote the collision of thoughts among students and improve their thinking ability.

### **4.2. Give full play to club advantages**

When choosing which club to join, students usually choose the club that they are interested in. Most clubs are art clubs, which can greatly improve students' core literacy. Moreover, club activities are usually carried out outdoors, and outdoor activities can improve students' physical fitness and practical ability. However, most clubs are formed by students themselves, without the participation of the school and their teachers. Teachers should give full play to the advantages of these clubs, encourage students to develop their abilities in their field of interest, plan activities, organize club activities with the help of peers, and grow together, so as to build a good and high-quality art education environment. At the same time, teachers should also encourage students to integrate emerging art content into club activities, develop students' aesthetics, enrich students' daily life, guide students to establish a healthy and positive aesthetic concept, improve their psychological quality, and ensure their mental health <sup>[5]</sup>.

### **4.3. Optimize the teaching methods**

Through art education, students' aesthetic ability, appreciation ability, practical ability, and creative ability

can be cultivated. Therefore, teachers need to further optimize the existing teaching methods, strengthen the practice link, and encourage students to design in various ways to improve their comprehensive ability. For example, with the support of the school, teachers can guide students to participate in practical activities, design activity elements according to the theme of the activity, display the works of students in classrooms, libraries, dormitories, and other places, and ask students to explain their design concepts and ideas. All these can enhance students' creative ability, while cultivating their self-confidence, strengthening their cultural self-confidence, and instilling the humanistic spirit in them. In addition, students will also be encouraged to participate, while they broaden their horizons and cultivate comprehensive ability and core literacy.

#### **4.4. Rational use of resources**

Compared with society, school resources are relatively scarce, especially art resources in colleges and universities because of the high cost. Therefore, teachers must teach students to use finite resources to create unlimited possibilities. The definition of resources is relatively broad, not only referring to teaching molds, educational textbooks, *etc.*, but also natural resources such as mountains, water, and lakes. At present, most colleges and universities have a large compound with many natural resources. With that advantage, teachers can use natural resources to help students expand their thinking and encourage students to express their ideas, and make use of the resources. At the same time, teachers should also work together with the school to enhance the art experience of students by organizing local art gallery and museum visits and explaining to students, so that students can experience art culture from different perspectives, broaden their perspectives, improve and supplement their existing knowledge, and further strengthen their multi-faceted capabilities <sup>[6]</sup>.

#### **4.5. Develop distinctive courses**

Each place has its customs, and allowing students to experience these customs is also a key aspect of art education. Art education is as simple as when teachers explain about art to help students improve their creative ability and appreciation ability. The art of different regions reflects the style of the local people and the historical background of creation. Therefore, teachers need to ensure that distinctive courses are developed to provide students with high-quality teaching content.

On the one hand, teachers need to choose a proper teaching direction and clarify the teaching objectives. For example, when teaching songs, the teaching direction can be based on understanding people's lives, while the teaching objectives can be centered on the style in which the songs are composed and their background to understand the relationship between the two. This would help students broaden their knowledge.

On the other hand, teachers should expose students to a variety of ways of learning. Since science and technology are developing rapidly, teachers can use various methods such as videos, texts, and songs; guide students to sing songs, analyze the rhythm, and explore the temperament of songs; and allow students to experience the joy of learning in the classroom.

### **5. Conclusion**

Art education is an important discipline in current education, a necessary prerequisite for colleges and universities to promote the development of education, and an effective way for students to improve their abilities. Therefore, in the process of carrying out art education, colleges and universities should implement the five optimization strategies (strengthen the integration of five educations, give full play to club advantages, optimize the teaching methods, rationally use resources, and develop distinctive courses) to cultivate students' comprehensive ability, improve their quality and accomplishment, and provide more

reliable talents for the society.

### Disclosure statement

The author declares no conflict of interest.

### References

- [1] Su M, Chen G, 2021, The Current Situation and Optimization Strategies of Art General Education in Colleges and Universities—Based on the Investigation and Research of Hunan University, Central South University, and Hunan Normal University. *Yihai*, 2021(1): 80–82.
- [2] Sun M, 2021, Research on Collaborative Education of Popular Art Education in Colleges and Universities – Taking Public Art Courses and Art Clubs as Examples. *Musical Instruments*, 2021(12): 50–53.
- [3] Zhao X, Zeng Y, 2022, The Value and Path of Integrating Red Music Culture into Ideological and Political Education in Colleges and Universities. *Educational Academic Monthly*, 2022(9): 61–67.
- [4] Cao H, 2022, Research on the Integration Path of Red Music Resources and Moral Education in Colleges and Universities. *Chinese Science and Technology Journal Database Education Science*, 2022(5): 0090–0092.
- [5] Chen Y, 2023, The Optimal Path of Art Education in Colleges and Universities from the Perspective of Aesthetic Education. *Art Education*, 2023(1): 265–268.
- [6] Cui C, 2023, Research on the Practice Path of Art Education Construction in Colleges and Universities. *Beauty and Times: Fine Arts Journal*, 2023(1): 84–86.

#### Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



# Exploration of French-Chinese Translation Methods of Electrical Engineering Terminology Using Online Image-Text Retrieval Mode

Tian Li\*

Power China Guizhou Engineering Co., Ltd., Guiyang 550000, Guizhou Province, China

\*Corresponding author: Tian Li, litian0033@126.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** With the incessant propulsion of the Open Door Policy, which is related to the consolidation of international collaborative partnerships, an increasing number of Chinese companies are moving toward cooperating countries to participate in infrastructure construction, employing a win-win strategy in favor of the people and governments of both countries. Among the cooperation domains, our country's electrical companies have achieved a series of remarkable results in the international Engineering, Procurement, and Construction (EPC) project market with their outstanding business capabilities and technical advantages. Nevertheless, some shortcomings cannot be overlooked, the most notable of which appears to be the impediment associated with engineering translation, which has always been an obsession among translators of Chinese companies. Taking the transmission line project in the Republic of Madagascar as an example, an analysis of French-Chinese translation methods of electrical engineering terminology in the field of the transmission line is carried out.

**Keywords:** Engineering translation; Translation methods; Electrical engineering terminology; Interdisciplinary communication; Online image-text retrieval mode

**Online publication:** June 30, 2023

## 1. Introduction

The AOI (*Appel d'Offre International*, International Bidding) is the most common method for submitting technical and commercial tender documents of electrical engineering projects (such as the overhead power line project listed here) in francophone countries. The language for communications shall be that stated in the Particular Conditions, which is usually French (France). The translation is always considered a difficult task that embarrasses both translators and technical personnel, as the former does not know much about electricity, while the latter knows almost nothing about the language. It is unrealistic for technical personnel to master French or to train a translator to be an electrical engineer within a short period of time. Besides, with the submission deadline (one or two months in most cases), how could translators accomplish the translation work accurately and efficiently? The following sections will briefly explain the preparatory works of translation, the extraction and unification of high-frequency word(s), and the translation methods in the face of electrical engineering terminology.

## 2. Preparatory works of translation

When setting up a translation team, the priority is in the selection of translators who have not only excellent French interpretation and translation skills but also a certain level of knowledge in the field of transmission

lines. In addition, translators must have a great capacity for learning and a humble and practical cooperative spirit. The translation process is generally task-oriented, with the two essential criteria of “efficiency” and “accuracy” being applied.

Once the translation team has been set up, a group leader shall be appointed, whose responsibility consists of going through all the files to be translated and sending out an outline of the tasks to the team members, who can then discuss their respective areas of expertise. For example, some translators may have experience in the field of power transmission, others may specialize in electrical substations, yet others may have a good grasp of civil works. It is essential to comply with the credo “The right person, doing the right thing.” Moreover, the group leader and team members need to communicate about the amount of daily translation and proofreading expected to be completed, the translation method, and other aspects. The final proposal shall be collated and sent to the team members for translation work. In short, the preparation stage of translation mainly involves the following five parts: the division of tasks, the selection and unification of translation tools, the extraction and unification of high-frequency word(s), terminology processing, and the discussion of post-translation proofreading methods.

### 3. Extraction and unification of high-frequency word(s)

Whether in French-Chinese translation or Chinese-French translation, it is common to encounter recurring word(s) or phrases. How can we define and unify “high-frequency word(s)”? If the translation team does not define the high-frequency word(s) in advance, there may be multiple translations. Incorrect or inaccurate translations are likely to lay down latent dangers for technical and commercial negotiations or even cause risks for future construction works. The six-step method proposed by Professor Shen Guanglin in the *Practice of French Translation for Engineering and Technology (Pratiques Traductives du Français des Technologies)* for the extraction and unification of high-frequency word(s) is strongly recommended. This method includes assigning translation works, reading through processing, identifying high-frequency word(s) or phrases using Transmate or manual search, setting frequency count criteria, determining word(s) or phrase(s) according to the criteria defined, translating high-frequency word(s) or phrases, and submitting them to the group leader for review and so forth, which will not be discussed in detail.

### 4. Translation methods of common technical terminology

Translators should pay close attention to technical terminologies, especially those appearing in high frequency. For example, in the process of translating the French *Proposition Technique du Projet d'Interconnexion de la Ville de Toamasina au Réseau Interconnecté d'Antananarivo* (*Technical Proposal of Grid Interconnexion Project between Tamatave and Antananarivo* in English; hereinafter referred to as the *Technical Proposal*) into Chinese, several terminologies were repeatedly encountered, and the original translation itself differed from those in the *Technical Proposal* (**Table 1**).

**Table 1.** Comparison between two target language translations (Chinese Pinyin)

Original language	Target language (Chinese Pinyin) translation in the literal meaning	Same target language (Chinese Pinyin) translation in the <i>Technical Proposal</i>
<i>bus</i>	<i>gōng jiāo chē</i>	<i>mǔ xiàn</i>
<i>intervalle</i>	<i>jiān jù</i>	<i>biàn diàn zhàn jiàn gé</i>
<i>pylône</i>	<i>zhī zhù</i>	<i>gān tǎ</i>
<i>contrainte</i>	<i>xiàn zhì</i>	<i>yìng lì</i>
<i>circuit</i>	<i>huán xiàn</i>	<i>huí lù</i>

(Continued on next page)

(Continued from previous page)

Original language	Target language (Chinese Pinyin) translation in the literal meaning	Same target language (Chinese Pinyin) translation in the <i>Technical Proposal</i>
<i>écartement</i>	<i>jiàn gé</i>	<i>dàng jù</i>
<i>armoire</i>	<i>yī guì</i>	<i>biàn diàn zhàn kāi guān guì</i>
<i>entrée</i>	<i>rù kǒu</i>	<i>jìn xiàn</i>
<i>sortie</i>	<i>chū kǒu</i>	<i>chū xiàn</i>
<i>bride</i>	<i>fǎ lán</i>	<i>“U” xíng xiàn jiā</i>
<i>chape tourillon</i>	<i>zhóu xíng zhī jià</i>	<i>zhí jiǎo guà bǎn</i>
<i>manchon de junction</i>	<i>lián jiē</i>	<i>jiē xù guǎn</i>
<i>pince d'ancrage</i>	<i>máo dīng jiā</i>	<i>nài zhāng xiàn jiā</i>
<i>corne d'amorçage</i>	<i>qǐ hú jiāo</i>	<i>zhāo hú jiǎo</i>
<i>oeillets à rôle</i>	<i>qiú wō huán</i>	<i>qiú tóu guà bǎn</i>

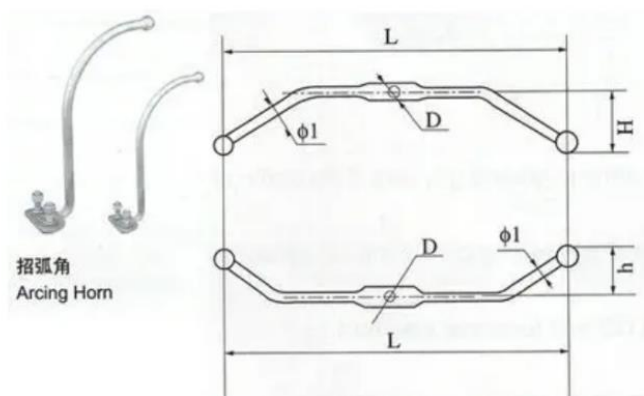
The target language has a clear professional leaning, and some are jargon exclusive to the field of the overhead transmission line. In view of this, when translating such terms for the first time, translators could, in addition to using online resources, talk with technical personnel, including designers, constructors, national electricity company consultants, and government energy resource departments, to improve the accuracy of the translation.

For instance, although the term *pince d'ancrage* literally means *máo dīng jiā*, it has another term exclusive to the field of the transmission line. Translators could give a quick translation by “keyword retrieval + technique clarification.” Specifically, we can start by typing *pince d'ancrage* into the retrieval engine Bing (International version) and find the definition of *pince d'ancrage*: *Les pinces d'ancrage et les fixations sont utilisées en arrêt de ligne ou lorsqu'il y a changement de direction de câbles* (in English: Anchor clamps and fasteners are used in line stops or when there is a change in the direction of the transmission line). The result of the images search is shown in **Figure 1**.



