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Contents

A Research on the Effect of Cross-cultural Communication Course on L2 Learning Anxiety	
.....Zhao Dongdong, Sutida Ngonkum	- 1 -
The Influence of <i>The Art of War</i> on the Arab World and the Cross-cultural Transformation of its Military Wisdom	
.....AL-YOUSEFI, ABDULNASER AHMED MOHAMMED ABDULLAH	- 12 -
An Exploration of Domestic Children's Furniture Research from a Knowledge Graph Perspective ..	
.....Pan Yue, Gao Wenlong, Qin Lei	- 16 -
The Modern Interpretation of Traditional Dai Ethnic Furniture Culture in New Chinese Style	
.....Huang Fengjun	- 30 -
The Application of Artistic Healing in Mental Health Education in Colleges and Universities	
.....Chang Fengying	- 34 -
Integrating <i>The Classic Quotes by Xi Jinping</i> into Higher Vocational Education's Chinese Traditional Culture Courses: Teaching Innovation and Practice	
.....Cui Xiuzhong	- 40 -
A Glimpse into Lu Xun's Portrayal of Female Consciousness through the Images of Xianglin Sao and Ai Gu	
.....Jiang Yujie	- 48 -
Legal guarantee and industry self-discipline in the supervision of Internet audio-visual programs	
.....Zeng Yaonong	- 54 -
Cultural Differences in Marriage Concepts: A Comparison of Attitudes toward Marriage Between China and the West	
.....Zhang Fan	- 60 -
The Dissemination and Challenges of "Ultras" Fan Culture in China in the Digital Intelligence Era	
.....Kong Haorong	- 66 -



Research on the Coding Thinking of Jianchuan Woodcarving Lattice Doors Based on the Ternary Relationship of Pierce Symbols	
.....	Meng Yangke - 76 -
Practical Exploration of Integrating Kneading and Sculpting Art into Teaching Chinese as a Foreign Language	
.....	Liu Yuzi - 86 -
An Audiovisual Language Analysis of the Vision of Peace and Human Reflection in Films from the Perspective of a Community with a Shared Future for Mankind:A Case Study of the Movie "Into the White"	
.....	Wang Chuwen, Yin Lu - 93 -
Simulation and Inference System for Coral Reef Conservation Policy: Coupling Multi-Agent System (MAS) and Ecosystem Service Value Assessment	
.....	Ren Tong - 98 -
An Analysis of the Exploration and Utilization of Cultural Resources in Zibo from the Perspective of City Branding	
.....	Yi Yun - 110 -
Research on the Media Translation of Rural Cultural Symbols and the Innovative Path of Local Identity Construction in Shandong Province on Short Video Platforms	
.....	Bi Lijing - 118 -
Challenges and Solutions in the Management of Research Funds in Universities	
.....	Wang Zhaoxia - 123 -
Research On Commodity Packaging Problem Based On 3D Packing Optimization Model	
.....	Zhang Anbo - 128 -



Research on the Construction and Practical Path of Ideological and Political Education System for Tourism Management Major Group	
.....	Gong Mengjie - 138 -
Study on the Relationship Between Poetry And Painting in Ceramic Art	
.....	Zhang Wenjie, Yue Youxi - 145 -
The Cultural Connotations and Contemporary Value of Chinese Calligraphy Art	
.....	Zhang Xuelei - 155 -
The Coupling of the Persistence of Chinese Cultural Confidence and the Dual Attributes of Science and Technology —Taking <i>Dead to Rights</i> as the Research focus	
.....	Jiang Hong, Li Xiaolin - 160 -





A Research on the Effect of Cross-cultural Communication Course on L2 Learning Anxiety

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Abstract

The purpose of this paper is to explore the influence of cross-cultural communication courses on the anxiety of Chinese majors in Thailand in L2 learning. In this study, quantitative research method is used to collect students' Chinese learning anxiety data by questionnaire twice before and after the intercultural communication course, and finally SPSS is used to analyze the differences between the two data. The results show that the cross-cultural communication course added to Chinese class can effectively reduce the anxiety of Thai Chinese majors in learning Chinese. This provides useful guidance for the future study of anxiety in L2 classroom.

Keywords

Cross-cultural communication, Anxiety, Effectiveness, L2

1.Introduction

Since 1970s, researchers have gradually made in-depth research on the theory of L2 acquisition, making it an independent discipline. Brown (1973), as the first person to study foreign language learning anxiety, applied the psychological concept "anxiety" to the field of linguistics for the first time, and pointed out that whether a language can be successfully acquired is closely related to learners' self-confidence, self-esteem and learning anxiety. Krashen (1982) said in his "Affective Filtering Hypothesis" that anxiety is an important factor affecting foreign language learning. This change also means that people's research focus on L2 acquisition has gradually shifted from how teachers "teach" to student-centered "learning", and the research on learners has been paid more and more attention. Individual factors of learners, including cognition, emotion and individual factors, are the research objects of researchers, among which anxiety in emotional factors is the research focus of L2 acquisition researchers.

Anxiety is a personality trait. People with this personality may feel anxious, worried and worried about whether they can do things well before or after doing things (Liu, 2000). Anxiety research



on L2 acquisition shows that there is a contradictory relationship between learning anxiety and L2 acquisition. Generally speaking, we think that learning anxiety will have a negative impact on learning attitude, academic performance and other factors. When the anxiety level is too high, it will hinder learners' acquisition, but it cannot be simply considered that the lower the anxiety level, the better the L2 acquisition (Zhang, 2019 ; Zhao, 2018 ; Karatas & Ergin & Bademcioglu, 2016). On the contrary, studies have shown that when anxiety is below a certain level, it is also not conducive to learners' learning (Xu, 2014; Duan, 2014).

The anxiety of L2 acquisition has been widely concerned by scholars and has become the focus of people's research. In the previous studies, from the research content, the previous studies were almost all about the anxiety of English as a foreign language scholars (Jiang & Dewaele, 2019 ; Aydon & Harputlu & Güzel, 2016), some scholars also pay attention to the anxiety of French or Spanish language learners. (Dewaele & Magdalena & Saito, 2019 ; Dewaele & Dewaele, 2017) Until the end of the 20th century, scholars gradually began to study Chinese learning anxiety and how to adjust the anxiety of international students coming to China in the process of learning Chinese (Horwitz, 1986 ; MacIntyre & Gardner, 1994 ; Dulay, 1982 et al.). There are very few studies on anxiety of Chinese as a L2 learners.

From the aspect of research object, most of the previous studies took European middle school students as the research object(Dewaele & Magdalena & Saito, 2019 ; Gregersen & Meza & Macintyre, 2014 ; Valizadeh, 2021). Some studies take international students coming to China as the research object (Akram & Junaid & Yang, 2019 ; Zheng & Cheng, 2018 ; Karatas & ALCI & Bademcioglu & Ergin, 2016 et al.), and some scholars study the influence of teachers on students' foreign language learning anxiety (Dewaele & Magdalena & Saito, 2019). There are few studies on Thai Chinese majors.

Moreover, most of the previous studies focused on the comparative influence of anxiety and interest in foreign language learning (Jiang & Dewaele, 2019 ; Dewaele & Dewaele, 2017 ; Dewaele, & Magdalena & Saito, 2019 et al.), or anxiety about foreign language learning oral or writing, (Akram & Junaid & Yang, 2019), some researchers use experimental instruments to test the influence of anxiety on language test scores from a psychological or cognitive perspective (Zheng & Cheng, 2018 ; Gregersen & Meza & Macintyre, 2014). In terms of research methods, most previous studies only used qualitative research or explored the causes of L2 learning anxiety from a psychological point of view.(Zheng & Cheng, 2018 ; Dewaele, & Magdalena & Saito, 2019 ; Karatas & Alci & Bademcioglu & Ergin, 2016 et al.).In previous studies, there is a lack of quantitative research data to measure the research results more accurately.

Faced with these anxiety problems in L2 learning, researchers began to look for ways to reduce the anxiety of L2 learners. Some researchers hope to reduce students' anxiety in L2 learning through teacher feedback, classroom psychological sitcoms, changing classroom atmosphere and increasing comprehensible input (Liu, 2014; Gong, 2004 ; Chen & Wang & Cao, 2018). Some



researchers suggested that cross-cultural communication strategies can be added to the curriculum to reduce the anxiety of L2 learners, but this suggestion only stays at the theoretical level and lacks experimental research to confirm it.

Therefore, in order to make up for the shortcomings of the previous research, this paper takes Thai Chinese majors as the research object and uses quantitative research methods to explore the influence of cross-cultural communication courses on learners' L2 learning anxiety. The purpose of this paper is to make Thai Chinese majors interested in Chinese culture, reduce the difficulty of learning Chinese and enrich their Chinese learning life by adding the content of cross-cultural communication in the process of teaching Chinese. Through the understanding of Chinese culture and Chinese society, students can narrow their psychological cultural distance, reduce their anxiety in the process of learning Chinese and build up their language self-confidence. Help more teachers who teach Chinese as a L2 to make rational use of language learning anxiety to promote language learning, improve learners' learning efficiency and improve teaching level.

Research questions:

What effect does the cross-cultural communication course have on the anxiety of Thai Chinese majors in L2 learning?

2.Literature Review

2.1 The Definition of Learning Anxiety

In the early stage of the study of learning anxiety, the research focuses on the causes of foreign language learning anxiety, the relationship between foreign language learning anxiety and learning and grades, the measurement tools of foreign language learning anxiety, the performance of foreign language learning anxiety, etc. Among them, Horwitz (1986) defined foreign language learning anxiety as a significant self-perception and emotional complex related to classroom language learning in the process of learning this language, which was highly recognized by scholars. This study further studies the relationship between foreign language learning and learning anxiety. The Foreign Language Classroom Anxiety Scale (FLCAS) designed by Horwitz et al. provides an effective tool for further quantitative analysis of foreign language learning anxiety. MacIntyre and Gardner redefined the concept of learning anxiety in 1994. They think that learning anxiety is a kind of anxiety or nervousness caused by various reasons in the process of L2 acquisition, which is mainly related to listening, pronunciation and other processes. Horwitz, MacIntyre and Gardner both believe that the so-called language learning anxiety is the psychological feeling of learners in a specific foreign language learning scene; But compared with MacIntyre and Gardner, Horwitz cares more about the learners' physical and mental experience in the process of L2 acquisition.

2.2 Classification of Learning Anxiety

Dulay (1982) thinks that the anxiety level of L2 learners in the process of learning can help us



effectively test the Excellence of language learning. According to the different factors that cause anxiety, it can be divided into state factors and ability factors. State factor refers to a persistent anxiety tendency of learners in the learning process, which is mainly caused by learners' personal factors and is usually regarded as the general trend of anxiety in the learning process. The ability factor refers to the anxiety caused by environmental factors, which can be manifested in the anxiety caused by teachers asking questions or being corrected and taking exams in class.

Horwitz (1991) divided the learning anxiety of L2 learners into three categories: first, communication anxiety, that is, learners' anxiety because they can't fully master and use the target language to communicate effectively, and they are worried that others can't understand themselves. Secondly, negative social evaluation means the anxiety that learners show when they are worried about losing face in the process of learning and using the target language because of lack of self-confidence or strong self-esteem. Third, exam anxiety refers to the anxiety or anxiety that L2 learners show when facing exams.

Aida (1994) further subdivided the classification of anxiety on the basis of Horwitz's classification: communication anxiety was divided into listening anxiety, oral expression anxiety, anxiety arising in L2 acquisition class and anxiety in communication with native people.

According to the different effects of learning anxiety on L2 learners, Alpert and Haber (1996) divided learning anxiety into promoting anxiety and inhibiting anxiety. Promotional anxiety refers to the ability to continuously stimulate learners and keep them fully motivated to learn. Learners with this anxiety can effectively stimulate learners' learning motivation. Learners with promoting anxiety can remain vigilant for a long time, have high expectations for themselves and dare to accept new opportunities and challenges. However, inhibitory anxiety often has more negative effects on learners. Because of the interference of anxiety, this kind of learners always have bad feelings at all stages of learning, and will have different degrees of self-denial and anxiety, and will also try their best to reduce their participation and sense of existence in class. The most serious situation is that learners will gradually have resistance to L2 learning.

It can be seen that the study of foreign language learning anxiety started earlier, and the previous researchers defined language anxiety and learning anxiety more clearly. Previous studies classified and explained anxiety, concretized the abstract emotion of "anxiety", skillfully applied psychological theory to linguistics, analyzed anxiety and learning, anxiety and academic performance, and developed a set of measuring tools for foreign language learning anxiety, which is still widely used today, providing corresponding guidance for future research and teaching practice.

2.3. Analysis of the Relationship Between Learning Anxiety and Learning.

Researchers have expressed their views on the relationship between learning anxiety and learning in the course of research. Krashen (1987) thinks that the success of learners in learning a foreign language is closely related to their anxiety in foreign language classroom (such as self-distrust,



self-esteem, etc.), and he also thinks that learners learn best when they have no anxiety. As a foreign language teacher, we should give full play to its role, help students effectively reduce their learning anxiety to a minimum, actively explore and find out the source of students' anxiety and choose appropriate ways to help students eliminate their anxiety. Young (1986) and Phillips (1992) have analyzed the relationship between anxiety in L2 acquisition and learning level. Both of them think that learning anxiety will hinder learners' learning to a certain extent, that is, learning anxiety is related to L2 acquisition. Oxford (1990) shows that anxiety is the main factor that affects the L2 learners' emotions. The factors that cause language anxiety include language test scores, proficiency test scores, oral and written expression tasks, self-confidence and self-esteem in language learning, etc. Gardner's research points out that learners' learning anxiety is negatively correlated with their L2 acquisition, that is, the higher the anxiety level of learners, the less they acquire (Yang, 2007).

2.4. Strategies to Reduce Learning Anxiety

Faced with learners' learning anxiety in the process of L2 learning, many researchers are also looking for ways to reduce their learning anxiety. Ding (2008), Li and Song (2013) both believe that emotional adjustment can be used to alleviate learners' anxiety in the process of L2 learning. They pointed out that teachers can guide and give full play to the positive role of students' main emotions in classroom teaching, provide students with the best emotional state and arouse their enthusiasm. For example, reduce excessive competition among students and build a sense of psychological security for learners and increase the content of cross-cultural communication lesson. Design the course content according to learners' language level, age and gender. Guan and Jin (2011) put forward three strategies to reduce the anxiety of vocational college students in English class: using appropriate classroom language, creating a relaxed classroom atmosphere, encouraging students to communicate, and choosing appropriate vocational textbooks. Gong (2003) believes that teachers can effectively adjust students' anxiety in the process of L2 learning by giving students more positive feedback in class. Liu (2013) draws a conclusion through teaching practice that sitcoms can be added in the classroom to improve the anxiety and fear of difficulties of higher vocational students in speaking English. Some researchers also hope to reduce their anxiety in the process of foreign language learning by stimulating students' interest in learning (Jiang & Dewaele, 2019; Dewaele & Magdalena & Saito, 2019 ; Shirvan & Taherian, 2018 et al). Some researchers also believe that students' anxiety in L2 learning can be alleviated through intercultural communication teaching (Guan & Li, 2011; Zheng & Chen, 2018 ; Teng & Song & Wang, 2012 et al. For example, Dong and Zhu(2023) believe that cross-cultural communication is a new teaching concept. Strengthening the integration of cross-cultural communication in language teaching can not only help students understand the cultural background and customs of the target language country, but also improve their understanding and understanding of cultural differences, so that students can communicate and interact in English more smoothly and reduce their learning anxiety.They also put forward a cross-cultural



communication curriculum framework to reduce foreign language learning anxiety.

To sum up, through the understanding of the research status of learning anxiety, it can be seen that in previous studies, most researchers hoped to reduce the anxiety of L2 learners by improving their interest in learning, choosing appropriate teaching materials and creating a good classroom atmosphere. Some researchers also noticed the role of cross-cultural communication in L2 learners, and they thought that the anxiety of students could be reduced from this aspect. For Chinese majors in universities in Thailand, many students learn Chinese for work, but they feel that communication and understanding barriers often occur due to cultural differences in the process of communicating with Chinese people, which makes students feel insecure and anxious. In view of the situation of Chinese majors in Thai universities, I decided to increase the study of cross-cultural communication in the classroom, so that students can understand the way Chinese culture and Chinese people get along with each other, and explore the influence of cross-cultural communication courses on students' anxiety.

3. Methodology

This study takes Chinese majors from Nakorn Khon Kaen Technical College as the research object. In this paper, quantitative research and questionnaire are used to collect data.

The purpose of this paper is:

To explore the influence of cross-cultural communication course on the anxiety of Thai Chinese majors in learning Chinese.

3.1 Participants

In this study, 32 Chinese majors in grade three of Nakorn Khon Kaen Technical College were selected as the research objects by convenient sampling method. These students have studied Chinese in college for two years, and they have a certain foundation in Chinese, but they don't know much about Chinese culture. These students show different degrees of anxiety in the process of learning Chinese.

3.2 Research tools

3.2.1. Chinese Classroom Anxiety Questionnaire

Collect the data of students' anxiety by issuing questionnaires. According to the results of the questionnaire, we can know the degree of anxiety of Thai Chinese majors in the process of learning Chinese.

The questionnaire of this study consists of two parts:

The first part has three basic questions, including the learner's name, surname and age.

The second part is the Chinese Classroom Anxiety Scale. This paper mainly investigates the anxiety of Chinese majors.

This study is based on the Foreign Language Classroom Anxiety Scale (FLCAS) designed by



Horwitz(1986).

There are 33 items in the scale, except for questions 5, 8, 11, 14, 18, 22 and 32, all of which are positive descriptions. There are five options in each item, that is, totally disagree, basically disagree, uncertain, basically agree and completely agree, and the score of each option corresponds to 1-5 points respectively.

In order to make the Foreign Language Classroom Anxiety Scale (FLCAS) more suitable for this survey, I replaced all the words "foreign language" and "language" in the original questionnaire with "Chinese". Considering that all the Chinese majors are middle and low level learners, I adopt the form of Sino-Thai bilingual questionnaire.

3.2.2. Cross-cultural communication course.

The duration of this study is two months. During the research period, students have 8 Chinese classes every week, each class lasts for 2 hours. In each Chinese class, the teacher will arrange an hour to explain the knowledge of cross-cultural communication between China and Thailand and show related videos. The contents include six topics: introducing festivals in China, traditional food, etiquette, social habits, speaking habits and body language to students. At the same time, in the whole teaching course, teachers will teach the above six topics according to Dong and Zhu's (2023) cross-cultural communication course teaching framework. The framework is as follows:

Firstly, at the beginning of the course, use multimedia resources to play cultural materials related to the teaching theme for students. For example, using video materials to show the process of greeting people in China on different occasions. The purpose of this step is to attract students' attention with interesting videos at the beginning of the class and create a relaxed classroom atmosphere.

Secondly, the teacher introduces the background and cultural materials related to each topic in the form of storytelling. Guide students to actively understand the background culture related to the text of the textbook by telling stories, and then organize students to communicate. The purpose of this teaching method is to reduce the pressure of teachers asking questions and the competitiveness of previous classroom activities, and to avoid students' anxiety caused by classroom pressure.

Thirdly, when teaching Chinese characters with different cultural connotations, teachers adopt the method of problem-oriented teaching. First, guide students to say the meaning or symbolic meaning of words according to their own cognition, and then the teacher will explain the meaning of Chinese characters in Chinese culture. Infiltrate the cultural connotation of Chinese characters and expand students' cross-cultural communication language accumulation. This teaching method has changed the traditional word teaching mode in which teachers give lectures all the time and students take notes in class. There is more interaction between students and teachers, which increases students' sense of classroom participation.



Fourthly, explain to students the differences of thinking modes between China and Thailand when speaking in Chinese characters. Such as gift-giving culture. The purpose of this teaching method is to enable students to connect real life scenes with Chinese expression habits, so that they can be more confident when communicating with China people in their future study and work.

3.3. Data collection procedures

Firstly, at the beginning of the study, I distributed a questionnaire of Classroom Anxiety Scale to students.

The second part of the questionnaire is a multiple-choice question. In the form of Likert five-level scale, different grades of 1-5 are set to express five situations from "completely disagree" to "completely agree", in which "1" means "completely disagree", "2" means "basically disagree", "3" means "uncertain" and "4" means ". I use SPSS statistical data analysis software for data entry and analysis. There are 33 questions in the questionnaire. After collecting all the students' classroom anxiety scale, I add up all the students' scores for each question and then calculate the average.

Secondly, develop cross-cultural communication courses.

Thirdly, after the end of the research period, the same questionnaire of classroom anxiety scale was distributed to students again. After collecting all the students' classroom anxiety scales, I add up all the students' scores on each topic and then calculate the average of all the students on each topic.

Fourthly, I use the T-test of SPSS to calculate the relationship between the two scores. To compare the changes of students' anxiety before and after the intercultural communication course.

4.Results

Table 1: The Average of 32 Questions of All the Students in the Two Times Anxiety Questionnaires

Number	test1	test2
1	3.41	3.21
2	3.67	3.01
3	3.11	2.11
4	3.36	2.79
5	3.25	3.45
6	3.68	2.09
7	3.11	3.02



8	3.04	3.14
9	3.42	2.47
10	3.24	2.35
11	3.36	2.67
12	3.25	2.88
13	3.68	2.63
14	3.11	1.54
15	3.04	3.11
16	3.42	2.67
17	3.24	2.77
18	3.11	2.16
19	2.22	2.13
20	3.21	2.59
21	3.36	3.01
22	3.25	2.14
23	3.68	2.67
24	3.11	2.77
25	3.04	2.16
26	3.42	2.13
27	3.24	2.59
28	3.11	1.99
29	3.11	1.98
30	3.04	1.49
31	3.42	2.83
32	3.24	3.31
33	3.11	2.06

Table 2: T-test Results Comparing test 1 and test 2 Scores on students' anxiety (N=33)

Score	Mean	SD	t	df	p	d
Test 1	3.24	0.27	8.13	32	<.001*	1.76



Test 2	2.54	0.49
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* $p < .05$

Table 2 showed that the test 2 scores (Mean = 2.54, SD = 0.49) were significantly lower than the test 1 scores (Mean = 3.24, SD = 0.27), indicated by $t(32) = 8.13$, $p < .05$, $d = 1.76$. That means, the cross-culture communication course was effective, and it could effectively reduce Thai Chinese majors' language learning anxiety.

5. Discussion

In order to reduce the anxiety of Thai Chinese majors in the process of L2 learning, I added cross-cultural communication courses to the classroom during the research. Combined with the results of the questionnaire test, I found that adding intercultural communication course in the process of teaching Chinese can effectively reduce the anxiety of Thai college students in the process of learning Chinese. This research is consistent with the findings of Dong and Zhu(2023): "Cross-cultural communication is a new teaching concept. Strengthening the integration of cross-cultural communication in language teaching can not only help students understand the cultural background and customs of the target language country, but also improve their understanding and understanding of cultural differences, so that students can communicate and interact in English more smoothly and reduce their learning anxiety." Thus, adding cross-cultural communication to foreign language teaching will not only help to expand students' international cultural knowledge reserves, but also narrow the distance between students and the target language culture, and also reduce students' anxiety, thus building self-confidence. The purpose of this teaching method is to enable teachers to guide and give full play to the positive role of students' main emotions in class, provide students with the best emotional state and mobilize students' enthusiasm.