**Figure 1.** *Pince d'ancrage* (*nài zhāng xiàn jiā* in Pinyin; photo source: <https://ines-max.com/?s=pince>)

After talking with the technical personnel, we can confirm that *pince d'ancrage* means *nài zhāng xiàn jiā*, which is mainly used for the connection of circuit terminals or conductor turn angle, thus conforming to the aforementioned clarification. As another example, *corne d'amorçage* is defined as *dispositif équipant généralement les isolateurs haute tension, composé d'éléments conducteurs courbés en vis-à-vis, et destinés, en cas de surtension, à créer un arc ailleurs qu'à travers l'isolateur, empêchant ainsi sa destruction par l'arc*, which means a high-voltage relay protection device that prevents damage to insulating devices caused by electric arcs. In conjunction with the drawings (**Figure 2**) and the comments given by a technical engineer, *corne d'amorçage* is a type of insulator protection device used in the construction of overhead transmission lines. Based on this, *corne d'amorçage* is translated into *zhāo hú jiǎo*.



**Figure 2.** *Corne d'amorçage* (zhāo hú jiǎo in Pinyin; photo source: [https://www.jdzj.com/jiage/1\\_2\\_3686181.html](https://www.jdzj.com/jiage/1_2_3686181.html))

## 5. Translation methods for technical terminology with multiple modifiers

When translating terminologies with multiple modifiers in conjunction with the propositions provided by technical personnel, the translation could be preceded by the following procedures: orientation and segmentation, identification, and fusion of translation of the segmented part using “Linguee + image retrieval.”

Specifically, orientation and segmentation involve positioning technical term(s) formed by multiple modifiers and their head word(s), stripping these modifiers and headword(s) according to sense group, and attempting to translate each stripped component. When translating *Technical Proposal* (French-Chinese), Linguee and online image retrieval functions are used to enhance the translation. The former is an online multilingual translation platform that could assist users in comparing the original language with the target language through various options like word explanations, example sentences, and related references cited, while the latter could facilitate the comprehension of translation via visualization. For instance, the phrase *le transformateur de courant de l'huile inversé*, which appears several times in *Technical Proposal* (Substation Construction Section), could be segmented into *le transformateur de courant* (head word) and *de l'huile inverse* (modifier). Through retrieval on Linguee, we find that the headword *le transformateur de courant* is mostly translated into “current transformer” (highlighted by primrose yellow on the right in Figure 3).

External sources (not reviewed)	
Le transformateur de courant différentiel mesure la disparité du courant entre le départ et les câbles de retour pour un [...] ↳ reo.de	The differential current transformer measures the current disparity between the outgoing and return cables in single or three-phase supplies. ↳ reo.de
Toutefois, l'EMN mesurant le courant de chaque phase, on peut aisément savoir si le transformateur de courant a été débranché et à quel moment. ↳ lem.fr	However, the EMN measure the current on each phase which will tell immediately if the CT is disconnected and when. ↳ lem.fr
Il est donc indispensable de tester et d'étalonner le transformateur de courant, car la précision de l'ensemble de la chaîne [...] ↳ omicron.at	It is therefore essential to test and calibrate the metering current transformer, as the entire metering chain is only as accurate [...] ↳ omicron.at
[...] soigné de la boucle de régulation, tandis que le transformateur de courant intégré permet de surveiller directement la charge [...] ↳ gefran.in	The LBA alarm carefully controls the control loop, while the on board current transformer lets you directly monitor the load and activate the [...] ↳ gefran
Raccord à fiche pour le transformateur de courant de l'option "Current-Limit" (montage par l'usine). ↳ soft-start.ch	Plug-in connection for the current transformer for the current limit option (installed at the factory). ↳ soft-start.
⚠ Le photomètre et le transformateur de courant (adaptateur secteur) sont livrés dans un carton. ↳ hemocue.no	⚠ The photometer and a transformer (battery eliminator) are delivered in a carton. ↳ hemocue..
⚠ Entrée analogique 3 ; le transformateur de courant pour la phase 3 doit être connecté aux broches 10 et 2 (commun). ↳ www05.abb.com	⚠ Analog input 3; the current transformer for phase 3 must be connected on pins 10 and 2 (common). ↳ www05.abb.cc
⚠ Le transformateur de courant externe est branché avec le relais antichoc série « SS » afin d'offrir une protection contre [...] applications [...] ↳ tsubaki.ca	⚠ The external current transformer is wired together with the "SS" series shock relay to provide overload protection for applications [...] ↳ tsubaki.

**Figure 3.** Bilingual (French-English) retrieval mode on Linguee (photo source: <https://www.linguee.com/english-french/search?source=auto&query=le+transformateur+de+courrant>)

Its modifier *l'huile inverse* is related to *huile* (oil) and *inversé* (inverted). Therefore, the complete translation can be tentatively identified as an “oil inverted current transformer.” However, the accuracy of the translation is debatable; the only thing that can be certain is that the current transformer might contain oil and be inverted. Hence, two translation forms could be deducted: *dào zhì shì chōng yóu diàn liú hù gǎn qì* and *yóu jìn dào lì shì diàn liú hù gǎn qì*. In order to improve the accuracy of the translation, these two translations should be typed into Bing (Chinese version) for image retrieval. The results are displayed in **Figure 4**.



**Figure 4.** *Transformateur de courant de l'huile inverse* (*yóu jìn dào lì shì diàn liú hù gǎn qì* in Pinyin; photo source: <https://cn.bing.com/images/search?q=%e6%b2%b9%e6%b5%b8%e5%80%92%e7%bd%ae%e5%bc%8f%e7%94%b5%e6%b5%81%e4%ba%92%e6%84%9f%e5%99%a8&form=HDRSC2&first=1>)

Through meticulous observation, the interpretation below almost every image is *yóu jìn dào lì shì diàn liú hù gǎn qì* instead of *dào zhì shì chōng yóu diàn liú hù gǎn qì*. Therefore, it is presumed that the former is more appropriate. Along with the clarification from technical personnel, it is confirmed that the phrase can be translated into *yóu jìn dào lì shì diàn liú hù gǎn qì*.

In another example, although there are more modifiers in the phrase *le parafoudre à oxyde métallique sans éclateurs pour réseaux à courant alternatif* than the previous one, the head word can be easily found: *parafoudre*. After positioning it, the modifier is split into three parts according to the position of the preposition: the first part *à oxyde métallique*, the second part *sans éclateurs*, and the third part *pour réseaux à courant alternatif*. After combining these three parts, the term can be tentatively identified as *jiāo liú wú huǒ huā jiàn xì jīn shǔ yǎng huà wù bì léi zhēn*. After typing it into Bing (Chinese Version), the most frequently appearing keyword is *jiāo liú wú jiàn xì jīn shǔ yǎng huà wù bì léi qì*. The image retrieval results are shown in **Figure 5**.



**Figure 5.** *Parafoudre à oxyde métallique sans éclateurs pour réseaux à courant alternatif* (*jiāo liú wú jiàn xì jīn shǔ yǎng huà wù bì léi qì* in Pinyin; photo source: <https://cn.bing.com/images/search?q=%e4%ba%a4%e6%b5%81%e6%97%a0%e9%97%b4%e9%9a%99%e9%87%91%e5%b1%9e%e6%b0%a7%e5%8c%96%e7%89%a9%e9%81%bf%e9%9b%b7%e5%99%a8&form=HDRSC2&first=1>)



Entering *le parafoudres à oxyde métallique sans éclateurs pour réseaux à courant alternatif* into Bing (International version) for image retrieval, the retrieval result shows a high similarity between these two retrievals, which undoubtedly increases the accuracy of the translation. Along with clarification from technical personnel, *parafoudres à oxyde métallique sans éclateurs pour réseaux à courant alternatif* is translated into *jiāo liú wú jiàn xì jīn shǔ yǎng huà wù bì léi qì*. It is worth noting that *éclateur* is herein translated into *huǒ huā xì* instead of *jiàn xì*. Although technical personnel could assist in consolidating the accuracy of the translation, it is still important for translators to be highly competent. It is important for translators to pay close attention to the whole translation process, as the accuracy of translation directly affects the judgment of technical staff and an inaccurate or incorrect translation is likely to cause communication issues, resulting in a deadlock. Moreover, technical personnel and translators are often not situated in the same country, and jet lag would undoubtedly cause communication lag. Hence, it is not recommended to burden the technical staff with the clarification work.

## 6. Conclusion

Based on the aforementioned methods, the image-text retrieval mode in conjunction with suggestions from technical personnel plays an important role in engineering translation, with word(s) retrieval alone being insufficient. Although computer-assisted translation tools have been developing rapidly in recent years, the engineering translation industry still exists because most of these tools can only provide auxiliary referential support. For instance, when dealing with large and complex translation projects in domains like biomedicine, law, economics, engineering, *etc.*, two fatal flaws are exposed: these tools are unable to generate corpus (corpora) spontaneously nor provide translators with effective translation methods. Therefore, engineering translators are still in demand. Furthermore, unlike ordinary translators, engineering translators must have information retrieval ability, translation processing skills, interdisciplinary communication skills, and rapid self-learning ability. In addition, it is strongly recommended for a qualified engineering translator to establish a personalized system of translation processing. That being said, once translation works have commenced, the translator should know which “preferred” retrieval engine(s), translation tool(s), and translation methods should be used and who should be inquired in case of failure of translation processing. Undoubtedly, greater professional experience and profound self-reflective consciousness will inject new vitality into the enhancement and innovation of translation processing methods, and the improvement of translation accuracy and efficiency will increase the chances of winning bids in francophone countries.

## Disclosure statement

The author declares that she has no relevant or material financial interests that relate to the research described in this paper.

## References

- [1] Shen G, 2016, *Pratiques Traductives du Français des Technologies* [Practice of French Translation for Engineering and Technology], Dong Hua University Press, Shanghai.

### Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

# Critical Discourse Analysis Based on Halliday's Systemic Functional Linguistics: Taking The Economist's First Commentation on the End of China's Zero-COVID Policy as an Example

Chuyan Wang\*

Capital Normal University, Beijing 100080, China

\*Corresponding author: Chuyan Wang, 13071101749@163.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** Based on Halliday's systemic functional grammar, especially the ideational function, this research aims at disclosing the hidden ideologies and values of the seemingly objective news reports on China's COVID-19 policies in The Economist. Transitivity, voice, and nominalization are the major analytical subjects. After China lifted the zero-COVID policy, western media began criticizing China's lack of data sharing, with some misinformation and misleading reports. The denouncement of inertness and reluctance to fight against the pandemic disclaim the Chinese government's efforts and depreciate China's image. China is portrayed as the villain and destroyer of people's health worldwide. Meanwhile, they also hold a hesitant attitude toward China's diplomacy. The re-engaging with foreign countries and travel restrictions have been described as imprudent and rushed actions. They also consider China as the fuse of contradiction in the United Nations. What is overt is their view of breaking up China.

**Keywords:** Systemic functional linguistics; Transitivity; COVID-19; News commentation; Re-opening; Critical discourse analysis

**Online publication:** June 30, 2023

## 1. Introduction

At the end of 2019, the COVID-19 pandemic was globally rampant, and China spared no efforts to prioritize the protection of people's lives in view of national conditions. With this end in view, within the last three years, the government introduced various policies, and a large amount of manpower and material resources were put into combat with the coronavirus. In that matter, western countries' miscellaneous coverage of China's fight against COVID-19 began to surface endlessly. Since the outbreak of the coronavirus, the number of China-related reports has been unprecedented. However, western media, with the expectation to launch media wars, attempt to stigmatize, twist the fact, and smear the image of China via negative means, such as slander and deceit <sup>[1]</sup>. Those could be embodied in their news reports and editorials directly or indirectly. Just as the founder of critical discourse analysis Fowler *et al.* <sup>[2]</sup> argued, news is not the authentic reflection of reality, but rather, to a large extent, what is called "ideas" ingrained in societies.

This research, based on Halliday's systemic functional linguistics, especially the ideational, aims to unveil the hidden ideologies and values of the seemingly objective news reports on China's fight against the pandemic by the western mainstream media The Economist, with transitivity, voice, and nominalization

as the major analytical subjects [3].

## 2. Selection of materials

The selected news material *Data, Diplomacy and Disease* [4] was issued in The Economist on January 14, 2023. As per the reports on people.com [5], the national key website, after the implementation of “Class B and B Management” for COVID-19 infection on January 8, 2023, the main responses for Chinese and foreign travelers were changed to optimize the travel management of Chinese and foreign travelers by ensuring COVID test for China-bound travelers within 48 hours before departure, canceling COVID-19 tests for all inbound travelers and centralized isolation, and canceling the number control measures for international passenger flights, such as “five ones” and passenger load factor restrictions. It was the first news commentation of The Economist about China’s reopening policy in the era of COVID-19 following the termination of the strict restriction of “zero-COVID” on January 8, 2023. As one of the most influential media in the world, the 16th editor-in-chief John McLevitt said, “Our success laid in the fact that our magazine is global, and the reporting is from a cosmopolitan perspective [6].” Consequently, the news material from a magazine that is based on an international perspective and catches on with and is adept in analyzing international heated discussions/events is analyzed, appropriating it as a potent material for the revelation of western countries’ attitude toward the reopening policy and ideologies concealed beneath the text.

## 3. Critical discourse analysis of the article

Critical discourse analysis, as an approach to language analysis, has been widely adopted by various disciplines, including sociology, sociolinguistics, politics, and communication studies [7], focusing on the construction of social ideologies within texts, which are seen by analysts as an arena in which different powers contend [8] and deemed as the entanglement of assorted rights and ideologies in critical discourse analysis. This means it helps readers resist the abuse of rights. Critical discourse analysis is mainly founded on Halliday’s systemic functional linguistics, whose purpose of construction is to provide a theoretical and analytical framework for discourse analysis [9]. According to Halliday, language should be construed as a system of social meaning, with meaning being superior to form, which could only be embodied by its integration with meaning. Systemic functional linguistics consists of “systemic grammar” and “functional grammar,” which are two aspects of the complete theoretical framework of language.