According to Song(2013), teachers can use emotional adjustment to alleviate learners' anxiety in the process of L2 learning. Foreign language teachers should not only focus on teaching language knowledge, but also pay full attention to students' psychological status. When teachers are concerned that students are anxious because they don't know the culture of the target language country in the process of foreign language learning, they can increase cross-cultural communication courses to let students feel the culture of the target language country through vivid and interesting teaching materials, arouse students' positive emotions in learning, relieve students' anxiety, create a good classroom atmosphere, and then improve teaching effect.

6. Conclusion

The main purpose of this study is to explore the influence of intercultural communication course on L2 learning anxiety of Thai Chinese majors. The results show that intercultural communication



course can effectively reduce students' anxiety in the process of learning Chinese. The findings of this study help teachers pay more attention to learners' anxiety in the process of Chinese acquisition, and verify the effectiveness of cross-cultural communication course in alleviating students' language learning anxiety and creating a good classroom atmosphere. The intercultural communication course used in this study not only makes the language learning process of Thai Chinese majors more interesting, but also shortens the distance between teachers and students and improves the teaching effect of teachers. It also provides useful reference for teachers of Chinese international education who are facing the same situation in other countries.

However, there are some limitations in this study. This study only uses quantitative research, and it will be more reliable if qualitative research results can be added as auxiliary research results. The duration of this study is only two months. If possible, researchers can extend the experimental time in the future to explore the long-term effectiveness of intercultural communication courses in reducing learners' anxiety in L2 learning.

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The Influence of *The Art of War* on the Arab World and the Cross-cultural Transformation of its Military Wisdom

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Abstract

As an ancient military classic, *The Art of War* by Sun Tzu has not only exerted profound influence in China's history but has also been extensively studied and applied worldwide. Particularly in the Arab world, this military treatise has significantly impacted local warfare and military culture through its profound war strategies and insightful military philosophy. This paper primarily discusses the influence of *The Art of War* on the Arab world and cites examples of leaders who enhanced their understanding of warfare and improved combat efficiency and success through studying this military classic.

Keywords

The Art of War; Arab world; Foreign tactics

1. Intruduction

"*The Art of War*" by Sun Tzu is one of the world's earliest military treatises, highly esteemed throughout history with numerous scholars studying it. Revered as the classic of Chinese military strategy, it represents the highest war philosophy in China and a seminal work on combat principles. Most subsequent military texts have been influenced by it, profoundly impacting the development of Chinese military science. Translated into multiple languages, it holds a significant position in the history of world military literature.

2. Influence of *The Art of War* on the Arab world

As one of the most influential military classics in ancient China, *The Art of War* has left a profound impact in the Arab world. Although it originated in China, its universal strategic principles and tactical insights have transcended national and cultural boundaries, leading to its widespread translation, study, and application worldwide, including in the Arab world.^[1]

The Arab world's engagement with *The Art of War* by Sun Tzu dates back to an early period when cultural exchanges between the Arab region and China reached a certain peak. During this period, Arab scholars began translating and studying a large number of ancient Chinese texts, including *The Art of War*. These translations provided rulers, generals, and wise men in the Arab world with a window to understand ancient Chinese military thought, offering new perspectives and methods for their war and political decisions.



Sun Tzus *The Art of War* remains profoundly relevant in the modern world, with its principles resonating across fields beyond traditional military strategy. The core principles of adaptability, strategic planning, and understanding human behavior offer valuable insights for contemporary leaders in business, politics, sports, and personal development.^[2]

A classic example is Crown Prince Mohammed bin Salman of Saudi Arabia. After graduating and entering public service, he founded several business companies. He later served as a full-time advisor to the Expert Committee of the Council of Ministers of the Kingdom of Saudi Arabia. Subsequently, he was promoted to special advisor to the Emir of Riyadh Region through his eleventh career promotion. He also transferred to the Riyadh Governorate region and was appointed as the Crown Princes private office advisor and supervisor. Shortly after Prince Salmans accession, a royal decree in 2013 appointed Prince Mohammed bin Salman as a ministerial-level special advisor to the Crown Prince. In 2015, Crown Prince Salman was sworn in as King of Saudi Arabia. A royal decree in 2017 further designated his son Mohammed bin Salman as Crown Prince and Deputy Prime Minister, while he continued serving as Defense Minister.

According to Arab News, Saudi Arabia launched the "Vision 2030" in 2016, covering a series of development, economic, and social plans; he also pledged to end dependence on oil revenues by 2020 and discussed measures to reduce subsidies for the wealthy while assisting the poor. In an interview, Mohammed revealed that among the books he studied were ancient Chinese classics such as *The Art of War* by Sun Tzu, dating back to the 6th century BCE. This demonstrates the immense influence of this book. It is no exaggeration to say that Mohammed has rightfully earned the title of "Mr. Everything" in the eyes of Western diplomats—a reputation formed by various factors, with the books undeniable impact being a key contributor!

Another recent case in the Middle East is the conflict between Saudi Arabia and Iran. Michael Vatikiotis, senior advisor at the Swiss Center for Humanitarian Dialogue, delivered a speech on the theme of "The Art of Peacemaking". He stated that, as demonstrated by the recent reconciliation between Saudi Arabia and Iran, China has shown its capability to engage with conflicting parties and promote effective de-escalation. He also noted that "the concept of winning through non-violent means is in line with Sun Tzus theoretical foundation of subduing the enemy without fighting". This serves as a classic example of the enduring influence of the ancient text *The Art of War*.

Another notable example occurred in 1973 when Egyptian President Anwar Sadat launched a surprise attack on Yom Kippur (Judaisms Day of Atonement), a day when Israel implements nationwide shutdowns and defensive measures. The Egyptian forces swiftly breached the Israeli Baruf Line. This tactical approach has been interpreted by scholars as embodying Sun Tzus *Art of War* principle: "strike where the enemy is unprepared and catch them off guard." Although Sadat himself never explicitly cited this classic military treatise, his decision demonstrates strategic wisdom rooted in classical warfare theory.

The four Middle East Wars and prolonged conflicts between Arab nations and Israel had triggered economic collapse and widespread hardship, prompting the 1991 Madrid Peace Conference to initiate a new phase of peace negotiations. Notably, Egyptian President Anwar Sadats historic visit to Israel in 1977 facilitated reconciliation between the two nations. These developments validate Sun Tzus military principles— "avoiding combat unless absolutely necessary" and "maintaining national security and military strength." History has proven this doctrine: rational dialogue outweighs armed confrontation, while premature escalation inevitably leads to disastrous



consequences.

3. Application of The Art of War

3.1 Dissemination and application of strategic thinking

The Art of War by Sun Tzu emphasizes the importance of strategic thinking, advocating flexible adaptation and improvisational strategies. This philosophy resonates with military concepts in the Arab world, such as rotational tactics and guerrilla warfare. Arab rulers and generals drew strategic wisdom from Sun Tzu's work, applying it to their military campaigns to gain competitive advantages. The book's strategic principles also influenced political and diplomatic decisions in the Arab world. It highlights adaptive tactics and proposes the fundamental principle: "Know yourself and know your enemy, and you will never be defeated in a hundred battles." These concepts were widely adopted in Arab political and diplomatic practices, guiding state-to-state relations, regional security, and the protection of national interests.

3.2 Military education and training

The Art of War has profoundly influenced military education and training worldwide. In military academies and training institutions across the Arab world, this classic text is incorporated into curricula to cultivate strategic thinking, military expertise, and leadership skills. This practice not only preserves and promotes the wisdom of warfare from The Art of War but also lays the foundation for developing military professionals with global vision and strategic foresight. Such educational approaches have gained recognition and practical implementation not only in the Arab world but globally.

3.3 Cultural exchange and influence

The dissemination of The Art of War by Sun Tzu has also facilitated cultural exchanges and mutual learning between China and Arab countries. Through studying and understanding ancient Chinese military classics, scholars in the Arab world have gained a deeper understanding of China's history, culture, and wisdom, thereby promoting cultural exchange and mutual understanding between China and Arab countries.

Although the influence of The Art of War in the Arab world may be relatively limited compared with that in East Asia, it still has a certain influence on the local military thought, strategic planning and leadership management, and provides important reference and inspiration for the military and political decisions in the Arab world.

4. Cross-cultural Transformation of Military Wisdom and Future

Application in the Arab World

In ancient China, the strategic classic "The Art of War" by Sun Tzu not only had an influential impact domestically but also exerted profound influence globally. The geopolitical nature of the Arab world is inherently suited to the wisdom contained in this military treatise. Moreover, it not only resonates with historical experiences but also provides valuable strategic insights for future development and security.

4.1 History confirms: The echo of military wisdom in the Middle East conflict

Historically, The Art of War by Sun Tzu stands as a cross-cultural classic in strategic thought. When examining the Arab-Israeli conflict, many military tactics—whether large-scale or tactical—reveal parallels with Sun Tzu's principles like "swift resolution" and "leveraging small forces to



overwhelm larger ones." While the warring parties didn't explicitly cite Sun Tzu's ideas, their use of "deception in warfare" and "surprise tactics" perfectly aligns with core military doctrines. In essence, this timeless work offers insights that explain regional conflicts and provide theoretical frameworks for Middle Eastern disputes.^[4]

4.2 Translation and dissemination: the leap from words to ideas

The translation of military terminology across different linguistic contexts often determines whether readers can accurately grasp the original ideas. When core concepts are diluted during translation, military strategy loses its philosophical depth and becomes reduced to mere tactical techniques. Therefore, Arabic versions must strive to preserve the original strategic essence to avoid being "divine in spirit but incomplete in substance."^[5] Research by Qiu Jingna and Zhang Jingyuan further suggests that every translation constitutes a cultural reinvention. This perspective reveals that the dissemination of Sun Tzu's Art of War in the Arab world was fundamentally a dialogue at the intellectual level, rather than mere literal substitution. Particularly within contemporary Arab societies, where religious and ethical values hold paramount importance.^[6] Sun Tzu's philosophy has shaped modern security strategies through its flexible approaches of "knowing the enemy and knowing yourself" and "avoiding strength while striking at weakness". For Arab nations, this ancient classic not only provides insights into regional security and defense issues, but also offers guidance in economic transformation, energy competition, and diplomatic mediation.

In conclusion, the evolution of Sun Tzu's Art of War in the Arab world depends not only on its validation through military experience, but more crucially on translation quality and cultural adaptation. Only by engaging in profound dialogue with local intellectual frameworks and addressing contemporary security and economic challenges can it sustain its influence. From conflict resolution to diplomatic engagement, from national strategy to digital governance, the wisdom of military strategy could become a vital resource for the Arab world.

5. Conclusion

"The Art of War" is an ancient Chinese military classic. Its ideas have had a profound impact on the military fields of Arab countries, enhancing the wisdom and strategic awareness of military leaders while improving the efficiency and success rate of military operations. However, its influence in the Arab world extends beyond military affairs, encompassing political, leadership management, diplomatic relations, education and training, and other aspects. It has provided the Arab world with valuable strategic wisdom and management experience, promoting the development and progress of local society.

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An Exploration of Domestic Children's Furniture Research from a Knowledge Graph Perspective^①

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Abstract

This paper systematically explores the research frontiers in China's children's furniture field from a knowledge graph perspective. Utilizing relevant literature from the CNKI database as data sources, CiteSpace was employed for visualization analysis. By constructing collaboration networks among institutions and authorship collaboration graphs, combined with co-occurrence detection of high-frequency keywords, salience detection, and clustering analysis, the research trajectory in this domain is revealed. Domestic research on children's furniture began relatively early, with a steadily increasing volume of literature exhibiting multidisciplinary characteristics. Research institutions exhibit concentrated distribution with prominent core author groups, focusing on the synergistic relationship between children's furniture and developmental environments. Research hotspots have evolved from safety performance and modular design toward intelligent innovation and sustainable design, currently centering on new material applications, human-centered design, and parent-child interactive functionality development. Future research will expand into green sustainable design, child behavioral adaptability, and whole-life-cycle design, providing theoretical support for constructing a child-friendly home ecosystem.

Keywords

Knowledge graph, CiteSpace, Children's furniture, Data visualization

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1.Introduction

As the world's largest furniture manufacturing and consumption market, China's children's furniture industry has experienced vigorous growth in recent years, driven by demographic shifts and the upgrading of parenting expenditures. Children's furniture not only fulfills basic functional needs for daily living, learning, and recreation but also influences the development of behavioral habits, cognitive abilities, and overall physical and mental health. Its design philosophy and technological innovations directly reflect society's evolving concerns regarding children's growth environments^[1]. With the implementation of the “two-child policy,” increased investment in family education, and the awakening of green and safe consumption awareness, research in the children's furniture field has gradually transcended traditional craftsmanship boundaries, extending toward interdisciplinary convergence. While foreign academia has already focused on topics such as pediatric ergonomics, material safety, and educational design, domestic research still suffers from scattered themes, unclear trajectories, and weak theoretical frameworks, lacking a systematic carding of knowledge evolution pathways. This paper constructs a knowledge map of the children's furniture field using bibliometric analysis. Through visualization, it reveals the core author groups, hotspot evolution trajectories, and frontier trends in domestic research from 1999 to 2024. Aiming to overcome the limitations of traditional review methods, quantitatively presenting the discipline's evolving knowledge structure. This provides evidence-based support for paradigm shifts in children's furniture research, innovation in child-friendly design theory, and optimization of industry standards, thereby advancing the sustainable development of children's home ecosystems under the Healthy China strategy.

2. Data Sources and Research Methods

2.1 Data Source

This study utilized China National Knowledge Infrastructure (CNKI) as its data source, employing “children's furniture” as the core keyword and covering the time span from 1999 to 2024. Literature types were strictly limited to academic journal articles^[2]. Through a systematic screening process, conference papers, newspaper articles, and documents with low relevance to the research topic were excluded. Ultimately, 500 valid samples were obtained on January 3, 2025. All literature data were exported in RefWorks format to CiteSpace software for subsequent analysis, ensuring standardized data formatting and analytical procedures^[3].

2.2 Research Methods

The knowledge map visualization tool employed in this study is CiteSpace version 6.4.R1 (64-bit),



a visualization analysis tool developed by Professor Chao Mei Chen's team at Drexel University in the United States using the Java programming language [4]. This software emerged within the theoretical framework of scientometrics, integrating data mining algorithms with information visualization techniques. Its core technical architecture incorporates multidimensional analysis modules. Through visualization methods such as author collaboration networks, institutional association maps, and keyword co-occurrence matrices, it dynamically reveals knowledge evolution pathways and frontier hotspot distribution patterns within specific disciplinary fields [5]. As a quantitative data mining method, this tool effectively presents the knowledge structure and developmental trajectory of research domains by constructing knowledge maps, providing scholars with an intuitive understanding of field development trends. In the empirical analysis of domestic children's furniture research, this study leveraged the software's multidimensional analysis capabilities. These encompassed modules for researcher collaboration network analysis, institutional academic output distribution, keyword co-occurrence intensity detection, and emergent terminology identification. Through visualization, the system systematically presented the field's research status characteristics, hotspot migration trajectories, and future development trends, forming a comprehensive research solution combining dynamic monitoring and structural analysis functions.

3. Analysis of Current Document Issuance Practices

3.1 Analysis of Domestic Literature Publication Volume

According to the CNKI database, academic development in China's children's furniture research field exhibits distinct phased evolution characteristics (see Figure 1), with scholarly attention in this domain showing “policy-driven fluctuating growth.” Between 1996 and 2012, the annual publication volume surged from less than 3 papers to a peak of 52 papers in 2012, representing a 16-fold increase. This growth is closely linked to the mandatory implementation of the “General Technical Requirements for Children's Furniture” (GB 28007-2011) in 2011 [6]. Provisions in the standard concerning “structural safety” and “heavy metal content” directly drove a nearly 48% surge in publications during 2011-2012. However, the field entered an “industry-demand-driven” phase after 2013. Although the overall publication volume declined to an annual average of approximately 28 articles, minor peaks in 2017 (35 articles) and 2020 (29 articles) corresponded with events such as the 2016 Universal Two-Child Policy and the 2019 release of the White Paper on the Smart Children's Furniture Industry. The above analysis indicates that the field of children's furniture research maintains a high level of activity within current academic research.

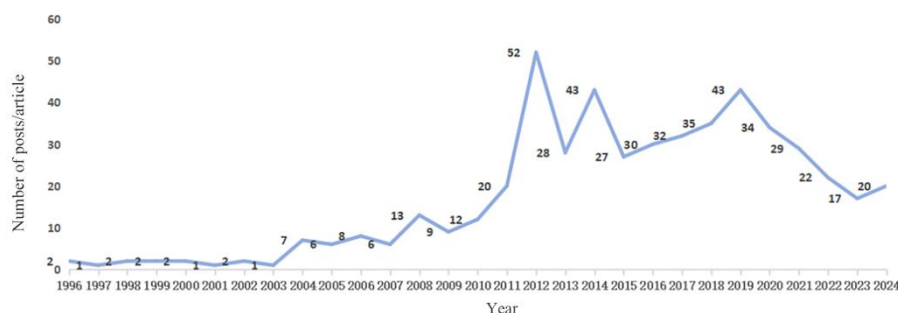


Figure 1. Trend in Domestic Children's Furniture Research Publications, 1996–2024

3.2 Citation Status of Published Papers

Based on the ranking results from the CNKI database citation analysis system, this study selected nine papers with significant academic influence. From a bibliometric perspective (see Table 1), the distribution of source journals reveals a pronounced concentration in core journals, with five papers published in industry-leading core journals. The specific distribution is as follows: three papers were published in Forest Products Industry, two in Furniture and Interior Decoration, and one each in Journal of Forestry Engineering, Packaging Engineering, and Journal of Shanxi University (Philosophy and Social Sciences Edition). In terms of research content: - 2 studies explored children's furniture design concepts - 2 focused on the practicality and adaptability of children's furniture - 1 analyzed emotional design principles for children's furniture - 1 examined the application of modular design methods - 1 investigated parent-child interaction-oriented design - 1 analyzed the application of TRIZ theory in design - 1 specialized in the standardized design of solid wood components for children's furniture [7].

Table 1. Analysis of Highly Cited Literature

Citations	Author	Source	Publication Date	Citations/ Times
An Analysis of Children's Furniture Design Concepts and Market Conditions in China	Dai Xiangdong	Forest Products Industry	2002-09-18	80
A Brief Discussion on the Practicality and Growth Potential of Children's Furniture	Li Kang	Furniture and Interior Decorating	2004-12-05	75
An Analysis of Emotional Design Principles for Children's Furniture	Tong Li	decoration	2012-2-01	69



Continued Table 1. Analysis of Highly Cited Literature

The Application of Modular Design Methods in Children's Furniture Design	Yan Li; Chen Yinghuan	Packaging Engineering	2010-01-20	67
Child-Friendly Furniture Design Based on Parent-Child Interaction	Miao Yanfeng; Xu Lu; Shen Liqian	Forest Products Industry	2017-08-06	63
Design Positioning and User Segmentation Based on Differentiation Strategy: A Case Study of China's Children's Furniture Industry	Zhang Nan; Guan Huiyuan	Journal of Shanxi University (Philosophy and Social Sciences Edition)	2018-05-15	57
Children's furniture should conform to the physical and psychological characteristics of children.	Zeng Chunrong	Journal of Shanxi University (Philosophy and Social Sciences Edition)	2004-12-25	52
Standardized Design Research on Assembly Techniques for Solid Wood Components in Children's Furniture	Xiong Xianqing; Zhao Linqi; Wang Chengfei; Huang Qiongtao; Zhang Shengqing	Journal of Forest Engineering	2018-01-11	49
Application of the 40 Inventive Principles of TRIZ Theory in Children's Furniture Design	Cui Chongyao; Zhang Jianyi; Du Qiang; Ma Hongming; He Xiangzi	Packaging Engineering	2017-01-20	49



4. Analysis of Domestic Publishing Institutions and Authors

4.1Research institution

Based on the CNKI database, the publication output and collaborative relationships of domestic research institutions were analyzed to identify the top ten institutions with the highest publication volumes (see Table 2) and generate an institutional collaboration network diagram (see Figure 2). As shown in Figure 2, the network comprises N=294 nodes, E=61 edges, and a network density of Density=0.0014. The publishing institutions are primarily forestry-related universities (see Table 2). Among them, Nanjing Forestry University has the highest publication volume with 60 papers, followed by Central South University of Forestry and Technology with 17 papers and Northeast Forestry University with 13 papers. Other universities have relatively fewer publications. Although there are many institutional nodes, the connections between them are weak, indicating a lack of academic exchange and resource collaboration among research institutions in the field of children's furniture.

Table 2. Top Ten Institutions by Publication Volume

Serial Number	Organization Name	Number of
1	Nanjing Forestry University	60
2	South China Forestry University	17
3	Northeast Forestry University	13
4	Hubei University of Technology	11
5	Jiaxing University	7
6	Beijing Forestry University	6
7	Guangdong University of	5
8	Taiyuan University of Technology	5
9	Qiqihar University	4
10	South China Normal University	4

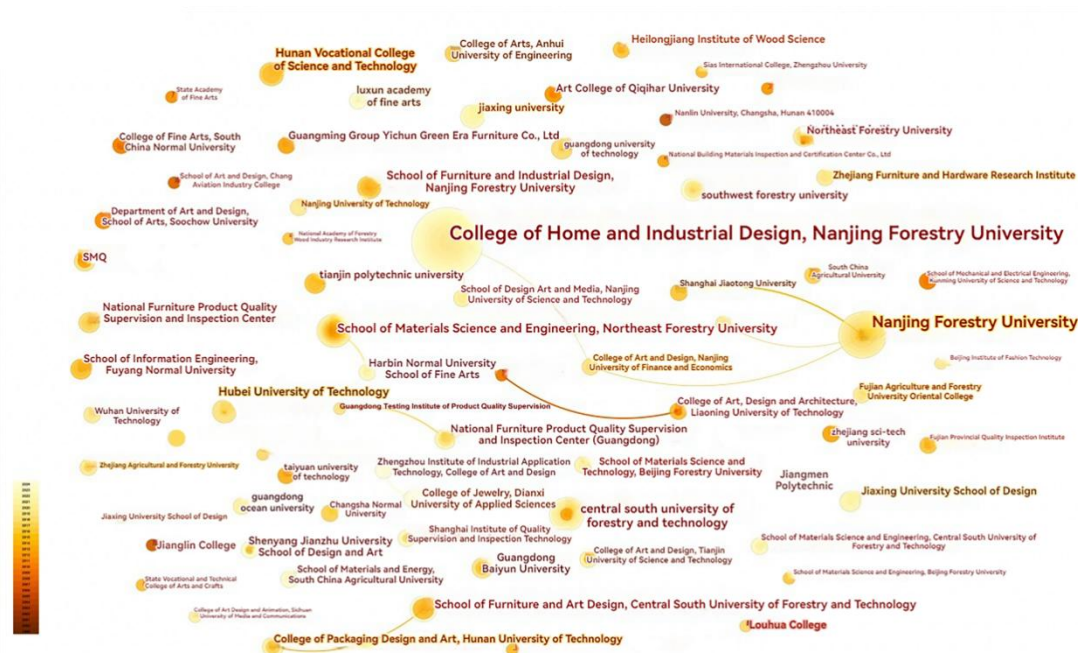


Figure 2. Collaboration Network Diagram of Domestic Children's Furniture Design Agencies