### 3.1. Ideational function

Halliday made an abstract summarization of the functions that language can fulfill as three metafunctions: ideational, interpersonal, and textual. Ideational function refers to the expression of people’s experiences in the real world conveyed by language. It comprises experiential function and logical function and is mainly realized by transitivity and voice [10]. Experiential function, the commonly applied method in research, mirrors the events that occurred, the people and objects involved, and the related environmental factors, such as time and place.

#### 3.1.1. Transitivity

Transitivity is a semantic system, whose function is to divide people’s real experiences into several kinds of “processes.” In Halliday’s view, human experiences can be classified into six kinds: material process, verbal process, relational process, mental process, existential process, and behavioral process [11]. According to the tallying of the six kinds of processes in **Table 1**, the analysis is concentrated on the material process, verbal process, relational process, and mental process, accounting for a relatively large proportion of the article.



**Table 1.** Frequency of processes

Process	Material process	Verbal process	Relational process	Mental process	Existential process	Behavioral process
Amount	18	15	10	8	3	0
Percentage	34.0%	28.3%	18.9%	15.1%	5.7%	0%

### 3.1.1.1. Material process

Material process signifies the process of doing and indicates that news is dominated by the plausible description of some events <sup>[12]</sup>. Its characteristic is that it can describe events objectively <sup>[13]</sup>. In this article, the material process is mostly employed to portray China's measures after the reopening, diplomacy, and other countries' policies toward China.

Example 1: "After repeated requests from the World Health Organization, China has started sharing more genetic sequences of the virus from recent cases."

Example 2: "...China submitted 15 sequences from two regions in the 17 days after lifting its 'zero-covid' restrictions on December 7th."

In terms of the expression of China's measure of the provision of coronavirus-related data, the selection of verbs includes "share," "submit," and "provide." As in Example 1, the behavior of sharing information is on the condition of repeated requests from the World Health Organization (WHO), emphasizing the latent meaning of reluctance and inertness. Furthermore, in Example 2, the usage of the term "submit" instead of "provide," a more neutral word, suggests China's passiveness and lower status on the ground that its meanings in the Longman Dictionary are "to agree to obey someone or something or to go through a process, especially when you have no choice" and "to give a plan, piece of writing, *etc.*, to someone in authority for them to consider or approve." However, it is not in accordance with reality <sup>[14]</sup>.

Example 3: "China's obfuscation of covid data is stirring memories of how it failed to share relevant information early in the pandemic and how it is still withholding data that could help to trace the origins of the virus."

Example 4: "That is already fueling a fraught debate within the European Union over how to balance commercial interests against national security and democratic values in dealings with Mr. Xi. Any new tension over covid could further complicate efforts to re-engage with China by Olaf Scholz..."

With regards to the consequences of China's reopening policy and re-engagement with other countries, the verbs chosen are "fuel," "complicate," and "stir", displaying western politicians' negative and opposed views toward it and having China playing an embellished role of a villain of the epidemic prevention. In Example 3, the narrator even exploits rumors about China concealing data to provoke criticism. In addition, as implied in Example 4, China's new policy constitutes the fuse for European Union's controversy and tension, dissembling the UN's autonomy for the action.

Example 5: The next day the Chinese government stopped issuing some visas in South Korea and Japan in retaliation for their new restrictions on travelers from China."

Lastly, in Example 5, “retaliation” establishes China’s image as an irresponsible, irrational, and petty country. It disregards other objective and reasonable factors such as the epidemic prevention and protection of lives, simply considering China’s suspense of issuance of passports for the Japanese and Koreans as a retaliation for their restrictions on Chinese travelers’ entry.

### 3.1.1.2. Verbal process

The verbal process is a process of using speech to exchange information. Verbiage can be free direct speech, direct speech, free indirect speech, indirect speech, or narrative report of speech act <sup>[15]</sup>. The option of the form of expression hinges on to what degree the boundary between the reporting speech and the quoted speech is clear-cut or vague. The speaker’s level of control increases as the foregoing sequences <sup>[16]</sup>. Those quotations are seemingly righteous and impersonal but are the cryptic embodiment of the media’s intention <sup>[17]</sup>. In this report, indirect speech and narrative report of speech act are the majority, as shown in **Table 2**, indicating that most reporting speech can be manipulated by the narrator.

**Table 2.** Frequency of reporting speeches

Type	Indirect speech	Narrative report of speech act	Direct speech	Free direct speech
Amount	7	5	2	1
Percentage	46.7%	33.3%	13.3%	6.7%

The reporting speech is mostly associated with the denigration of China’s data and diplomacy policies. Superficially, most of the verbs used, including “say,” “add,” “express,” “report,” and “suggest,” are neutral. However, when describing the American’s transparency, “praise,” a positive verb, was used, yet, when commenting on China or China’s action, negative verbs such as “blame” and “denounce” were used, forming an irascible and reckless image, with China being positioned opposite to western countries. The negative reviews toward China have been magnified through the contrast with America. The narrator selects, processes, and quotes those reporting speeches in accordance with their ideologies and thoughts. Thus, the views of certain individuals have now become those of the majority. The audience’s perception is controlled and influenced.

### 3.1.1.3. Relational process

The relational process is concerned with being. It reflects the relationship between things, through which the attribution and identification of things are described. Through the analysis of the relational process, the identification and categorization of the reopening of China can be exhibited, with the attribution always containing the wider implicit ideology <sup>[18]</sup>.

Example 6: “But the spat could get uglier, especially if China singles out America or European countries for new restrictions.”

Example 7: “European governments will probably be less overtly critical of China’s approach to covid, just as they were in 2020.”

Example 8: “The potential fallout for China is much less severe in the global south, especially among recipients of Chinese vaccines.”

Regarding the carrier of the relationship, the controversy surrounding the lifting of China's restriction, especially the travel policies, the narrator described it as a "row" and "spat," which generates the label of China as an "initiator of trouble." Their emotional expressions prevail over rational analysis. On the other hand, for European governments, they are "less overtly critical" toward China's approach to COVID. The negation of the negative description suggests that they are less overtly critical but in nature critical given China's devotion to them in 2020 and the profits Chinese tourists may generate for them. A similar way of description was also applied in Example 8. The arrogant and hypocritical perceptions of the European countries and a wavering attitude toward China's approach are showcased.

Example 9: "China is essential to such efforts because of its vast population, wildlife trade, and large numbers of coronavirus-bearing bats." (referring to the efforts to prepare for the next potential pandemic)

Additionally, as shown in Example 9, given the fact that the outbreak of coronavirus has nothing to do with wildlife and bats <sup>[19]</sup>, those three factors obscure the cause of coronavirus and mislead the audience over the falsehood that China's bats contribute to the pandemic.

#### 3.1.1.4. Mental process

The mental process is a process of expressing mental perceptions, such as perception, reaction, and cognition, consisting of the Senser and the Phenomenon <sup>[15]</sup>. The Senser's inner states, attitudes, and values can be discovered through the analysis of the mental process.

Example 10: "Some detect a similar timbre in China's recent diplomacy, including with countries long in Mr. Xi's bad books."

Example 11: "...when it was largely isolated from the outside world and saw attitudes toward it hardening in America and many other democracies."

Example 12: "Few believe that Mr. Xi's shift in tone implies a substantial rethink of policy, especially on core issues like Taiwan."

Most of the mental processes are associated with the reopening policy and diplomacy, reflecting western media's unconvinced perceptions of them. In their opinion, the three-year zero-covid policy of China destroyed the foreign relations with other countries. As indicated in Example 10, "countries long in Mr. Xi's bad books" suggests that China is to blame for the poor state of relations with those countries, and China's recent keen attitude toward diplomacy implies their precipitation to repair the relationship by the underlined expression in Example 10. Even their view of breaking up China is mentioned without scruples.

#### 3.1.2. Voice

Voice can be divided into active voice and passive voice. In general, the passive voice is more objective. However, passivization, along with nominalization, conveniently disguises causality and the initiator of action <sup>[20]</sup>. In Example 11, the initiator of the action of isolation is blurred, and the sense of an isolated state is augmented. This state is deemed hard to change, implying that the three years of isolation from other countries is difficult to change.

#### 3.2. Nominalization

Halliday proposed the concept of grammatical metaphors in systemic functional linguistics. Nominalization

is a type of grammatical metaphor where adjectives or verbs are turned into nouns or conjunctions into verbs, without losing their meanings. Through the deletion of the component of modality, the blurring of the concept of time, and the covering up of causality as well as the initiator of action, the impersonal effects of nominalization are created <sup>[16]</sup>. Consequently, the subjects are labeled and permanently belong to some attributions.

Example 13: "...his reluctance to share more complete data on the wave of covid-19 ripping through the country."

Example 14: "...the WHO says China's lack of transparency makes them understandable."

Example 15: "Nor will Mr. Xi's withholding of covid data help to reverse the deterioration of public attitudes to China in Europe..."

Regardless of the authenticity of the news, those nominalized expressions of China's sharing of data implicitly add the attribution of permanence to its behavior, and the concept of time also fades away, vilifying the image of the Chinese government and emphasizing the disavowal of China's efforts and world contributions to fight against the pandemic.

#### 4. Conclusion

Applying Halliday's systemic functional linguistics, the first commentation on China's reopening policies in *The Economist* is analyzed based on transitivity, voice, and nominalization. After China lifted its zero-COVID policy, western media began criticizing China's lack of data sharing, with some misinformation and misleading reports. The denouncement of inertness and the reluctance of fighting against the pandemic disclaim the Chinese government's efforts and depreciate China's image. China is portrayed as the villain and destroyer of people's health worldwide. Meanwhile, western media also hold a hesitant attitude toward China's diplomacy. China's re-engaging with foreign countries and travel restrictions are described as imprudent and rushed actions, and they also consider China as the fuse of contradiction in the UN. What is overt is their intention of breaking up China.

#### Disclosure statement

The author declares no conflict of interest.

#### References

- [1] Liu J, 2022, On the Significance of The Economist for China's International Communication Capacity Building. Publishing Reference, 2022(06): 20–23.
- [2] Fowler R, Hodge B, Kress G, et al., 2020, Language and Control, Routledge, UK, 3.
- [3] Chen H, 2017, Research on the Development Trend of TV Media in the Integrated Media Environment. Radio & TV Journal, 2017(08): 44.
- [4] The Economist: The World This Week, Data, Diplomacy and Disease, the Age of Grandma and More, 2023, viewed on March 6, 2023, <https://daily-the-economist.com/the-economist-the-world-this-week-data-diplomacy-and-disease-the-age-of-grandma-and-more/>
- [5] Sun H, Lu Q, (eds) 2022, From January 8, 2023, "Class B and B Control" Will Be Implemented for New Coronavirus Infection, viewed on March 6, 2023, <http://health.people.com.cn/n1/2022/1227/c14739-32594152.html>

- [6] Cui Y, 2006, The Economist: “The Best of the Best”. Youth Journalist, 2006(19). Viewed March 6, 2023, <https://mall.cnki.net/magazine/article/QNJZ200619034.htm>
- [7] Jiang X, 2003, An Effective Approach to Critical Discourse Analysis – Functional Grammar. Academic Exchange, 2003(07): 132–135.
- [8] Yang Y, 2018, Analysis of Ecological Discourse in News Reporting from a Systemic Functional Perspective. Journal of Beijing International Studies University, 40(01): 33–45.
- [9] Huang G, 2001, Issues on Functional Discourse Analysis. Foreign Language and Foreign Language Teaching, 2001(12): 15–19.
- [10] Lihan K, 2020, Systemic Functional Grammar Analysis of News Reports of Li Wenliang Incident. Advances in Language and Literary Studies, 11(5): 12–16.
- [11] Halliday MAK, 2000, An Introduction to Functional Grammar. Foreign Language Teaching and Research Press, Beijing, 14.
- [12] Zhang X, Zhang S, Li X, 2011, Critical Linguistic Analysis of U.S. Media Reports on China. Journalism Lover, 2011(09): 50–51.
- [13] Liu X, 2014, The Analysis of Transitivity of Obama’s Graduation Speech. Journal of Language and Literature Studies, 2014(9): 18–19.
- [14] Jiang Y, 2019, A Critical Discourse Analysis of Reports from the U.S. Mainstream Media on the Political Report at the 19th NCCPC. Foreign languages and Literature, 35(04): 10–16.
- [15] Hu Z, Zhu Y, Zhang D, 2017, Introduction to Systemic Functional Linguistic, Beijing University Press, Beijing, 79–80.
- [16] Xin B, 1996, Language, Rights and Ideology: Critical Linguistic. Modern Foreign Languages, 1996(1): 21–26.
- [17] Dong Y, Wang J, 2012, Critical Discourse Analysis of English News. Journal of Hubei University (Philosophy and Social Science), 39(02): 133–136.
- [18] Jiang Y, 2022, Critical Discourse Analysis of English News Discourse from the Perspective of Transitivity – Taking Reports from the New York Times on China’s Combat Against COVID-19. Journal of Hubei University of Science and Technology, 42(02): 83–89.
- [19] Pereira MJR, Bernard E, Aguiar LMS, 2020, Bats and COVID-19: Villains or Victims?. Biota Neotropica, 20(3): e20201055.
- [20] Wang Y, 2009, Critical Discourse Analysis of Political Discourse Translation. Shanghai Journal of Translation, 2009(3): 23–27.