4.2 Co-occurrence Analysis of Authors

Based on the CNKI database, CiteSpace software was used to generate an author publication information table (see Table 3) and an author collaboration network diagram (see Figure 3) to analyze the collaborative relationships and publication contributions of scholars in the field of children's furniture research. As shown in Figure 3, the lines connecting nodes represent collaborative relationships between authors, while node size indicates the volume of publications by each author in this field. As revealed by Figure 3 and Table 3, the most prolific authors include Miao Yanfeng (9 papers), Yan Xiaoxing (6 papers), and Yang Yaping (6 papers). Furthermore, the co-occurrence network indicates that Miao Yanfeng, Yang Yaping, Yan Xiaoxing, Liu Zongming, and others exhibit extensive collaborative ties with other authors. Conversely, isolated nodes suggest scholars conducting independent research with limited academic collaboration.

Table 3. Author Information Table

Author	Year	Number of posts/per post
Miao Yanfeng	2011	9
Yan Xiaoxing	2015	6
Yang Yaping	2019	6
Guan Huiyuan	2021	4



Liu Zongming	2018	4
Yang Ting	2004	3

Continued Table 3. Author Information Table

Eastward	2014	3
He Jianhua	2005	3
Kang Lijuan	2016	3
Yu Dongjiu	2020	3



Figure 3. Author Collaboration Network Map

5. Research Hotspots

5.1 Keyword Co-occurrence

Keyword co-occurrence analysis serves as a concise summary of core content and research hotspots within literature, providing crucial evidence for bibliometric studies. Using the CiteSpace software for bibliometric analysis, we conducted keyword co-occurrence analysis on 500 documents. Based on the bibliometric results, this study obtained a keyword co-occurrence analysis map (see Figure 4) and a keyword frequency statistics table (see Table 4). The network comprises N=369 nodes, E=926 edges, and a density of 0.0136. After removing keywords with larger nodes and higher thematic relevance—such as “children's furniture,” “furniture design,” “design,” “furniture,” and “children's furniture design”—it becomes evident that ‘scalability’ and “safety” form the dual core of children's furniture research. “Growth adaptability,” exhibiting the highest centrality metric, confirms academia's deep response to children's dynamic developmental



needs. Techniques like modular reconfiguration and size adjustment enable furniture to evolve synchronously with children's height and behavioral patterns. Related research—such as ‘modularity’ and “multi-functional use”—all points toward the core proposition of cross-age functional adaptation. “Safety,” however, has been a high-frequency concern since 2004, highlighting the industry's fundamental focus on material toxicity and structural stability. Research on safety spans the entire product lifecycle of children's furniture, with safety protection technologies continuing to evolve within “innovative design.” Keywords emerging after 2010—such as “bionic design,” “parent-child interaction,” and “emotionalization”—signal a shift in research from functional fulfillment to experiential enhancement. The 2012 emergence of “parent-child interaction” expanded furniture design into family relationship building, reinforcing children's furniture's social attributes through gamified structures and collaborative functions [8]. Analysis indicates that the persistent presence of aesthetic and cognitive keywords like ‘color’ and “educational” reveals direct influence of children's psychological development needs on design decisions [9]. Subsequently, the rise of keywords like “application” and ‘materials’ reflects the deep integration of research and practice. The adoption of new eco-friendly materials—such as water-based paints and bamboo fiber composite boards—has brought the “green design” concept to fruition. Meanwhile, the methodological consolidation of “innovative design” and “design principles” has propelled research from case studies toward systematic theory, establishing a distinctive technical discourse system for children's furniture [10].

Table 4. Keyword Frequency Statistics Analysis Table

Serial Number	Year	Frequency/Time	Centrality	Keyword
1	2008	22	0.08	Growth Potential
2	2004	19	0.04	Safety
3	2013	12	0.01	Modularity
4	2014	12	0.02	Bionic Design
5	2010	9	0.01	Color
6	2006	9	0.01	Design Principles
7	2004	9	0.01	Playfulness
8	2012	7	0.01	Parent-Child Interaction
9	2016	6	0.02	Applications
10	2009	6	0.01	Emotional Appeal
11	2011	6	0.01	Safety
12	2019	6	0.02	Materials
13	2016	6	0.01	Interaction Design

15	2014	5	0.01	Multi-Functionality
16	2020	4	0.01	Innovative Design
17	2019	3	0.01	Interactivity
18	2011	2	0.03	Sustainability
19	2024	2	0.03	Practicality
20	2004	3	0.02	Versatility

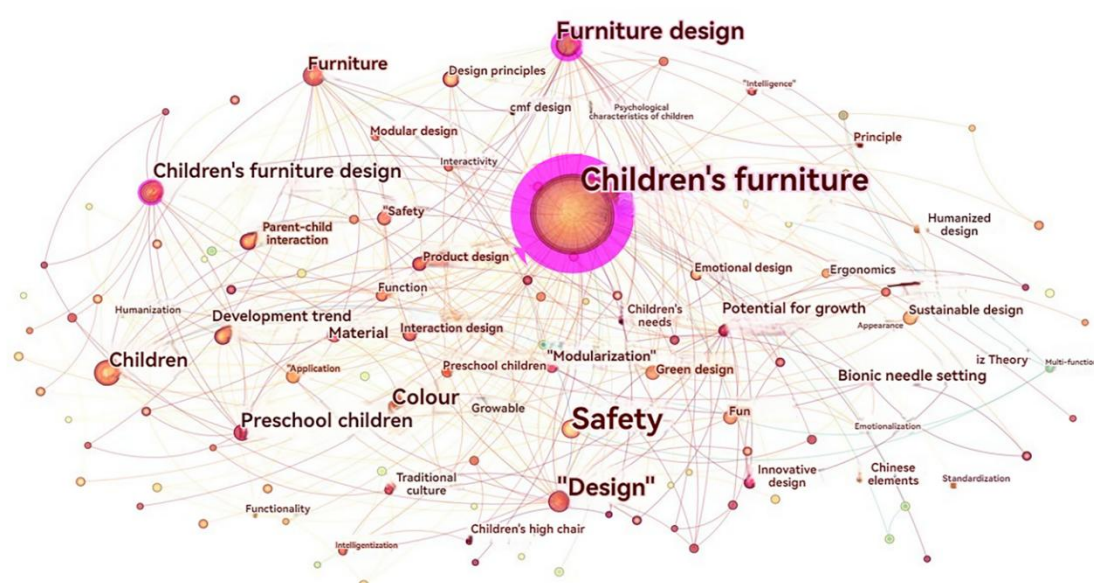


Figure 4. Co-occurrence Analysis Map of Keywords in Domestic Children's Furniture

5.2 Keyword Highlighting

By setting the threshold to 0.1 in the burst terms module of CiteSpace software, 25 burst terms were identified, revealing the emergence of keywords in China's children's furniture sector (see Figure 5). Based on the onset time and burst intensity exhibited by these terms, research hotspots and evolving trends within specific timeframes can be analyzed, enabling projections of future development directions [11]. The intensity coefficient reveals a hierarchy of research value: safety (3.72) > furniture design (2.47) > green design (1.71), reflecting a “Maslow's hierarchy of needs” evolution in children's furniture research.

Analyzing temporal progression, 2002 - 2009 constituted a foundational phase marked by industry-building research. The “market” (Strength=1.24) formed a research triangle with “public furniture” (1.27) and “school furniture” (1.27), indicating academia's focus on industrial standardization pathways following the 2002 implementation of the General Technical



Requirements for Children's Furniture. Research indicates that “public furniture” studies peaked between 2005 and 2009, coinciding with government initiatives to standardize compulsory education facilities. Researchers concentrated on analyzing ergonomic dimensions for desks and chairs. Notably, “child psychology” (1.33) emerged prominently in 2006, marking a shift in children's furniture research from purely functional design toward a dual “physiological-psychological” dimension. Scholars began examining the application effects of color psychology in kindergarten furniture. For instance, scholars like Xu Xiutong developed a professional color coordination scheme for children's bedroom furniture and interior environments based on the HSB color theory system. This approach considered both children's physiological development characteristics and psychological cognitive patterns, providing theoretical support and practical guidance for color design in children's living spaces ^[12].

The period from 2004 to 2014 entered a phase of safety refinement. “Safety” (3.72) remained the core theme throughout this decade. Research followed these deepening pathways: First, methodological innovation—research on “design methods” (1.35) focused on FMEA (Failure Mode and Effects Analysis) from 2010 to 2014, establishing 28 risk warning indicators for children's furniture, including sharp edges and gaps. Second, materials for children's furniture gained prominence. “Paper-based furniture” (1.19) emerged as a research hotspot from 2008 to 2011, with scholars validating the load-bearing capacity (static load $\geq 25\text{kg}$) and environmental advantages (VOC emissions 67% lower than wooden furniture) of honeycomb paperboard. Under the Upcycle theoretical framework, scholar Yu Dongjiu systematically analyzed the current design status and developmental challenges of children's furniture and paper-based furniture. Addressing issues like insufficient material recycling, he developed an innovative design strategy based on the upcycling of industrial packaging paper and successfully created modular children's furniture featuring recycled materials ^[13]. Yu Dongjiu achieved resource utilization of waste materials, providing an innovative solution for implementing sustainable design concepts in children's furniture ^[14].

The 2017 – 2024 research phase, entering a sustainable development stage, exhibits an “ecological-service” innovation pattern. In green design, “modularization” (1.45) research constructs life cycle extension models, demonstrating that detachable structures extend product lifespans by 3.2 years. Service system innovation manifested as “product design” (1.06) extending into service design. Scholars like Jiang Yuandi developed a series of nature-themed furniture based on preschoolers' psychological development toward nature affinity. By modernizing natural elements, they created refreshing home environments aligned with children's cognitive characteristics ^[15]. Wang Jinfeng and colleagues integrated children's innocence with bamboo's natural properties to design bamboo children's chairs, representing a new attempt at “ecological-service” innovation in children's furniture ^[16]. Zhu Yun and colleagues argue that applying sustainable design to multifunctional children's furniture is an inevitable trend of contemporary development ^[17].