**Publisher’s note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

# Transmission and Development of Musical Art

Tianchang Li\*

Orange County School of the Arts, Diamond Bar 91765, US

\*Corresponding author: Tianchang Li, frankli9469@gmail.com

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** American music has developed over a relatively long period of time, but it was only in the early part of the last century that it developed a unique style that has an important place in the musical development of the world. The American environment has seen the formation of different ethnic and national music, as well as different musical styles, which have influenced and blended with each other to promote the development of American music. American modern music has gone through several stages of development, and it has not only formed a certain influence on the local American culture but also influenced the development of music throughout the world. This paper analyzes the heritage and development history of musical art and explains its influential role.

**Keywords:** Musical art; Heritage; Development; Influence role

**Online publication:** June 30, 2023

## 1. Introduction

Art is an amazing art form that can create an obsession and have a huge impact on people's emotions. A group of leaders emerge from different eras in the development of art, such as Lionel Messi who is a great leader in soccer, and Monet who is a leader in abstract painting, where these people will be remembered and continuously discussed by the world. A leader needs to be recognized by most and be rare in his or her talent in a particular field. Jimi Hendrix, who appeared in various music and art ranking lists, is considered one of the leaders in musical development as the Rolling Stones ranked Hendrix the greatest guitarist of all time, and the Rock and Roll Hall of Fame described him as the greatest instrumentalist in the history of rock music. Whilst it is unknown how he achieved a huge influence within four years and became a legendary icon in the music industry, his influence on musicians is clear for all to see. After dropping out of school at the age of 16, he became a paratrooper to join the army and was then wounded forcing him to leave the army. Waking up with a childhood dream of playing the guitar, he traveled through many towns and cities where his fame grew along with his playing and he gained a large musical audience during a special cultural period in America. This speaks volumes about the influence of music.

## 2. Path of inheritance and development of musical art

### 2.1. Heritage and development of Western classical music

Western classical music is one of the classical music repertoires inherited to this day, and the definition of classical suggests that the music has undergone a long historical development, forming a cross-generational heritage that is then passed down to modern times, indicating that the music works themselves have a relatively strong infectious power. Throughout the years of classical music inheritance and development, it was found that the memory and form of the music need to be restored and then combined with people's life

points in order for the music to become a carrier of people's emotions. One of the examples of the music development flow and the direction of inheritance is the incorporation of modern musical elements into the core of classical, generating a form of music with modern characteristics that meet the aesthetic needs of contemporary people while stimulating people's interest in classical exploration.

Jenn Cheng, a soprano singer, is skillful in interpreting the musical works of the Baroque era. Despite the Baroque music being relatively homogeneous, the performers were given more creative freedom and could draw upon their imagination to the fullest, as well as resonated better with the audiences through the integration of emotions. Jenn Cheng, who is obsessed with modern music and musical instruments, believes that the composers of the Baroque period would be very interested in current electronic music devices, which allow various possibilities and outcomes. The synthesizers and Midi controllers in modern music realize the combination of technology and music, allowing simple harmony with few tones to be derived into complex harmony with thousands of tones, which the composers of the Baroque era could not achieve. In the creation of his electronic opera, he extensively applied electronic elements to form a collision of pop and classical through the bold fusion of operatic and electronic elements, breaking people's conventional perception of classical and dazzling their ears.

## **2.2. Heritage and development of Western rock music**

Jimi Hendrix was a genius among guitarists, who, like most rock music stars, had the experience of having an expulsion from school and premature exposure to society and music. He started by accompanying singers like Tina Turner or playing guitar with other musicians, but it did not take long for him to create an opportunity and formed his own band with a bassist and a drummer while obtaining financial appointments. The sound of his guitar could be heard constantly in the recording room, and the new rise of fascinating, passionate, spirited, and raw rock music was then spread far and wide across the Western world, which the music at the time was predominantly quiet and subtle, thus Jimi Hendrix quickly became popular and his singles quickly took over the major pop charts <sup>[1]</sup>.

Jimi Hendrix has driven the rapid development of rock music with his virtuosity and skillful guitar techniques. His guitar became a part of him where he can express any emotions and the sound of the guitar integrated with his breathing and motions as similar as the duet between two lovers. He used his creativity and imagination to fuse the sound of the guitar with jazz and blues music. Through the guitar's feedback tone, distortion, and other sound effects, combined with a passionate voice, he created many songs that formed a unique brand of the time. A musician's constant innovation after a musical art has reached its extreme, as is the case in any era of musical development, and this is the main reason for the inheritance and development of the musical era <sup>[2]</sup>.

## **3. Impact of music and art**

### **3.1. Impact of basic resources**

The United States is a country with close colonial ties and has a large number of black residents, who provide important cultural resources for the development of American popular music. There are significant differences between black music, music that are produced or inspired by people of African descent, and traditional Western music, as the soul of black music is integrated into the ethnicity and bloodline. For example, the "rapping" in black music is formed by fast-paced vocal delivery which incorporates rhyme and rhythmic speech. It is a unique form of music that incorporates screams, shouts, sighs, and murmurs, which allows the rapping to be maximized and delivered in the absence of musical accompaniment. Other genres of music such as R&B, soul, and jazz are then derived <sup>[3]</sup>.

Jazz music was initially developed during the Civil War when the warring armies were wandering around in various areas and left behind various musical instruments, which were brought along during the

war and combined with black music after the blacks came into contact with these instruments. Military drums and trumpets were the main instruments in early jazz music, whereas bass, keyboard, and guitar were gradually added as jazz music develops. The melodic rhythm in black music is based on the natural perception and nature of people with unrestricted expression, and the cost of music production is low, leading to a very strong mass base and rich cultural resources <sup>[4]</sup>.

### **3.2. Impact of music production**

Adequate musical resources are essential to facilitate the production of musical culture. Berry Gordy, a gifted songwriter, and a retired record executive and producer, started as a boxer before he produced recordings of his compositions and founded the Motown record label. The products released by Motown were mainly pop music, and the company set clear standards for music production, including melodies that were memorable and emotive, and simple stories with deep emotions. It is guaranteed that the listeners can feel the development of the story after hearing the songs. At the same time, the singers' breaths should be smooth and clear, and the artists' form and etiquette are trained to ensure a generous demeanor while ensuring great room for improvement and development.

### **3.3. Impact of media capital**

The development of information technology has been characterized by rapid changes, from the traditional newspapers and periodicals, gradually developing in the direction of television, movies, and online media, promoting the dissemination of information to the world. With the addition of capital and the effective combination between technology and capital, pop music has formed a unique ideology. The lyrics and emotional connotations of American pop music are worthy of a closer look. The development of Motown has a direct relationship with bubblegum music, a combination of rock and pop music in a catchy and upbeat style, in which the narrative of love songs is dominant and does not affect social rules that are allowed to be broadcast on various platforms. The development of the capitalist system and the development of songs have driven group competitions to the oligarchic form of the development industry <sup>[5]</sup>.

### **3.4. Development of the whole industry chain**

The development of popular music has given rise to a variety of industrial models, which are flexible in structure and rich in content while being very innovative. In the direct development of the industry chain, peripheral products are developed and activities such as advertising and endorsement are organized based on the celebrities. Through echoes between musical art and other arts, a coordinated ecosystem and development model is formed to enhance the discourse of music. Pop music began to gradually form a cross-over with musicals, paintings, movies, and other arts. At the same time, the combination of pop music with popular culture and art made pop music acquire a more elegant identity and form a noble temperament. One of the more famous representatives was Elvis Presley. Despite Elvis Presley being white, he showed a very elegant charm in singing black music, and his music was popular all over the world, which was directly related to the high discourse power of the United States at that time.

### **3.5. The heartfelt expression of popular music**

The main reason for the far-reaching influence of American popular music is that music can better express the hearts of listeners. Regardless of nationality and ethnicity, the flow of emotions could be felt. In the mid-20th century, the leaders of popular music in the United States were predominantly blue-collar Southerners and blacks, and there was not much media available at the time to convey the voices of these grassroots societies. However, the development of American popular music in the 20th century effectively transformed this situation, where musicians could express their beliefs through music and spoke about the



social and political issues of the time. Hence, pop music in the United States was abhorrent to the government at the time, as they feared that it would shake the nation due to the music's nature, which also illustrates the influence and appeal of music. The anti-war wave of American youth in the 1970s was a prime example of pop music's guidance. Thus, American pop music opponents commented on music as a special form of colonialism, indicating the influence of American music not only on the form of art but also on politics.

#### **4. Conclusion**

In conclusion, the heritage and development of American music have been passed down and developed in different ways, where it is necessary to be led by a leading figure. A unique form of music is created through the fusion of music and composition, which is then gradually promoted to the world. Meanwhile, the development of music can be influenced through the enrichment of musical and cultural elements as well as creative methods, in combination with the social environment and other factors. Music, in turn, can also react to other levels of society, forming a spiritual and political leadership, which also plays an important role in the development of American music.

#### **Disclosure statement**

The author declares no conflict of interest.

#### **References**

- [1] 2011, Jimi Hendrix, in UXL Biographies, UXL, Michigan, viewed April 5, 2023, <https://link.gale.com/apps/doc/EJ2108101029/SUIC?u=sant9992&sid=bookmark-SUICd=9d44b272>
- [2] 'Castles Made of Sand': Racial Ambiguity and Mid-Twentieth Century American Musicians: Racial Ambiguity in the Age of the Popular Counterculture: Jimi Hendrix, n.d., viewed April 05, 2023, <https://scalar.usc.edu/works/castles-made-of-sand-racial-ambiguity-and-mid-twentieth-century-american-musicians-1/racial-ambiguity-in-the-age-of-the-popular-counterculture-jimi-hendrix>
- [3] Sorrell JR, 1994, Woodstock: The Creation and Evolution of a Myth, thesis, University of Nevada, 394.
- [4] Pernu W, 2021, STAR SPANGLED BANNER - Jimi Hendrix at Woodstock: The Anthem of a Generation., The Official Jimi Hendrix Site, viewed April 05, 2023, [www.jimihendrix.com/editorial/star-spangled-banner-jimi-hendrix-at-woodstock-the-anthem-of-a-generation/](http://www.jimihendrix.com/editorial/star-spangled-banner-jimi-hendrix-at-woodstock-the-anthem-of-a-generation/)
- [5] Cavett D, 2019, Jimi Hendrix on Performing the National Anthem at Woodstock: The Dick Cavett Show, viewed April 05, 2023, [www.youtube.com/watch?v=VGf9PTYyJ4A](http://www.youtube.com/watch?v=VGf9PTYyJ4A)

#### **Publisher's note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

# Contrast and Fusion: The Role of Regional Culture in Shaping Jiangsu Paper-Cut Art

Yan Gu\*

Nanjing Vocational College of Information Technology, Nanjing 210023, Jiangsu Province, China

\*Corresponding author: Yan Gu, [guyan@njcit.cn](mailto:guyan@njcit.cn)

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** The Chinese paper-cut art, first recorded in the Wei, Jin, and Southern and Northern Dynasties (220 AD–589 AD), has witnessed the changes of times, yet it still retains its artistic vitality. Chinese papercuts can be divided into two schools: the northern and the southern. Jiangsu, located in the region of the Yellow River and Huai River, is the geographical dividing line between those two schools. Therefore, in Jiangsu Province, not only the rough northern art form (such as in Xuzhou papercut) but also the graceful southern art form (such as in Jintan papercut) is evident. In addition, the unique combined paper-cut style (such as in Yangzhou and Nanjing papercuts) can be appreciated here. Although several scholars have analyzed the artistic characteristics of Jiangsu papercut based on cultural background, very few have discussed the differences between the northern and the southern in terms of content, connotation, and style. Through literature review and collected works made by local craftsmen and inheritors of this tradition, this article aims to show readers the contrast and integration of papercuts in these four places under the influence of different cultural and economic backgrounds in order to better understand the role of regional factors in shaping the art form of papercuts in Jiangsu Province. Nowadays, with the change in people's lifestyles, the living space of traditional papercuts has shrunk drastically, and its practicability in the past has faded. Instead, people are searching for and creating cultural and artistic value in museums, tourist attractions, and commodity transactions. Among them, some works have deviated from the cultural background of traditional paper-cut art. Therefore, this paper provides a basis for the current development of this art form in Jiangsu.

**Keywords:** Chinese papercuts; Jiangsu papercut; Regional cultural background; Comparison; Integration

**Online publication:** June 30, 2023

## 1. Introduction

Chinese papercuts, in their true sense, matured with the remarkable development of the paper-making industry in the Wei, Jin, and Northern and Southern Dynasties (220 AD–589 AD). The quality and quantity of paper improved during these dynasties compared with that of the Han Dynasty when it was first created [1].

Paper-cut art is not only economical and easy to learn, but also infused with the spiritual appeal of its maker. It is also well-known for its unique regional characteristics. Chinese papercuts can be divided into two schools: the northern and the southern. Northern papercuts, represented by Shandong and Shanxi Province, possess a bold and generous style, while southern papercuts, represented by Guangdong and Fujian Province, have a delicate style. A large number of paper-cut works and documents provide a basis for the theoretical research of this art form with different regional characteristics. Jiangsu Province, located in the middle region between the north and the south, has different cultural characteristics from the north, the south, and central areas. These differences affect the development of paper-cut art in the province.