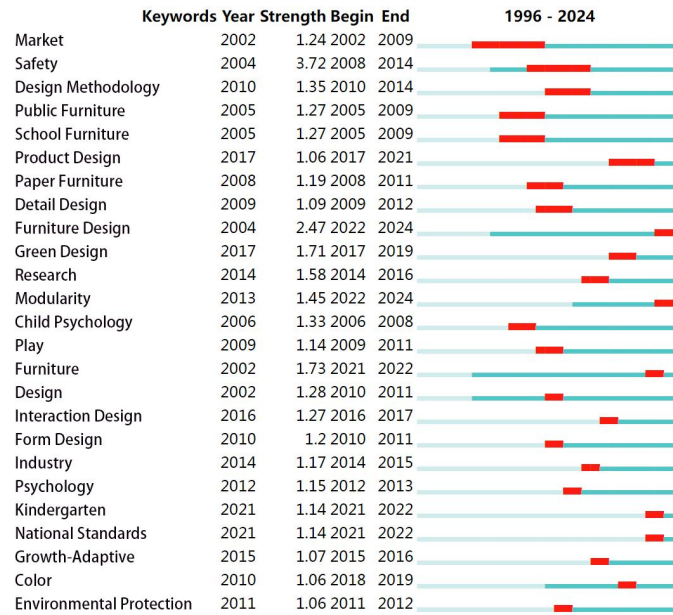


Figure 5. Keyword Emergence Map for Children's Furniture in China

6. Conclusion

This paper employs a knowledge graph perspective and utilizes the CiteSpace tool to conduct a systematic analysis of the research trajectory, hotspot evolution, and cutting-edge trends within China's children's furniture sector. Through bibliometric and visualization analysis of literature from the CNKI database spanning 1999 to 2024, the following core conclusions are revealed:

- (1) Domestic children's furniture research exhibits dual-track development characterized by “policy-driven” and “demand-pull” forces. The volume of literature has grown with fluctuations, while research themes have shifted from early focuses on safety and practicality toward intelligent and sustainable design, reflecting deep interaction between interdisciplinary convergence and evolving societal needs. Research institutions are centered around forestry-related universities, but collaboration networks remain loose, necessitating enhanced cross-domain synergistic innovation in the future.
- (2) Keyword analysis indicates that research consistently revolves around two core themes — “adaptability” and ‘safety’ — while gradually evolving into emerging hotspots such as parent-child interaction, biomimetic design, and green materials. The research trajectory extends from functional adaptation to emotional experiences and ecological services, highlighting the deepening of “child-centered” and “child-appropriate” design philosophies. Additionally, prominent term analysis reveals phased shifts in research focus, such as recent emphasis on sustainable design, intelligent technologies, and lifecycle concepts, signaling the discipline's progression toward more systematic and forward-looking development.
- (3) Future research should prioritize breakthroughs in the following areas: First, deepen studies on



the mechanisms linking children's behavioral patterns to furniture form, constructing dynamic design models based on ergonomic big data; Second, strengthen interdisciplinary integration of new material R&D and green manufacturing technologies to establish sustainable evaluation systems incorporating carbon footprint tracking; Third, explore AI-driven personalized customization systems to achieve precise alignment between children's furniture functionality and cognitive development. Through bidirectional interaction between theoretical innovation and practical exploration, this will propel children's furniture design from single-product development toward building home ecosystems, providing academic support for constructing child-friendly societies.

In summary, children's furniture research serves not only as a vehicle for design innovation but also as a crucial cornerstone for building a child-friendly social ecosystem. By presenting quantitative insights through knowledge graphs, this paper offers academia and industry a holistic perspective on research dynamics, thereby advancing the sustainable development and theoretical refinement of the children's furniture sector under the Healthy China strategy.

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The Modern Interpretation of Traditional Dai Ethnic Furniture Culture in New Chinese Style

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Abstract

The importance attached to traditional Chinese culture is constantly increasing, and new Chinese-style furniture is receiving more and more attention in the market. The Dai people, an ancient ethnic group in Southwest China, have a long history of bamboo craft. Dai furniture not only reflects the wisdom and aesthetic sense of the Dai people but also demonstrates the characteristics of simplicity, lightness, agility, and a reverence for nature, which are highly compatible with the new Chinese-style furniture. This paper aims to explore the innovative design approaches of Dai furniture in new Chinese-style furniture through in-depth research on traditional Dai furniture. The research not only helps to protect and inherit the traditional bamboo culture of the Dai people but also provides new ideas and methods for modern furniture design.

Keywords

Dai ethnic group, Traditional furniture, New Chinese style, Modern reinterpretation

1.Introduction

The "New Chinese Style" is not an unfamiliar concept. Emerging in the early 21st century, it is an inevitable product of the collision between globalization and localization trends in the design field against the backdrop of China's economic rise. On one hand, it represents a retrospective and homage to traditional Chinese furniture culture; on the other, it actively responds to modern lifestyles and aesthetic demands. However, a survey of the current market reveals that most so-called "New Chinese Style" designs remain confined within the framework of Ming-style furniture. Their design language often simplifies and reinterprets classic elements of Han culture, such as the circle chair and official's hat chair. This tendency toward homogenization not only stifles the innovative vitality of the New Chinese Style but also, to some extent, obscures the grand vision of Chinese civilization as a "diverse unity"[1]. Meanwhile, in the southwestern corner of Yunnan, the Dai people have cultivated a distinctive furniture art form within their unique natural and cultural environment. These pieces are characterized by their lightness, agility, and rustic simplicity, offering a striking contrast to the solid, weighty aesthetic of Ming and Qing dynasty furniture. This style provides a refreshing breath of fresh air for contemporary Chinese design, which has grown weary of established paradigms. Currently,



academic research on Dai art primarily focuses on clothing, dance, and architecture. However, systematic studies on their furniture, especially applied research integrating it with modern design, remain relatively scarce. Therefore, this study adopts an interdisciplinary approach spanning design studies, ethnology, and cultural anthropology. It aims to effectively extract and modernly interpret the unique "cultural genes" embedded within Dai furniture, thereby providing an innovative pathway for the contemporary transformation of ethnic culture.

2.Cultural Gene Analysis of Dai Ethnic Furniture and Its Compatibility with New Chinese Style

First is structure, its most visible characteristic—form and structural genes. The southwestern region of Yunnan features a humid tropical and subtropical climate, conditions that gave rise to stilted architecture. The earliest recorded mention of stilted buildings appears in the Book of Wei: Biography of the Liao People, which states, "They build dwellings atop trees by stacking timber, calling them 'gan lan'." This ancient architectural form persists to this day, typically employed in humid, hot, and rainy environments. This architectural philosophy profoundly shaped the form and structure of its furniture. Dai furniture (such as cabinets, shelves, and tables) generally exhibits characteristics of "lightness" "airiness" and "high legs" , resembling miniature stilted structures. Their structures predominantly employ mortise-and-tenon joints reinforced with bamboo or wood bindings, featuring predominantly straight lines complemented by necessary curves. The overall effect is one of uprightness and transparency. This structural DNA is not merely a formal language but an ecological wisdom adapted to the tropical rainforest environment, providing a classic case study of "form following environment" for modern design[2].

Second is the deconstruction of materials, craftsmanship, and ornamentation. In material selection and craftsmanship, the Dai people of Yunnan place particular emphasis on the poetic presentation of natural materials in furniture. A defining characteristic is the use of locally sourced materials, leading to the widespread application of indigenous materials such as bamboo, rattan, and cork. This practice aligns with the Dai people's animistic worldview, which holds that all things possess a spirit[3]. Bamboo and rattan weaving represent the most distinctive craftsmanship in Dai furniture, producing intricate patterns that create unique textural beauty and translucency. This reverence for natural materials and their ingenious application embodies the Dai people's simple materialist philosophy of creation, aligning perfectly with contemporary sustainable design principles. In terms of ornamentation, the decorative motifs on Dai furniture form a richly symbolic system. Peacock motifs symbolize auspiciousness, beauty, and kindness, while elephant designs represent strength, bountiful harvests, and blessings. These animal patterns undergo high abstraction and exaggeration, evolving into concise yet spiritually evocative designs. Botanical motifs like banana leaves and lotus flowers—typical tropical plants—exude vitality and energy. Religious symbols from Theravada Buddhism, such as pagodas and golden deer, also frequently appear in furniture decoration. These motifs are rendered through openwork carving, shallow relief, or painted techniques, favoring contrasting yet subdued tones like black, red, and gold. The overall style is rustic and mystical.

The design of Dai ethnic furniture aligns profoundly with the spiritual and aesthetic principles of the New Chinese Style. The deepest cultural roots of Dai furniture lie in its philosophy of "unity between heaven and humanity," which imbues it with a unique character—rustic, understated, approachable, and practical—pursuing a state of harmony with nature. Contemporary New Chinese design,



meanwhile, pursues an Eastern aesthetic spirit characterized by simplicity, ethereality, rusticity, and artistic conception. It emphasizes the fusion of material authenticity, humanistic care, and modern functionality[4]. On a spiritual level, their shared "natural philosophy" and "humanistic care" form the cornerstone of integration. The leisurely, tranquil, and unadorned lifestyle pursued by New Chinese Style resonates perfectly with the "poetic dwelling" embodied by Dai furniture; on an aesthetic level, the Dai furniture's lightweight structures, natural materials, and abstract patterns align perfectly with modern design values of simplicity, fluidity, and eco-consciousness, making it more adaptable to contemporary interpretations than many traditional elements. Moreover, the Dai's diverse ethnic cultural identity effectively broadens the singular narrative of New Chinese Style, which has primarily centered on Han Chinese culture.

3.Theoretical Approaches to Cultural Translation

Cultural translation differs from simple cultural translation or replication; it is a creative process of transformation. In the context of design studies, cultural translation refers to the process of reinterpreting and recreating traditional cultural elements through modern design language[5]. This process requires designers to respect cultural origins while embracing innovation. Based on a deep deconstruction of Dai ethnic furniture culture and an analysis of new Chinese-style design demands, this paper translates across three dimensions: form, spirit, and connotation.

The formal level is the most superficial, primarily achieved through abstraction, simplification, and deformation of visual symbols. The simplest approach involves abstraction and simplification. For instance, extracting the classic animal motifs revered by the Dai people—the peacock and the elephant. The most representative features, such as the eye-like patterns on the peacock's tail feathers or the curved lines of the elephant's trunk, can be distilled into minimalist geometric shapes or fluid curves. These simplified forms are then applied to furniture elements like legs and armrests. On the other hand, deconstruction and reconstruction can be employed, using the "stilted" high-leg, open framework structure as a design motif and combining it with the modular, assembly-style design of modern furniture. For instance, a bookshelf could be composed of multiple "stilted" unit modules, preserving the essence while infusing it with the playful appeal of modern composition.

The level of spiritual resemblance focuses more on cultural structure and function, transcending superficial symbols. By controlling materials and craftsmanship, and employing methods such as metaphor, deconstruction, and functional integration, cultural genes can be transformed into design language. Materials are the most distinctive feature of Dai furniture, with its forms and structures inseparable from bamboo and rattan. Though these materials possess natural textures, new technologies can breathe fresh life into them. For instance, subjecting bamboo to high-temperature carbonization yields deeper, more stable hues. Additionally, modern CNC carving technology can precisely fabricate the furniture's main structure, while intricate details—such as drawer fronts and cabinet doors—incorporate handcrafted Dai-style bamboo or rattan weaving modules. Combining bamboo with novel materials like metal, tempered glass, or acrylic creates striking textural contrasts and visual interplay.