Xuzhou (in the northern part of Jiangsu) papercut reflects the northern spirit, and its main production tools are scissors; Jintan (in the southern part of Jiangsu) paper carving reflects the intricacy of southern craftsmanship, and its production tools are knives with hollow details. However, Yangzhou and Nanjing (in the central areas of Jiangsu) papercuts exhibit the unique feature of the coexistence of simplicity and intricacy. They demonstrate the decisive significance of local cultural factors in shaping the art form. This influence continues in the current development of Jiangsu papercut and also in its derivatives and integration with contemporary design.

## 2. Northern and southern schools and styles

The appeal of Chinese papercuts lies in their striking simplicity, where no paint or brush is needed; only a scissor or knife and a piece of paper are required. Papercutting is an art form that has been commemorated in China for more than 1,500 years. Among the numerous folk arts in China, the influence of papercutting on other art forms and the diversity of its own styles reflect the depth of its roots in popular culture <sup>[2]</sup>.

The earliest papercuts had to do with ancient traditions and beliefs. From the Wei (220 AD–265 AD) and Jin Dynasties (265 AD–420 AD), papercuts were symbolized as money burned during funerals. The popularity of folk papercut began in the Sui (518 AD–618 AD) and Tang Dynasties (619 AD–907 AD) <sup>[3]</sup>. Since then, regional characteristics have constantly developed and evolved under different regional cultural backgrounds related to different geographical locations, thereby forming the northern and southern papercut styles. Although Chinese papercuts share similarities in certain aspects, such as auspicious images, legends, folk tales, characters, production tools, and steps in making, there are differences in cultural connotation and expressive techniques under the influence of different cultural backgrounds.

A typical example of the southern paper-cut style comes from Yueqing, a county in Wenzhou, Zhejiang Province (in the northern area). Yueqing is located on the southeast coast of China. Since the Southern Song Dynasty (1127 AD–1279 AD), foreign trade and overseas exchanges have been frequent, and the handicraft industry and commerce have developed. The worship custom of the dragon god and sea god has long existed. Yueqing paper carving is the witness of the fusion of OuYue folk custom, marine culture, commercial civilization, and auspiciousness. It is the most important part of the local intangible cultural heritage decorated dragon lanterns, which are displayed during the lantern festival to pray for a safe and smooth-sailing year. Therefore, Yueqing paper carving is also called “Longchuanhua” (decorations on the dragon lantern). Since Yueqing is surrounded by mountains and sea, its people not only appreciate the gifts brought by the sea in the process of understanding, utilizing, and protecting the sea but also fear its power. They hope to express their gratitude through a certain medium to dispel dread and pray for protection from the sea god. Therefore, some of the contents in Yueqing paper carving are related to coastal life, such as fish scales, fishing activities, and symmetric fish patterns <sup>[4]</sup>. Under the influence of the fishery culture “Jing Shi Zhi Yong” (Applying to the World), craftsmen have defined Yueqing paper carving as “Seiko,” owing to the extreme detail of the paper carving. Yueqing paper carving is equated with micro-carving in the Chinese paper-cut circle. Its craftsmen can carve 52 lines in an area of one square inch, and it takes more than 10 days to carve an area the size of an ordinary bowl (**Figure 1**) <sup>[5]</sup>. Yueqing paper carving is one of the most brilliant representatives of Chinese northern papercuts with extreme intricacy.

As for the northern style, Shaanxi papercut is the most representative. Shaanxi, the cultural birthplace of the Chinese nation, has thousands of years of cultural precipitation, with thirteen dynasties founded here. Shaanxi traditional papercut holds the reputation of national parental art and living relic. Although it is divided according to the three regions northern Shaanxi, Guanzhong plain, and southern Shaanxi, where different individual works have emerged, its thick and rough characteristics are unique compared with other places in China. Two main factors contribute to its characteristics. First, its papercut is influenced by ancient totem worship culture. Shaanxi is the birthplace of Yangshao culture, whose ancestors migrated along the

Yellow River. At that time, the rich regional environment nurtured the Huaxia tribes, accumulating the Xia, Shang, Zhou, and Qin cultures. Totemic cultural and related graphic connotations have been handed down to this day. For example, fish and frogs represent a strong ability to reproduce in totemic culture. In traditional Shaanxi papercut, other than individual fish and frog shapes, many works combine a human's face with a fish or a frog. In addition to expressing admiration and worship, these works reflect people's desire for this power to come upon them and bless their families. They are, in fact, manifestations of totemic personifications <sup>[6]</sup>.



**Figure 1.** Eight-cornered fish, designed by Kezhengming and made by Chenzhaofen in 1956, measuring 12.5 cm (width) × 12.5 cm (length). The outer part is engraved with patterns of shoe flowers, squirrels, and grapes; the middle part is engraved with a fine pattern of dragon boat flowers; while the inner part is engraved with a figure of two fishes.

In many Shaanxi paper-cut works, anthropomorphic fish and frogs appeared on other carriers, such as women's skirts and children's belly bands (**Figure 2**). Another example is "zhuajiwawa" (a doll with a pigtail). These dolls are believed to be omnipotent, and in papercuts, they are seen wearing a double bun or carrying chickens on top of their heads. In old times, "zhuajiwawa" can be seen in various witchcraft activities, which are believed to play a role in exorcising evil spirits and reviving the dead. On the other hand, the Han Dynasty culture and its stone relief have shaped the distinctive artistic characteristics of Shaanxi traditional papercut. Although they are created at different times, through different media, and with different forms of expression, there is consistency among them. The stone relief of the Han Dynasty (202 BC–220 AD) is the forerunner in the evolution process of Shaanxi papercut. Four hundred years of civilization have shaped the brilliance and stability of their design. The stone relief is derived from the custom of Han burial. The Han Dynasty tombs attempt to create a universe with human vicissitudes. Its constituting elements include picture bricks, stone reliefs, and frescos, which not only complete the decorative function but also reflect the humanistic style under the influence of the Han culture. It is also the source of characteristics of Shaanxi papercut featuring a style that is primitive, generous, and rough <sup>[7]</sup>. For example, "GenNiuTu" (Tilling a Cow) by Baifenglan (1920–1990) of Ansai, Shaanxi Province, shows a farmer driving an ox with a whip and plowing a field. Above it, there are two phoenixes on peony branches. Its shape is similar to that of the Han stone relief "NiuGenTu" (Cow Cultivated Land) unearthed in Suide, northern Shaanxi (**Figure 3**). Therefore, whether it is the influence of the original totem worship or the infiltration of strong Han culture, it plays an important role in shaping Shaanxi papercut with the cultural characteristic of the central plain.



**Figure 2.** From left to right: salamander, fish head, fish mermaid. Pictures are taken from *Exploration and Research on the Traditional Folk Paper-Cut of Shaanxi Province*.



**Figure 3.** From left to right: “GenNiuTu” (Tilling a Cow) by Baifenglan (1920–1990) of Ansai; “NiuGenTu” (Cow Cultivated Land) unearthed in Suide, northern Shaanxi (1962). Pictures are taken from *Exploration and Research on the Traditional Folk Paper-Cut of Shaanxi Province*.

### 3. Cultural background of Jiangsu folk papercut

Through an analysis of the cultural background of the north and south, we can clearly tease out the different characteristics of Chinese traditional paper-cut art influenced by regional culture. This is more prominent in Jiangsu, owing to the cultural background of different regions in the process of historical development. The obvious cultural difference, which is caused by the special historical and geographical administrative planning, forms the unique cultural characteristic of Jiangsu Province. While linking the north and the south geographically, it also connects the northern and southern cultures that are vividly reflected in the art form of Jiangsu papercut. Located in the Huaihe River basin on the north and influenced by the Chu and Han cultures with the same origin as Shaanxi, Xuzhou papercut excels at using the combination of thick and thin lines [8]. Jianghuai papercut, represented by Yangzhou and Nanjing in the middle region of Jiangsu, boasts vivid shape, neat composition, picturesque literature character, and rich decoration, integrating the features of northern and southern papercuts. While Jintan paper carving is similar to Yueqing paper carving in terms of technique, it is known for its water-township style [9]. From the north to the south, the changes in Jiangsu paper-cut style can be summarized as the coexistence of a strong contrast and a mild merge. We can explore their characteristics, mutual influence, and differences from the specific paper-cut works in Jiangsu.

### 4. Xuzhou papercut and rough culture

Although geographically distant from Shaanxi, Xuzhou is also influenced by the Han culture. Xuzhou is the hometown of Liubang, Emperor Gaozu of the Han Dynasty. After the establishment of the Chu Empire that took Xuzhou as the center, there were thirteen generations of kings. Most of the nobles and high officials lived here. They enjoyed supreme power and wealth during their lifetime and hoped to continue this lifestyle after death. As a result, the burial culture was valued as much important as that of Shaanxi,



and the forms of stone bricks, stone reliefs, and wall paintings were also similar. Xuzhou papercut has rough and primitive yet artistic characteristics inspired by the Han stone relief. Although the materials used are different, there are certain similarities between Xuzhou papercut and local Han stone relief in terms of content, composition, and shape.

Xuzhou Han stone relief mainly revolves around traveling by car and horse, cooking and drinking, as well as textile life <sup>[10]</sup>. Xuzhou papercut, on the other hand, mainly revolves around life scenes, including chickens, ducks, cattle, sheep, and horses, farming, and textile production. A local Han stone relief and papercut are shown below, both of which reflect the scene of production and labor. The left diagram depicts a scene of people fishing and hunting. The people in it were with a hooked net, cormorant fishing in the water. The right diagram shows a work by Wangguiying (1940–present), the inheritor of Xuzhou paper-cut art tradition. It depicts a labor scene of a farmer leading two cows. Although the subject contents of labor are different, these two works are related to production and life in a similar naive and generalized form (Figure 4).



**Figure 4.** The left picture shows a Han Dynasty rubbing of fishing and hunting (160 cm in length and 39 cm in height), from the Han Dynasty Portrait Gallery, Yi Shin Zhai. The right picture is taken from *Wangguiying Paper-Cut*.

In terms of composition, Xuzhou papercut is often symmetrical. The production of works focuses on symmetry and the center of the axis to realize the mutual symmetry of all sides, up and down, and left and right. In this way, the works are neat yet generous and simple yet beautiful, with rigorous composition. Meanwhile, it pays attention to the separation of the picture and more comprehensive display <sup>[11]</sup>. The Han Dynasty stone relief of Xuzhou is full of images with complete composition, layered narration, and scattered perspective <sup>[12]</sup>. Both of them have the characteristics of being “complete,” and the objects and images in the works fully reflect the changes in time and space. In the following works, the Han stone relief on the left carries the theme of cooking for a banquet. The work is divided into three layers. At the top, seven guests are kneeling in line, as if talking with each other, while on the right side, attendants are holding fan-shaped objects. In the middle layer, a singing and dancing scene can be seen, where drums are placed in the middle, with dancers dancing around it; two with sticks and mallets are playing drums, while four are performing around the drum, holding a harp and doing somersaults. At the bottom, a scene of cooking in the kitchen can be seen. The whole work organizes the contents of different spaces together and presents the composition of layering and symmetry. The paper-cut work on the right was made by Dingyunlan (1949–present), who was born in Huaibei. Huaibei, a city north of Xuzhou, is historically influenced by the Chu and Han cultures. Dingyunlan once mentioned that the stone relief provided inspiration for her paper-cut works, which often depicted scenes of farmers working. Her work can be divided into five parts from up to down. The figures on top are similar to the figures in the upper layer of the stone relief. The second part shows people chatting, the third and fourth parts are production scenes, and the fifth part shows trees and people standing by it. The whole work uses symmetrical composition, as well as space and time isomorphism; it is full and has rich patterns. Therefore, the similarity in composition between the two cannot be denied <sup>[13]</sup> (Figure 5).



**Figure 5.** On the left is a Xuzhou Han Dynasty stone relief. The picture is taken from *Through Han Stone Relief to Experience the Society and Life of Xuzhou*. On the right is a papercut by Dingyunlan (1949–present). The picture is taken from *Research on the Connotation of Folk Art*.

In terms of form, Xuzhou papercut disregards the proportion relation between big and small objects and is not restricted by space, time, and place. Similar to Han stone relief, which is presented as a complete block relief with clear outlines, the lines in Xuzhou papercut are fine, and the block surface is thick and clear. All of the aforementioned aspects demonstrate that Xuzhou papercut is closely related to the art of Han stone relief in terms of content, composition, and form. The Han culture explains the regional characteristics and cultural roots of Xuzhou papercut.

## 5. Jintan paper carving and exquisite culture

Jintan paper carving incisively and vividly reflects Jiangnan (the northern part of the Yangtze River) styles. Jintan, known traditionally as Jiansha, Jianshan, or Liangshan, is affiliated with Changzhou City, Jiangsu Province. In terms of geographical location, Jintan is in the south of Jiangsu Province, surrounded by hills and mountains to the west and Taihu Plain to the east. The abundant water and soil and mild climate offer unique natural conditions for local agriculture, forestry, animal husbandry, and aquaculture. The people of Jintan have long lived self-sufficient life. The rich material life triggered the introduction of paper carving in Jintan, one of the transportation hubs in the central area of the Yangtze River delta. The convenient land and water transportation has driven economic prosperity and cultural exchanges in Jintan and promoted the development of Jintan paper carving<sup>[14]</sup>. The cultural background of Jintan paper carvings is more diverse and complex than that of Yueqing's, although they are both paper carvings. First of all, Maoshan Academy in the Northern Song Dynasty (960 AD–1127 AD), Yuanyang Temple in the Dezong period of the Tang Dynasty (618 AD–907 AD), Jintan Test Court of the Qing Dynasty (1636 AD–1912 AD), Gulongshan Pagoda, and so on are of various periods with different styles and cultural connotations. Ancient buildings, especially ancient dwellings, not only provide a living space, as indoor and outdoor adornment for Jintan paper carving, but also reflects three kinds of culture and fusion, namely Confucianism, Buddhism, and Taoism. Secondly, popular local folk activities, such as the dragon dance in Ju Village of Zhixi Town, the fish-jumping lantern of Zhiqian Town, and the lantern festival in You Mountain, not only provide materials for the theme and content of paper carving in Jintan, but they also are ornamental carriers<sup>[15]</sup>. Thirdly, the Jintan lifting pavilion, which was established in the Ming Dynasty (1368 AD–1644 AD), has become a local folk activity with unique characteristics and an important carrier for paper carving. The pavilion is a large dynamic art form integrating acrobatics and traditional comedy. It is usually held at temple fairs when

performing activities with a grand scene. The pavilion is a wooden skeleton supported by a six-foot-long and five-foot-wide square base, on which the actors can stand to perform. In order to enhance it aesthetically, Jintan paper carving is used as decoration <sup>[16]</sup>. In addition, the tradition of dragon dancing is evident in Jintan. The dragon is made of bamboo stripes and decorated with leather cloth and paper carving. The theme is mainly auspicious patterns, imploring good weather to prevent disasters. The local people prefer to decorate their door frames with paper carving. This is called “Menjian” (paper-cut or paper-carving works used to adorn the upper door frame). With delicate and meticulous style, the theme is the same: dragon dancing decoration to pray for good fortune, ward off evil spirits, and prevent disasters (**Figure 6**) <sup>[17]</sup>.



**Figure 6.** On the left is a Menjian with an auspicious theme of lasting joy and luck (40 cm in width, 60 cm in height). On the right is Menjian with the theme of dispelling evils to bring happiness (50 cm in width, 103 cm in height). Pictures are taken from *Research on Paper-Carving in Jintan from the Perspective of Intangible Cultural Heritage*.

Jintan paper carving is in fact a transformation from papercutting. Owing to the need to participate in local folk activities and the management wits of the Jintan people, the demand for paper decoration keeps increasing. From the Qing Dynasty to the earlier Minguo period, not only there were many workshops but also apprentices in Jintan. Compared with scissors, carving knives can superimpose more than 20 pieces of work at a time. In order to increase the output and meet the increasing demand, the proportion of using carving knives naturally increased, creating more details in the process of making Jintan paper with a more delicate look.

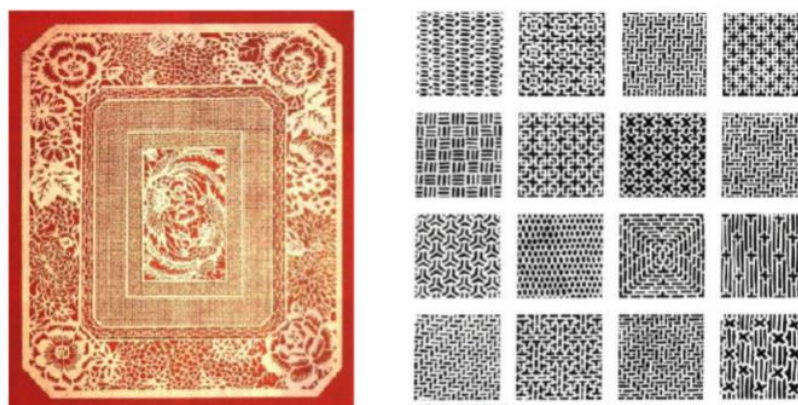
It is not difficult to find similarities between Jintan paper carving and Yueqing paper carving which comes from southern China. However, the size of the Jintan paper carving is larger, and the content focuses not only on traditional tales but also on the development of the times. In terms of composition, the Jintan paper carving frame is unlike Yueqing paper carving which is based on the symmetrical three-circle composition. The setting content of the border is variable, such as the shape of the lantern, the outline of the homeowner, the shape of the wall clock, and the shape of the Chinese traditional screen (**Figures 7–8**) <sup>[18]</sup>.

Compared with the decline of papercutting in northern Jiangsu, the contemporary promotion and acceptance of Jintan paper carving increased. It carries the southern delicate and beautiful characteristics and is quite different from the ancient and mellow Xuzhou papercut that is deeply influenced by Han culture. This fully demonstrates the differences in style and temperament of folk paper-cut art under the background of cultural differences between the north and the south of Jiangsu.





**Figure 7.** On the left is a Jintan paper carving with the theme of the medical scientist Wangkentang of the Ming Dynasty (45 cm in width, 74 cm in height), with no frame, based on the portrait composition. On the right is a Jintan paper carving with the theme of Master Puxue Duanyuzai of the Qing Dynasty (45 cm in width, 71 cm in height). Its border is decorated with a mirror contour. Pictures are taken from *Research on Paper-Carving in Jintan from the Perspective of Intangible Cultural Heritage*.



**Figure 8.** On the left is a Yueqing fine-grain engraved paper. Three-circle composition, the outer circle is a natural decorative pattern, the middle circle is a geometric pattern, and the inner circle shows two phoenixes playing on the lotus. The composition is influenced by the construction structure of the Yueqing dragon boat. On the right is the Dragon boat flower traditional pattern. Pictures are taken from *Research on Paper-Carving in Jintan from the Perspective of Intangible Cultural Heritage*.

## 6. Yangzhou and Nanjing papercuts and the integration of the northern and southern cultures

Yangzhou and Nanjing are located in the central areas of Jiangsu Province. Most of their paper-cut works are based on cutting skills, taking carving skills as a supplement. The style is unlike the rough style of Xuzhou and the fine carving of Jintan. Its degree of technicality is between the northern coarse cutting and the southern fine engraving. Since the two cities are adjacent to each other, they have inevitably influenced each other economically and culturally since ancient times. From the cultural origin and background of papercut, Yangzhou papercut developed earlier than Nanjing papercut. Although there are similarities in terms of shape and details, each has its own characteristics. Both are delicate, but the presented contents are different, owing to the cultural development of the two areas.

### 6.1. Yangzhou papercut

During the Tang Dynasty (618 AD–907 AD), Yangzhou was the transportation center for grain, grass,

money, and iron between the south and the north, as well as an important port for exchanges domestically and internationally. Its agricultural, commerce, and handicraft industry were relatively developed. As a result, a large number of handicraft industry workshops sprang up, making Yangzhou one of the largest metropolises in China at that time. These triggered the development of palace art, humanistic art, and folk art, as well as laid a foundation for the germination of its paper-cut art. In the Song Dynasty (960 AD–1279 AD), Yangzhou Gong paper (one of the traditional Chinese papers, yellowish, and used for literati painting) was produced in large quantities. The popularity of paper spread the paper-cut art to people in Yangzhou<sup>[19]</sup>. Especially in the Southern Song Dynasty (1127 AD–1279 AD), the custom of hollowing out metal for decorative use became the prototype of Yangzhou paper-cut art modeling. During the Ming (1368 AD–1644 AD) and Qing Dynasties (1636 AD–1912 AD), the practical use of paper-cut art expanded, especially in the application of colored lanterns and embroidery, accompanied by the emergence of many professional craftsmen<sup>[20]</sup>. In the Qing Dynasty, the development of the salt industry and grain transportation promoted the prosperity of commerce in Yangzhou. People began paying attention to their dressing and daily life, granting embroidery an appeal as decoration for costumes. In embroidery, the pattern must be drawn and cut first before gluing to the fabric. This is also the factor that drives the development of Yangzhou paper-cut modeling and skill<sup>[21]</sup> (**Figure 9**).



**Figure 9.** Some of the images of Yangzhou papercut are from embroidery patterns. On the left is an embroidery pattern, named Riverside Fishing Alone. On the right is a pattern by Zhangxiufang (1943–present), who is the 6th generation inheritor of Yangzhou paper cut, titled Shanshui (Landscape); it is 48 cm in width and 48 cm in height and was created in 2008. Pictures are taken from *A Study Imitating Painting Phenomenon of Contemporary Yangzhou Paper-Cut*.

The development of various crafts promoted by economic prosperity has contributed to the development of Yangzhou papercut. However, the literati painting of the Qing Dynasty, especially the painting style in and around the Yangzhou area, has the greatest influence on shaping the characteristics of Yangzhou papercut. Since the Ming and Qing Dynasties, some literati have participated in paper-cut creation. With higher cultural attainment, they prefer elegant literati poetry and painting themes, thereby constantly transforming local papercuts from simple, practical folk forms to ornamental forms. A large number of works with images of literati paintings such as flowers, birds, fish, insects, plums, orchids, bamboos, and chrysanthemums are present in the preserved Yangzhou papercut during that time<sup>[22]</sup>. For example, Baojun (fl.), a well-known Yangzhou painter in the Qing Dynasty, combined papercuts and literati painting with historic records and textual evidence<sup>[23]</sup>. He used scissors to shape flowers, birds, plants, fish, and insects and then utilized coloring and dyeing, which reflected his talent in Gongbi (traditional Chinese realistic painting skill)<sup>[24]</sup>. Baojun’s work, “Colored Birds and Insects” is exhibited in Zhenjiang Museum and combines cutting and painting, as well as cutting and calligraphy (**Figure 10**).



**Figure 10.** Works by Baojun. On the left is a cut-and-paste work titled “Iris and Dragonfly”; it is 27 cm in width and 31 cm in height. On the right is a cut-and-paste work titled “Blue Chrysanthemum and Katydid”; it is 27 cm in width and 31 cm in height. Pictures are taken from *A Study Imitating Painting Phenomenon of Contemporary Yangzhou Paper-Cut*.

This kind of cultural custom embodied in papercut has been inherited and carried forward in the modern Yangzhou Zhang’s family paper-cut inheritance. Zhangyongshou (1907–1989), the 5th generation inheritor of Zhang’s papercut, often visited Yangzhou Museum to appreciate the works of “Yangzhou Eight Oddities” (Yangzhou Ba Guai), which represents a group of painters and calligraphers with similar styles who were active in Yangzhou from the mid-Kangxi period to the late Qianlong period of the Qing Dynasty (1690 AD–1795 AD), also known as Yangzhou Painting School in Chinese art history. It had a great influence on modern Chinese flower-and-bird painting and promoted the comprehensive development of many crafts including papercutting <sup>[25]</sup>.

For example, the work “Fuqing” (Play the Zither) by Zhangmuli (1960–present), the 6th generation inheritor of Zhang’s papercut, is based on the work “Tingqintu” (Listening to Qin) by Zhaojie (1082 AD–1135 AD) of the Song Dynasty. In part of Zhangmuli’s work, we can see the image of a pine tree and ganymede similar to those in Zhaojie’s painting (Figure 11).



**Figure 11.** On the left is the work “Tingqintu” (Listening to Qin) by Zhaojie (1082 AD–1135 AD) in the Song Dynasty; it is 51.3 cm in width and 147.2 cm in height. On the right is the work “Fuqing” (Play the Zither) by Zhangmuli (1960–present). Pictures are taken from *The Story of Chinese Traditional Painting*.



## 6.2. Nanjing papercut

Nanjing is also a region where the cultures of the north and south of Jiangsu converge. It is known as the ancient capital of six dynasties. As it is adjacent to Yangzhou, its paper-cut style is influenced by Yangzhou, focusing on individual expression of soft beauty and intricacy in the overall shape. However, the shaping of the block surface is emphasized in the overall sketch, and the content of the papercut reflects folk customs and people's livelihood, similar to Xuzhou papercut. Therefore, it possesses some characteristics of the northern style. Being used exclusively by the royal family in the early Ming Dynasty, the popularity of Nanjing papercut was later than Yangzhou's <sup>[26]</sup>. Until the Qing Dynasty, Nanjing papercut gradually transitioned from royalty to ordinary people with a strong folk flavor. The book *Baixiasuoyan* (*Stories in Nanjing*) was written by Ganxi (1798 AD–1853 AD, a literati, goldsmith, and book collector in the late Qing Dynasty) during the rule of Daoguang Emperor of the Qing Dynasty (1821 AD–1850 AD) recorded that on the fifteenth day of the first lunar month, the bustling streets are filled with brightly colored lanterns and trees, resulting from paper-cut decoration <sup>[27]</sup>. Based on folk cultural activities, the themes of Nanjing papercut include praying for good and dispelling evil. The content comprises folklore, fables, operas, auspicious patterns, and flowers. Its basic connotation is loving life, conveying emotions through the shape of patterns, and explaining meaning through the illustration of combined patterns <sup>[28]</sup>. However, this kind of folk feature is different from Xuzhou papercut, which takes the form of the Han Dynasty stone relief and reflects the busy life of farming. Under the influence of Yangzhou's literati culture, flowers, birds, fruits, and animals are generally taken and combined as one complete image. Reflecting on the pronunciation of traditional auspicious Chinese words expressed by the image, Nanjing papercut expresses good wishes for life with a plump and large surface, round shape, and exquisite details <sup>[29]</sup>. For example, the paper-cut work “Yuanyangxihe” (Mandarin Ducks Play Round the Lotus) had a shape of a large lotus leaf, with a pair of similar large mandarin ducks in the middle, accompanied by small lotus flowers and loose leaves. This kind of paper-cut shaped with small filling embodies the characteristics of Nanjing papercut with folk culture as the connotation of a set of multiple meanings in one, and the exquisite craft and complete block surface manifest the absorption of southern and northern Jiangsu paper-cut features (**Figure 12**).