The essence of meaning represents the highest level of interpretation, aiming to achieve a contemporary reinterpretation of cultural spirit and artistic conception. Through methods such as artistic conception creation, narrative design, and material dialogue, users are immersed in experiencing the philosophical outlook and lifestyle embedded within the culture. The Dai people primarily reside in Xishuangbanna Prefecture, Yunnan Province, an area characterized by tropical



rainforests, where the surroundings are tranquil and teeming with vitality. Bionic design can be achieved by leveraging the material properties of bamboo and rattan, then brought to life through light and shadow. For instance, light-colored wood and white rattan weaving can be used to express delicate, flowing lines. Lighting design then projects the rattan's texture onto walls as dappled light and shadow, mimicking sunlight filtering through banana leaves. Light filtering through the gaps in the rattan weave casts captivating, shifting patterns of light and shadow across the floor, seamlessly integrating function, form, and cultural resonance. This vividly interprets the translation between "material" and "meaning". When undertaking innovative design, one should first conduct an in-depth analysis and study of traditional Dai ethnic furniture to understand its characteristics and limitations in terms of structure, materials, and craftsmanship. Next, by integrating modern aesthetic concepts and lifestyle needs, the design should be optimized to better align with contemporary home styles and usage habits. Originally designed by ethnic minorities for practical convenience, traditional Dai furniture prioritizes functionality over aesthetic appeal. In innovative applications, traditional Dai elements can be integrated with modern functionality to create new Chinese-style furniture suitable for diverse settings and purposes. This approach highlights the aesthetic appeal of traditional Dai furniture while enhancing its practicality.

4. Conclusion

Traditional Dai furniture, as a vital component of China's rich traditional furniture culture, holds immense research value and significance for cultural preservation. Simultaneously, contemporary Chinese-style furniture, as the current leading design trend, requires infusion with fresh vitality and cultural depth. This study deconstructs the "cultural genes" of Dai furniture and constructs a translation pathway integrating its "form, spirit, and intent" with contemporary Chinese-style design, demonstrating a viable approach to modernizing and internationalizing ethnic design language. The ecological wisdom, natural aesthetics, and dynamic spirit embodied in Dai furniture serve not only as invaluable resources for breaking through the homogenization challenges in New Chinese design but also as essential materials for Chinese design to narrate diverse, multidimensional, and vibrant Chinese stories to the world. Future research may further explore the potential of integrating cutting-edge technologies like digital parametric design with ethnic craftsmanship, continuously driving cultural innovation and industrial upgrading in Chinese design.

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The Application of Artistic Healing in Mental Health Education in Colleges and Universities

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Abstract

The fundamental goal of mental health education courses in colleges and universities is to implement the principle of fostering virtue and nurturing talent. Through systematic teaching of mental health courses, it aims to help college students establish correct worldviews, outlooks on life and values, as well as a sense of social responsibility and mission. Against the backdrop of the intensifying global youth mental health crisis and the imbalance between the supply and demand of mental health services, artistic healing, as a new and typical interdisciplinary field, has gradually attracted widespread attention in recent years. In light of the current trend of vigorously promoting aesthetic education and attaching great importance to moral education in colleges and universities across the country, the scientific application of comprehensive artistic healing methods such as visual art, dance/movement and drama in mental health education in colleges and universities can effectively regulate students' emotions, help college students to timely vent, purify, and cultivate their emotions, emerge from gloom and difficulties, and renew their self-perception. The promotion and application of artistic healing in mental health education in colleges and universities is not only a technical supplement, but also a strategic choice to reconstruct the paradigm of mental health education. The application of artistic healing in mental health education in colleges and universities has important practical significance and academic value.

Keywords

Mental health education in colleges and universities; Artistic healing; Subject integration; Aesthetic education

In the current context where the psychological crisis among young people worldwide is intensifying and the supply and demand of mental health services in universities are imbalanced, artistic healing, as an emerging and typical interdisciplinary field, has gradually gained widespread attention in recent years. In response to the trend of universities across the country vigorously promoting aesthetic education and attaching great importance to moral education, the application and promotion of artistic healing is not only a technical supplement but also a strategic choice for reconstructing the paradigm of mental health education in universities. The application of artistic healing will effectively contribute to the development of mental health education in universities.



1.The achievements and gaps in the construction of mental health education in domestic universities at present

The aim of the mental health education courses in universities is to fulfill the fundamental goal of fostering virtue and cultivating talents. Through systematic teaching of mental health courses, these courses help college students establish correct worldviews, outlooks on life, values, as well as a sense of social responsibility and mission. At the same time, emphasis is placed on the moral cultivation and personality shaping of college students, enabling them to achieve all-round development based on mental health. Mental health courses are an important means for implementing all-round education. Through the design and implementation of the course system, mental health education runs through the entire learning and life process of college students. It not only includes systematic theoretical teaching but also rich activities and practical sections, allowing them to continuously improve their mental health levels through theoretical learning and practical experience. Moreover, course construction is also an important foundation for enhancing the quality of mental health education classroom teaching.

In recent years, the construction of mental health courses in universities has achieved certain results, but there are still some problems: for instance, course standards remain incomplete, the definition of course nature is vague, and implementation requirements lack specificity; the content of the textbooks is outdated, lacking scientificity and practicality, and cannot meet the needs of students; some universities have problems such as repetitive, misplaced, and disconnected content in their mental health courses, lacking systematicness and coherence; the course evaluation system is not perfect, with single evaluation indicators and unscientific evaluation methods... Among these problems, the insufficient integration and fusion of courses is a problem that deserves great attention. In mental health education in universities, the integration and fusion of related courses with other disciplines is insufficient, there is an isolated tendency, which leads to the inability to fully exert the psychological education function of the courses.

In response to the above issues and gaps, artistic healing may provide universities with a rich and creative solution and educational resources for mental health education. It can help standardize course standards, optimize teaching content, improve the textbook system, facilitate interdisciplinary integration, enhance the scientificity and effectiveness of mental health education courses, and thereby achieve high-quality development of mental health education.

2.The concept of artistic healing and its significance in introducing it into university mental health education

Based on the above analysis of the demands for the construction of university mental health education and the characteristics of the artistic healing discipline, it is not difficult to see the advantages and development prospects of artistic healing in mental health education. For example, in terms of resource integration and integrated development of disciplines, the core charm and unique value of artistic healing stem from its deep attribute of interdisciplinary integration. It does not simply superimpose art and psychotherapy, but rather integrates multiple disciplinary theoretical systems, methodologies, and practical experiences organically: for instance, based on psychology, especially the expressive therapy theory; the application scenarios of clinical medicine; the methodological support provided by the art discipline; the explanation of the



mechanism by neuroscience; the cultural perspective provided by anthropology and sociology; and the expansion of application scenarios by education. Through the integration of different disciplines, a complex system is constructed to understand human psychology, emotions, and behaviors, and to promote healing and growth.

Artistic healing uses art as a medium, through forms such as painting, music, dance, and drama, to help people relieve their emotions, release stress, and explore a therapeutic way to explore their inner selves. It breaks the limitations of traditional language expression and provides another channel for communication and release of the soul. Currently, in China, artistic healing has gradually gained attention and research in the fields of art creation such as fine arts, music, dance, and drama, as well as in professional colleges. However, in the broader academic field and public life, it is still in a relatively blank and exploratory stage.

From a psychological perspective, artistic healing holds unique value. When the human body desires to experience emotions, if processed through language, a significant amount of information will be lost. However, directly touching emotions through artistic media and non-verbal forms can lead to the acquisition of more authentic information. On the basis of ensuring physiological needs, people naturally begin to pursue psychological needs, which are higher-level needs. Artistic healing precisely meets the psychological needs of the human body.^[1]

During the creative process, the emotions, conflicts, and pressures in an individual's subconscious can be manifested concretely. For instance, an abstract painting might reveal anxieties that the creator was not aware of; an impromptu performance can serve as an outlet for repressed emotions. Art becomes a bridge connecting self-awareness and emotional expression, helping people confront their inner world and achieve self-healing; artistic healing also has a strong social attribute. In group artistic healing activities, participants establish emotional connections by sharing their works and creative ideas, gaining understanding and support from others, effectively alleviating feelings of loneliness and isolation, and building a positive interpersonal relationship network.

In an era where disciplines are increasingly specialized, artistic healing proves that true healing occurs at the intersection of disciplines. It is like a "rainbow bridge" weaving together diverse wisdom, allowing psychology to gain depth of expression, enabling art to have the mission of healing, and enabling science to understand the embodied nature of emotions. Ultimately, it points to a more holistic view of human nature - where reason and sensibility, individuality and collectivity, pain and transcendence are fused through the flame of creation into the resilience of life. This integration is not only a methodological innovation, but also a profound reconfiguration of the human existence. Of course, artistic healing is not omnipotent. It is more focused on assistance and guidance. For severe psychological disorders, professional medical means still need to be involved. At the same time, its healing effect varies from person to person, and not everyone can achieve comprehensive and effective healing through artistic creation.

In the process of conducting college students' mental health education, college mental health teachers have actively explored the use of artistic healing as a means to provide psychological counseling for college students, guiding them to better integrate into the teaching environment, effectively reducing students' resistance to mental health education, and thereby promoting the improvement of the quality of mental health work in colleges.^[2] In summary, artistic healing is a beneficial supplement to traditional psychological healing methods. In the fast-paced and high-pressure modern society, it has opened up a new path for people to pay attention to mental



health and achieve spiritual growth, and it is worthy of further promotion and in-depth exploration in various fields of society, especially in college mental health education.

3.The application of artistic healing in the practice of mental health education in universities

In the context of higher education, applying artistic healing to implement mental health education requires a precise understanding of the two important concepts: artistic healing and art education. Artistic healing and art education are closely related, yet they have distinct differences. The goal orientation of art education focuses on skill acquisition and aesthetic cultivation, while artistic healing focuses on trauma healing and potential stimulation; the assessment criteria of art education emphasize the completion degree of creative works, whereas artistic healing pays more attention to changes in physical and mental health levels.

In the practice of artistic healing, practitioners are required to integrate the identities of artists and psychotherapists into one. While not distorting the respective principles of the two disciplines, they aim to achieve the integration of art and psychology. Through the five senses (also known as the five perceptions: vision, hearing, smell, touch, and taste), individuals can recognize, explore, and discover their emotions and moods, discover themselves, relieve stress, relax the body and mind, and self-regulate. Therefore, artistic healing is universal and does not require participants to possess professional knowledge and skills in art. Participants are allowed to communicate through different sensory forms. The participation of the five senses fully activates all the organs of the human body and the entire perception system, enabling participants to be heard and seen to a greater extent during the healing process, thereby better expressing their needs and receiving help. In the mental health education of colleges and universities, instead of using monotonous preaching, we should employ a variety of artistic creation and expression methods such as painting, music, dance/movement and drama to guide students to fully engage as the creators and oppressors in the educational theme. We should emphasize the interactivity of education and teaching, which will greatly enhance students' sense of participation and enthusiasm.