**Figure 12.** Nanjing paper-cut work “Yuanyangxihe” (Mandarin Ducks Play Round the Lotus) by Zhangfanglin (1949–present), the 4th generation inheritor of “Jinlin Shengjian Zhang.” Pictures from *Zhangfanglin’s Declaration of National Intangible Culture Heritage*.

In general, Yangzhou and Nanjing papercuts show strong literati traits. Yangzhou papercut cleverly draws on the characteristics of Ming and Qing literati paintings, with a beautiful, clever, natural, and smooth image. Nanjing papercut relies on cultural accumulation and folk activities, with auspicious meaning as the theme. It is mellow and full, with smooth details and a distinct block surface. Both Yangzhou and Nanjing

papercuts reflect the merging of the northern and southern cultures in the rough and delicate collision process, as well as a summary and complex portrayal of northern and southern paper-cut art.

## 7. Conclusion

Different from the way of analyzing artistic characteristics in previous studies by taking each region as the research object, this article takes the northern and southern regions of Jiangsu as an example. Within the scope of Jiangsu Province, Xuzhou papercut has an obvious northern paper-cut style, with features expressing the theme of people's life and work, although the context of inheritance is unclear. The development history of Jintan paper carving is relatively late, but its birth and development have a strong economic and artistic pertinence; moreover, the commercial operation is relatively mature. Yangzhou paper-cut skills boast a comparatively long and mature history, with a clear inheritance pedigree and historical record, as well as an outstanding artistic style of literati painting. Yangzhou papercut has its own cultural characteristics, which differ from Xuzhou papercut in terms of generalization and roughness and Jintan paper carving in terms of grandeur and intricacy. It initially reflects the integration of the north and the south, similar to Nanjing papercut, which reflects the merging of the north and the south with a moderate style. Nanjing papercut is both coarse and fine. It not only shows lively folk taste but also forms its own unique composition and decoration style, granting it a vein of inheritance <sup>[30]</sup>. In this article, the cultural analysis of Jiangsu paper-cut art in four regions fully explains the role of regional culture in shaping art. In the process of informatization and urbanization, the development of Jiangsu paper-cut art is faced with huge challenges. Although there are paper-cut craftsmen and inheritors across the country who are striving to preserve this craft and culture, the changes in people's lifestyles have significantly weakened the utility of papercuts in practical and decorative aspects. For example, Xuzhou paper-cut works are mostly displayed in museums, while Yangzhou and Nanjing papercuts are finding ways to survive by combining the activities of local tourism with local culture promotion. Jintan paper carving is still on a path that explores industrialization. The way people are chasing a comfortable modern life inevitably causes a change in the content and form of traditional folk crafts, including folk papercut. However, papercut is not only a simple copy by tracing and using shapes and patterns; rather, it carries profound cultural connotations. Folk papercut is not just the papercut itself, but also the meaning contained with national cultural characteristics and emotions behind its image. In order to explore and broaden the style of paper-cut art and the direction of use, contemporary artists need to pay close attention to this aspect. Only in this way can we truly dig and reflect folk customs, so that the development of paper-cut art across China today will not be drowned in the flood of repetition and featurelessness.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] Zhang D, 1989, *Traditional Arts and Culture: The Art of Chinese Papercuts*, Beijing Language Press, Beijing, 1–2.
- [2] Chen J, 2007, *History of Chinese Folk Paper-Cutting*, Peking University Press, Peking, 91–95.
- [3] Wang X, 2013, *Lucky Motifs in Chinese Folk Art: Interpreting Papercut from Chinese Shanxi*, University of Illinois Press, United States, 1.
- [4] Huang B, 2017, *The Cultural Connotation and Graphic Evolution of Fine Grain Paper-Carving in Yueqing*. *Decoration*, 2017(01): 101–103.

- [5] Zhan L, Study on the Form Language of Yueqing Paper-Carving, thesis, Zhejiang Normal University, 9.
- [6] Xi'an Banpo Museum Compile, 1988, Ban Po Yang Shao Culture in General, Cultural Relics Publishing House, Beijing, 88–89.
- [7] Zhu K, 2009, Exploration and Research on the Traditional Folk Paper-Cut of Shaanxi Province, thesis, Jiangnan University, 10.
- [8] Li Z, Li T, 2009, Regional Characteristics of Chinese Folk Paper-Cut. Literary Theory and Criticism, 2009(05): 139–140.
- [9] Zhang L, Rong MJ, 2016, Preliminary Study on the Art Form of Jintan Paper-Carving. Modern Decoration Theory, 2016(08): 94–95.
- [10] Yang L, 2022, Through Han Stone Relief to Experience the Society and Life of Xuzhou. Ceramics Cultural, 2022(01): 6–9.
- [11] Yue P, 2020, Exploring the Art Form of Xuzhou Folk Paper-Cut. Beauty and Times, 2020(04): 47–49.
- [12] Liu Y, 2010, Analysis of Cultural Value of Xuzhou Folk Paper-Cutting. Popular Literature, 2010(01): 207–208.
- [13] Zhu X, 2021, Research on the Connotation of Folk Art. Shanghai Arts and Crafts, 2021(12): 26.
- [14] Bian H, 1991, Collection of Chinese local Chronicles, Jiangsu Fuxian Annals, Jiangsu Ancient Books Publishing House, Jiangsu, 169.
- [15] Ma C, 2019, Research on Paper-Carving in Jintan from the Perspective of Intangible Cultural Heritage, thesis, Jiangsu University, 84.
- [16] Jiantan Local Chronicle Office, Jintan Municipal Political Commission of Culture and History, 2007, Jintan and Its Stories, Fanzhi Publishing House, Beijing, 148–149.
- [17] Ma C, 2019, Research on Paper-Carving in Jintan from the Perspective of Intangible Cultural Heritage, thesis, Jiangsu University, 28–30.
- [18] Ma C, 2019, Research on Paper-Carving in Jintan from the Perspective of Intangible Cultural Heritage, thesis, Jiangsu University, 62–63.
- [19] Wang L, 2018, Study on Yangzhou Paper-Cut in Song, Yuan, Ming and Qing Dynasties. Beauty and Times, 2018(07): 33–35.
- [20] Liu J, 2013, Study on Yangzhou Paper-Cut Art, thesis, Hebei University, 15.
- [21] Gao H, 2009, Fine, Beautiful, Spirit, Elegant Yangzhou Paper-Cutting Art. MeiYuan (Beautiful Garden), 2009(10): 75–76.
- [22] Wang X, 2016, Yangzhou Paper-Cut in Latter-Day Times. Beauty and Times, 2016(06): 43–45.
- [23] Wang B, 2006, The History of Chinese Paper-Cut Art, Chinese Academy of Art Press, Hangzhou, 60.
- [24] Huang B, Cai X, 2019, The Cultural Implication of Zhangyongshou's Paper-Cut Art. Folk Art, 2019(11): 122–125.
- [25] Li C, 2021, A Study Imitating Painting Phenomenon of Contemporary Yangzhou Paper-Cut, thesis, Yangzhou University, 77.
- [26] Huang H, 2018, Study on the History and Present Situation of Paper-Cut Art in Jiangsu and Zhejiang Province, thesis, Northeast University, 12.
- [27] Gan X, 2007, Baixiasuoyan (Stories in Nanjing), Nanjing Press, Nanjing, 36.
- [28] He J, Zhang C, 2015, Study on the Characteristic of Nanjing Paper-Cut. Beauty and Time, 2015(03):

61.

- [29] Gu Y, 2021, Finding Way of Traditional Paper-Cut's Diversified Survival from the Factors of Local Origin – Taking Nanjing Paper-Cut as an Example. *Artist*, 2021(12): 90–94.
- [30] Cha Y, 2017, A Brief Analysis of the Artistic Style of Jiangsu Paper-Cut. *Art of Inner Mongolia*, 2017(09): 94–96.

**Publisher's note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

## Author Guidelines

Before your submission, please check that your manuscript has been prepared in accordance to the step-by-step instructions for submitting a manuscript to our online submission system. We recommend that you keep this page open for your reference as you move through the submission process.

If there are any differences in author guidelines between the print and online version, it is recommended that authors refer to the online version for use.

### Manuscript Format

*Journal of Contemporary Educational Research* accepts manuscript that is in MS Word or LaTeX format. All manuscripts must be written in clear, comprehensible English. Both American and British English are acceptable. Usage of non-English words should be kept to a minimum and all must be italicized (except for e.g. and i.e.) If you have concerns about the level of English in your submission, please ensure that it is proofread before submission by a native English speaker or a scientific editing service.

### Cover letter

All submissions for *Journal of Contemporary Educational Research* should include a cover letter as a separate file. A cover letter should contain a brief explanation of what was previously known, the conceptual advancement with the findings and its significance to broad readership. The cover letter is confidential and will be read only by the editors. It will not be seen by reviewers.

### Title

The title should capture the conceptual significance for a broad audience. The title should not be more than 50 words and should be able to give readers an overall view of the paper's significance. Titles should avoid using uncommon jargons, abbreviations and punctuation.

### List of Authors

The names of authors must be spelled out rather than set in initials with their affiliations footnoted. Authors should be listed according to the extent of their contribution, with the major contributor listed first. All corresponding authors (maximum 2) should be identified with an asterisk. Affiliations should contain the following core information: department, institution, city, state, postal code, and country. For contact, email address of only one corresponding author is expected within the manuscript. Please note that all authors must see and approve the final version of the manuscript before submitting.

### Abstract

Articles must include an abstract containing a maximum of 200 words. The purpose of abstract is to provide sufficient information for a reader to choose either to proceed to the full text of the article. After the abstract, please give 3-8 key words; please avoid using the same words as those already used in the title.

### Section Headings

Please number all section headings, subheadings and sub-subheadings. Use boldface to identify major headings (e.g. **1**, **2**, **3**, etc.) and subheadings (e.g. **1.1**, **1.2**, **2.1**, **2.2** etc.) For the sub-subheadings, please distinguish it further using non-boldface numbers in parenthesis (e.g. (1), (2), (3), etc.)



## **Introduction**

Introduction should provide a background that gives a broad readership an overall outlook of the field and the research performed. It tackles a problem and states its importance regarding the significance of the study. Introduction can conclude with a brief statement of the aim of the work and a comment about whether that aim was achieved.

## **Materials and Methods**

This section provides the general experimental design and methodologies used. The aim is to provide enough detail for other investigators to fully replicate your results. It is also required to facilitate better understanding of the results obtained. Protocols and procedures for new methods must be included in detail to reproduce the experiments.

## **Ethics**

Ethics information, including IACUC permit numbers and/or IRB name, if applicable. This information should be included in a subheading labelled "Ethics Statement" in the "Methods" section of your manuscript file, in as much detail as possible.

## **Results**

This section can be divided into subheadings. This section focuses on the results of the experiments performed.

## **Discussion**

This section should provide the significance of the results and identify the impact of the research in a broader context. It should not be redundant or similar to the content of the results section.

## **Conclusion**

Please use the conclusion section for interpretation only, and not to summarize information already presented in the text or abstract.

## **Conflict of Interest**

All authors are required to declare all activities that have the potential to be deemed as a source of competing interest in relation to their submitted manuscript. Examples of such activities could include personal or work-related relationships, events, etc. Authors who have nothing to declare are encouraged to add "No conflict of interest was reported by all authors" in this section.

## **Funding**

Authors should declare all financial and non-financial support that have the potential to be deemed as a source of competing interest in relation to their submitted manuscript in this section. Financial supports are generally in the form of grants, royalties, consulting fees and more. Examples of non-financial support could include the following: externally-supplied equipments/biological sources, writing assistance, administrative support, contributions from non-authors etc.

## **Appendix**

This section is optional and is for all materials (e.g. advanced technical details) that has been excluded from the main text but remain essential to readers in understanding the manuscripts. This section is

not for supplementary figures. Authors are advised to refer to the section on ‘Supplementary figures’ for such submissions.

## Text

The text of the manuscript should be in Microsoft Word or Latex. The length of the manuscript cannot be more than 50000 characters (inclusive of spaces) or approximately 7000 words.

## Nomenclature for genes and proteins

This journal aims to reach researchers all over the globe. Hence, for both reviewers’ and readers’ ease in comprehension, authors are highly encouraged to use the appropriate gene and protein nomenclature. Authors may prefer to utilize resources such as <http://www.ncbi.nlm.nih.gov/gene>

## Figures

Authors should include all figures into the manuscript and submit it as 1 file in the OJS system. Reference to the “Instructions for Typesetting manuscript” is strongly encouraged. Figures include photographs, scanned images, graphs, charts and schematic diagrams. Figures submitted should avoid unnecessary decorative effects (e.g. 3D graphs) as well as be minimally processed (e.g. changes in brightness and contrast applied uniformly for the entire figure). It should also be set against a white background. Please remember to label all figures (e.g. axis etc.) and add in captions (below the figure) as required. These captions should be numbered (e.g. **Figure 1**, **Figure 2**, etc.) in boldface. All figures must have a brief title (also known as caption) that describes the entire figure without citing specific panels, followed by a legend defined as description of each panel. Please identify each panel with uppercase letters in parenthesis (e.g. A, B, C, etc.)

The preferred file formats for any separately submitted figure(s) are TIFF or JPEG. All figures should be legible in print form and of optimal resolution. Optimal resolutions preferred are 300 dots per inch for RGB coloured, 600 dots per inch for greyscale and 1200 dots per inch for line art. Although there are no file size limitation imposed, authors are highly encouraged to compress their figures to an ideal size without unduly affecting legibility and resolution of figures. This will also speed up the process of uploading in the submission system if necessary.

The Editor-in-Chief and Publisher reserve the right to request from author(s) the high-resolution files and unprocessed data and metadata files should the need arise at any point after manuscript submission for reasons such as production, evaluation or other purposes. The file name should allow for ease in identifying the associated manuscript submitted.

## Tables, lists and equations

Tables, lists and equations must be submitted together with the manuscript. Likewise, lists and equations should be properly aligned and its meaning clear to readers. Tables created using Microsoft Word table function are preferred. Place each table in your manuscript file right after the paragraph in which it is first cited. Do not submit your tables in separate files. The tables should include a concise but sufficiently explanatory title at the top. Vertical lines should not be used to separate columns. Leave some extra space between the columns instead. All tables should be based on three horizontal lines to separate the caption, header and body. A few additional horizontal lines MAY be included as needed (example below). Any explanations essential to the understanding of the table should be given in footnotes at the bottom of the table. SI units should be used.

## Supplementary information

This section is optional and contains all materials and figures that have been excluded from the entire manuscript. This information are relevant to the manuscript but remains non-essential to readers' understanding of the manuscript's main content. All supplementary information should be submitted as a separate file in Step 4 during submission. Please ensure the names of such files contain 'suppl. info'.

## In-text citations

Reference citations in the text should be numbered consecutively in superscript square brackets. Some examples:

1. Negotiation research spans many disciplines <sup>[3, 4]</sup>.
2. This result was later contradicted by Becker and Seligman <sup>[5]</sup>.
3. This effect has been widely studied <sup>[1–3, 7]</sup>.

Personal communications and unpublished works can only be used in the main text of the submission and are not to be placed in the Reference section. Authors are advised to limit such usage to the minimum. They should also be easily identifiable by stating the authors and year of such unpublished works or personal communications and the word 'Unpublished' in parenthesis.

E.g. (Smith J, 2000, Unpublished)

## References

This section is compulsory and should be placed at the end of all manuscripts. Do not use footnotes or endnotes as a substitute for a reference list. The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should be excluded from this section.

For references in reference list, all authors must be stated. Authors referenced are listed with their surname followed by their initials. All references should be numbered (e.g. 1. 2. 3. etc.) and sequenced according to the order it appears as an in-text citation. References should follow the following pattern: Author(s) followed by year of publication, title of publication, full journal name in italics, volume number, issue number in parenthesis, page range and lastly the DOI (if applicable). If the referred article has more than three authors, list only the first three authors and abbreviate the remaining authors to italicized 'et al.' (meaning: "and others").

## Journal

*Journal article (print) with one to three authors*

[1] Yao Y., Xia B. Application of Phase Frequency Feature Group Delay Algorithm in Database Differential Access. *Computer Simulation*, 2014, 31(12): 238-241.

*Journal article (print) with more than three authors*

[2] Gamelin F.X., Baquet G., Berthoin S., et al. Effect of high intensity intermittent training on heart rate variability in prepubescent children. *European Journal of Applied Physiology*, 2009, 105: 731–738.

*Journal article (online) with one to three authors*

[3] Jackson D., Firtko A., Edenborough M. Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: a literature review. *Journal of Advanced Nursing*, 2009, 60(1): 1–9,

*Journal article (online) with more than three authors*

[4] Hargreave M., Jensen A., Nielsen T.S.S., et al. Maternal use of fertility drugs and risk of cancer in children—A nationwide population-based cohort study in Denmark. *International Journal of Cancer*, 2015, 136(8): 1931–1939.

**Book**

*Book with one to three authors*

[5] Schneider Z., Whitehead D., Elliott D. *Nursing and midwifery research: methods and appraisal for evidence-based practice*. 3rd edn. 2009, Elsevier Australia, Marrickville, NSW.

*Book with more than three authors*

[6] Davis M., Charles L., Curry M.J., et al. *Challenging spatial norms*. 2013, Routledge, London.

*Chapter or Article in Book*

[7] Knowles M.S. Independent study. In *Using learning contracts*. 1986, Jossey-Bass, San Francisco, 89–96.

**Others**

*Proceedings of meetings and symposiums, conference papers*

[8] Chang S.S., Liaw L. and Ruppenhofer J. (eds). *Proceedings of the twenty-fifth annual meeting of the Berkeley Linguistics Society, February 12–15, 1999: general session and parasession on loan word phenomena*. 2000, Berkeley Linguistics Society, Berkeley.

*Conference proceedings (from electronic database)*

[9] Bukowski R.M. Prognostic factors for survival in metastatic renal cell carcinoma: update 2008. *Innovations and challenges in renal cancer: proceedings of the third Cambridge conference*. *Cancer*, 2009, 115 (10): 2273, viewed 19 May 2009, Academic OneFile database.

*Online Document with author names*

[10] Este J., Warren C., Connor L., et al. *Life in the clickstream: the future of journalism*, Media Entertainment and Arts Alliance, 2008. viewed 27 May 2009, [http://www.alliance.org.au/documents/foj\\_report\\_final.pdf](http://www.alliance.org.au/documents/foj_report_final.pdf)

*Online Document without author name*

[11] *Developing an argument* n.d., viewed March 30 2009, [http://web.princeton.edu/sites/writing/Writing\\_Center/WCWritingResources.htm](http://web.princeton.edu/sites/writing/Writing_Center/WCWritingResources.htm)

*Thesis/Dissertation*

[12] Gale L. *The relationship between leadership and employee empowerment for successful total quality management*. 2000, University of Western Sydney.

*Standard*

[13] Standards Australia Online. Glass in buildings: selection and installation. AS 1288–2006. 2006, SAI Global database.

*Government Report*

[14] National Commission of Audit. Report to the Commonwealth Government, Australian Government Publishing Service, 1996, Canberra.

*Government report (online)*

[15] Department of Health and Ageing. Ageing and aged care in Australia, 2008, viewed 10 November 2008, <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing>

*No author*

[16] Guide to agricultural meteorological practices. 2nd edn, Secretariat of the World Meteorological Organization, 2010, Geneva.

Note: When referencing an entry from a dictionary or an encyclopedia with no author there is no requirement to include the source in the reference list. In these cases, only cite the title and year of the source in-text. For an authored dictionary/encyclopedia, treat the source as an authored book.

## **Submission Preparation Checklist**

As part of the submission process, authors are required to check off their submission's compliance with all of the following items, and submissions may be returned to authors that do not adhere to these guidelines.

1. The submission has not been previously published, nor is it before another journal for consideration (or an explanation has been provided in Comments to the Editor).
2. The submission file is in OpenOffice, Microsoft Word, RTF, or WordPerfect document file format.
3. Where available, URLs for the references have been provided.
4. The text is single-spaced; uses a 12-point font; employs italics, rather than underlining (except with URL addresses); and all illustrations, figures, and tables are placed within the text at the appropriate points, rather than at the end.
5. The text adheres to the stylistic and bibliographic requirements outlined in the Author Guidelines, which is found in About the Journal.
6. If submitting to a peer-reviewed section of the journal, the instructions in Ensuring a Blind Review have been followed.

## Call for papers – Journal of Contemporary Educational Research

**ISSN (Online): 2208-8474**

**ISSN (Print): 2208-8466**

**Submission open for July - 2023**

Dear Researchers,

*Journal of Contemporary Educational Research* is an international, peer-reviewed and open access journal which is to promote the evaluative, integrative, theoretical and methodological research on contemporary education; shape a novel, broader view of issues in contemporary education; enhance the caliber of humanities research through active use of best domestic and foreign practices; and integrate the achievements of various sciences and knowledge areas with unconventional approaches.

All relevant papers are carefully considered, vetted by a distinguished team of international experts, and rapidly published. Original articles, short communications, case studies and comprehensive review articles can be submitted online via the journal's submission and peer review site.

The *Journal of Contemporary Educational Research* is published by Bio-Byword Scientific Publishing Company, it is a fast growing peer-reviewed and open access journal publisher, which is located in Sydney, Australia. As a dependable and credible corporation, it promotes and serves a broad range of subject areas such as medicine, construction, education and electronics for the benefit of humanity. By informing and educating a global community of scholars, practitioners, researchers and students, it endeavours to be the world's leading independent academic and professional publisher.

All Bio-Byword journals are free from all access barriers, allowing for the widest possible global dissemination of their manuscripts and highest possible citations. Bio-Byword publisher online submission will go through a rapid peer review and production, making the process of publishing simpler and more efficient, which benefit from its user friendly online submission system that reduces the overall time from submission to publication.

**Acceptance Notification:** Within 21 days from the date of manuscript submission

Send your manuscript to the editor at: **[info@bbwpublisher.com](mailto:info@bbwpublisher.com)**

Kind regards,

Editorial Office

*Journal of Contemporary Educational Research*





## Integrated Services Platform of International Scientific Cooperation

Innoscience Research (Malaysia), which is global market oriented, was founded in 2016. Innoscience Research focuses on services based on scientific research. By cooperating with universities and scientific institutes all over the world, it performs medical researches to benefit human beings and promotes the interdisciplinary and international exchanges among researchers.

Innoscience Research covers biology, chemistry, physics and many other disciplines. It mainly focuses on the improvement of human health. It aims to promote the cooperation, exploration and exchange among researchers from different countries. By establishing platforms, Innoscience integrates the demands from different fields to realize the combination of clinical research and basic research and to accelerate and deepen the international scientific cooperation.

### Cooperation Mode



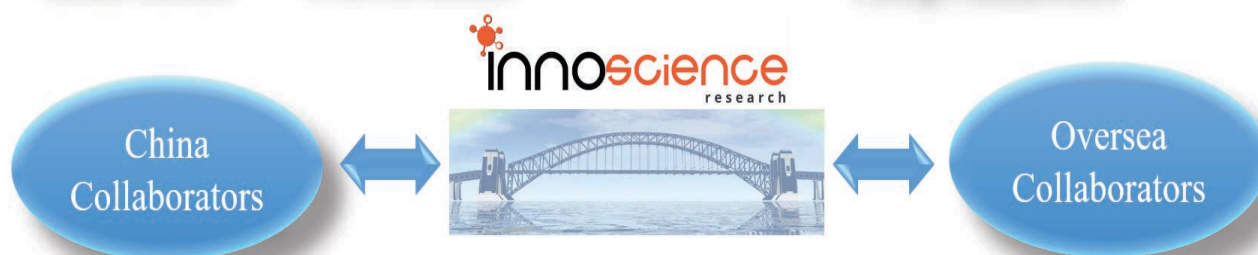
Clinical Workers



In-service Doctors



Foreign Researchers



Hospital



University



Scientific institutions

# OUR JOURNALS



The *Journal of Architectural Research and Development* is an international peer-reviewed and open access journal which is devoted to establish a bridge between theory and practice in the fields of architectural and design research, urban planning and built environment research.

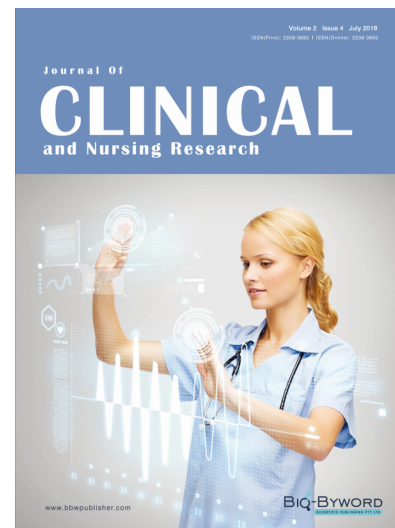
Topics covered but not limited to:

- Architectural design
- Architectural technology, including new technologies and energy saving technologies
- Architectural practice
- Urban planning
- Impacts of architecture on environment

*Journal of Clinical and Nursing Research (JCNr)* is an international, peer reviewed and open access journal that seeks to promote the development and exchange of knowledge which is directly relevant to all clinical and nursing research and practice. Articles which explore the meaning, prevention, treatment, outcome and impact of a high standard clinical and nursing practice and discipline are encouraged to be submitted as original article, review, case report, short communication and letters.

Topics covered by not limited to:

- Development of clinical and nursing research, evaluation, evidence-based practice and scientific enquiry
- Patients and family experiences of health care
- Clinical and nursing research to enhance patient safety and reduce harm to patients
- Ethics
- Clinical and Nursing history
- Medicine



*Journal of Electronic Research and Application* is an international, peer-reviewed and open access journal which publishes original articles, reviews, short communications, case studies and letters in the field of electronic research and application.

Topics covered but not limited to:

- Automation
- Circuit Analysis and Application
- Electric and Electronic Measurement Systems
- Electrical Engineering
- Electronic Materials
- Electronics and Communications Engineering
- Power Systems and Power Electronics
- Signal Processing
- Telecommunications Engineering
- Wireless and Mobile Communication