Currently, artistic healing has increasingly diverse forms that are being practiced in the mental health education of domestic universities. For instance, the visual artistic healing promoted and constructed by visual art professional colleges such as the Central Academy of Fine Arts and the China Academy of Art, through various visual art paths to practice artistic healing: painting and drawing, expressing emotions and ideas using watercolor, acrylic, colored pencils, pastels, etc., which is convenient for implementation in most universities. Another example is sculpture and pottery, achieving therapeutic effects through tactile and three-dimensional material work. Then there is mandala drawing, creating art within a circular boundary to guide students in meditation, integration, and soothing emotions; music therapy, organizing activities through drumming, playing simple instruments, and improvisational singing, or creating a specific musical time-space to guide students to listen to specific music for meditation, achieving relaxation, soothing, and relief effects; dance/movement therapy, releasing emotional and psychological emotions through creative body language such as movements and dance, alleviating psychological pressure, enhancing physical freedom and expression ability, and improving mental health; drama therapy, achieving communication and interaction promotion, learning, etc., through games, physical activities, rituals, performances, metaphors, distance maintenance, emotional expression, group



participation, self-exploration, etc., to help college students improve their physical and mental conditions.^[3] In addition, artistic healing methods such as poetry therapy and writing therapy have also gradually entered the mental health education of universities. Since art is interrelated, artistic healing does not occur in isolation; other disciplines that recognize the unique role of art in therapy have also developed simultaneously. Expressive therapy or expressive artistic healing uses various art forms in therapy, which is a combined form of expressive therapy.^[4]

It is well known that college psychological counseling and psychological guidance are also important platforms for college mental health education. In such educational work, relevant theories and methods of artistic healing can also be widely applied. On the basis of fully learning the professional knowledge of artistic healing and proficiently mastering the skills of artistic healing, college psychological counselors can guide the visiting students to engage in artistic creation and expression, and use the relevant process and results as tools to detect the psychological state of the visitors. Through this, they may bypass language defense and obtain effective information that traditional conversation counseling cannot reach. For relatively mild mental health problems, college psychological counselors can effectively utilize the hardware and software resources of artistic healing in colleges, use artistic healing methods to guide the visitors, and according to the actual situation of the cases, use comprehensive means such as visual art, dance/movement and drama to adjust the students' emotions, effectively helping college students to timely vent, purify, and cultivate their emotions, and get out of gloom and difficulties, and renew their self-awareness.

Of course, to achieve the aforementioned ideal educational outcome, college mental health educators need to, on the basis of having a solid professional level in psychology, delve deeper into learning the relevant techniques and cutting-edge concepts of artistic healing, and enhance their professional capabilities and vocational qualities. At the same time, colleges can introduce more professional teachers in artistic healing to strengthen general education and professional discipline construction. By leveraging the resources and strength of the colleges, they can enrich the methods and approaches of college mental health education, and strive to break down students' preconceived notions and resistance towards mental health education. Let the college mental health educators become "artists as therapists" and "educators as art therapists". Let them achieve the effect of "softening the rain and nurturing things silently" in their daily college mental health education work.

Applying artistic healing in university mental health education holds significant practical significance and academic value. By using artistic healing to comprehensively build university mental health education, it will strongly promote the development of holistic education in universities. Through the coordinated development of the five dimensions of cognition, emotion, body, society, and spirituality, it will solve the structural contradictions such as fragmented knowledge, separation of body and mind, and excessive instrumental rationality in traditional university mental health education. It will also break the characteristics of traditional education, which mainly relies on knowledge indoctrination and is dominated by standardized assessment, and has fixed disciplinary boundaries. By integrating human wisdom, it aims to cultivate healthy and complete individuals - this is not only a transformation of the teaching methods in university mental health, but also has the potential to become a contemporary response of Chinese civilization to the question of "what it means to be a person".



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Integrating *The Classic Quotes by Xi Jinping* into Higher Vocational Education's Chinese Traditional Culture Courses: Teaching Innovation and Practice^①

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Abstract

This paper focuses on the intrinsic connection between *The Classic Quotes by Xi Jinping* and Chinese traditional culture, exploring innovative teaching practices in higher vocational education courses on Chinese traditional culture. It proposes the educational philosophy of "integrating classical references into courses and nurturing students through culture," combining the characteristics of higher vocational education with case-based teaching to blend Xi Jinping's use of classical references with the core values of Chinese traditional culture. This approach enhances students' understanding and identification with Chinese traditional culture, cultivates their sense of family and national commitment, and fosters a sense of social responsibility. The article provides a reference model for the reform of Chinese traditional culture courses in higher vocational institutions.

Keywords

The Classic Quotes by Xi Jinping, Higher vocational education, Chinese traditional culture, Teaching practice

1. Introduction

Chinese fine traditional culture is the root and soul of the Chinese nation, representing the wisdom accumulated over five thousand years of civilization. *The Classic Quotes by Xi Jinping* as an important manifestation of the ideology of socialism with Chinese characteristics in the new era, profoundly reflects the organic unity of Chinese fine traditional culture and contemporary Chinese values. President Xi Jinping has emphasized on multiple occasions that "the Chinese culture should be creatively transformed and innovatively developed." Integrating Chinese traditional

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culture education into higher vocational education is not only an important means of inheriting Chinese fine traditional culture but also a crucial measure for cultivating high-quality technical and skilled talents with cultural confidence, a sense of family and national commitment, and a firm belief in socialist core values. However, the current teaching of Chinese traditional culture courses in higher vocational colleges still faces some issues: on the one hand, the course content is mainly focused on traditional classic culture, with insufficient integration of the ideology of socialism with Chinese characteristics in the new era; on the other hand, teaching methods and approaches are relatively traditional and not closely connected to students' professional characteristics, making it difficult to stimulate students' interest in learning and cultural identity. Therefore, how to incorporate Xi Jinping's classical references, a valuable resource that embodies both Chinese traditional culture and the value concepts of the new era, into higher vocational Chinese traditional culture courses and explore innovative teaching practices has become an urgent and important topic to address.

2. Analysis of the Points of Convergence Between The Classic Quotes

by Xi Jinping and Traditional Chinese Philosophical Thought

The Classic Quotes by Xi Jinping share profound points of convergence with the ideas of pre-Qin philosophers. Below is an analysis of the points of convergence between Xi Jinping's Use of Classical References and the thoughts of Confucius (Confucianism), Laozi (Taoism), Mozi (Mohism), and Han Feizi (Legalism):

2.1 "Harmony in Diversity" and "Harmonious Coexistence"

Confucius proposed in *The Analects: Zi Lu* (《论语·子路》) that "A noble person seeks harmony without uniformity, while a petty person seeks uniformity without harmony." Here, "harmony in diversity" emphasizes pursuing harmony based on respecting differences, advocating for consensus among diverse perspectives and achieving harmony through communication. It underscores seeking harmonious coexistence while respecting diversity.

President Xi Jinping referenced the concept of "harmony in diversity" in his April 1, 2014, speech at the College of Europe in Bruges, further developing the idea into "harmonious coexistence." President Xi stated: "China advocates 'harmony in diversity,' while the EU emphasizes 'unity in diversity.' China and Europe must work together to promote the flourishing of civilizations from all over the world." ^[1] This discourse highlights the importance of "harmony in diversity" in the context of globalization, advocating for common development and world peace by respecting cultural and developmental model differences among countries.

President Xi Jinping's quote to "harmony in diversity" represents a modern interpretation and development of Confucius' ideas. In the context of globalization, the concepts of "harmony in diversity" and "harmonious coexistence" are not only applicable to cultural exchanges but also to international economic cooperation. Both emphasize achieving common development through cooperation and dialogue while respecting diversity and differences. This philosophy provides important value guidance for students in higher vocational international economics and trade programs, emphasizing the importance of respecting the cultures, economic models, and development needs of different countries and regions in international economic cooperation.

2.2 "Planning for Greatness in Small Beginnings" and "Seeking Progress



While Maintaining Stability"

Laozi proposed in the *Dao De Jing* (《道德经》): "Plan for difficulty while things are easy; plan for great things while they are small. All difficult things in the world must begin with something easy; all great things in the world must begin with something small" (Chapter 63). This emphasizes that any complex task should start with simplicity and attention to detail, focusing on the foundation and advancing step by step. This idea reflects the wisdom of "seeing the big in the small," meaning that by paying attention to details and foundations, one can ultimately achieve grand goals.

President Xi Jinping has referenced this idea on multiple occasions, including in his speech at the second plenary session of the 18th Central Committee of the Communist Party of China, particularly when emphasizing the work method of "seeking progress while maintaining stability." He stated: "Plan for difficulty while things are easy; plan for great things while they are small. All great things in the world must begin with something small; all undertakings throughout history have been accomplished through concrete efforts." This discourse highlights the importance of starting with details and focusing on the foundation in complex tasks, advancing steadily and solidly to achieve goals. [2]¹¹³

Laozi's "plan for difficulty while things are easy; plan for great things while they are small" aligns highly with President Xi Jinping's "seeking progress while maintaining stability" philosophy. Both emphasize starting with simplicity and attention to detail, focusing on the foundation, and advancing step by step in complex tasks. This philosophy is not only applicable to personal growth but also to the field of international economics and trade, especially in the context of globalization. In international economic cooperation, attention to details and foundations is essential to achieve long-term stable development.

2.3 "Comprehensive Love and Mutual Benefit" and "Mutual Benefit and Win-Win Cooperation"

Mozi, the founder of the Mohist, advocated for "comprehensive love," which means loving everyone without distinction, and emphasized "mutual benefit," which involves achieving common interests through mutual assistance. Mozi believed that the foundation of social harmony lies in mutual respect and mutually beneficial cooperation among people. He proposed "mutual benefit through exchange," meaning achieving social harmony and stability through mutually beneficial cooperation. He stated, "All people in the world should love one another; the strong should not oppress the weak; the many should not plunder the few; the wealthy should not insult the poor; the noble should not look down upon the humble; and the cunning should not deceive the innocent." (《Mozi·Jian Ai》)

President Xi Jinping stated in his speech at the National University of Singapore on November 7, 2015: "China has always advocated for 'the strong not oppressing the weak, and the wealthy not insulting the poor,' and has long understood the principle that 'even a great nation will perish if it seeks war.' Some people propagate the 'China threat theory,' which may stem from a lack of understanding of China's history and culture and its current policies, or from misunderstandings and biases, or perhaps from hidden motives. China adheres to the path of peaceful development and an independent foreign policy of peace. This is not a temporary expedient but a strategic choice and a solemn commitment." [3] He has repeatedly emphasized the importance of "mutual



benefit and win-win cooperation" in international economic cooperation, stating, "Only by strengthening unity and cooperation, and deepening mutually beneficial and win-win partnerships, can countries achieve common development." This concept applies not only to international relations but also to international trade and economic cooperation.

Mozi's "comprehensive love and mutual benefit" philosophy shares a high degree of conceptual alignment with President Xi Jinping's "mutual benefit and win-win cooperation". Both emphasize achieving common interests and promoting social harmony and economic development based on mutual respect and mutually beneficial cooperation. Mozi's ideas provide a profound theoretical foundation for "mutual benefit and win-win cooperation," while President Xi's "mutual benefit and win-win cooperation" represents the modern development and practical application of Mozi's philosophy.

2.4 "Governance by Law" and "Comprehensive Governance by Law"

Han Feizi, a representative figure of the Legalist, advocated for "governance by law," emphasizing the authority and universal applicability of law. Han Feizi believed that the key to national governance lies in the formulation and enforcement of laws. Only through the regulation and constraint of laws can social stability and long-term peace and security of the state be achieved. He proposed "All laws are impartial, and all measures are straight," stressing that everyone must abide by the law equally, regardless of their status.

President Xi Jinping has proposed the important idea of "comprehensive governance by law" since the 18th National Congress of the Communist Party of China, emphasizing that the rule of law is an essential safeguard for the modernization of the national governance system and governance capacity. He stated, "When the rule of law thrives, the country prospers; when the rule of law declines, the country falls into disorder." This concept is not only a continuation and development of Han Feizi's "governance by law" thought but also a modern interpretation of the central role of the rule of law in national governance.

Han Feizi's "governance by law" philosophy shares a high degree of alignment with President Xi Jinping's "comprehensive governance by law". Both emphasize the authority and universal applicability of law, advocating for social stability and long-term peace and security of the state through the rule of law. Han Feizi's ideas provide a theoretical foundation for "comprehensive governance by law," while President Xi Jinping's "comprehensive governance by law" represents the modern development and practical application of Han Feizi's philosophy. This concept is also applicable to international trade and economic cooperation, where the parties involved in contracts should comply with relevant laws and regulations to ensure their legitimate rights and interests are not infringed upon.

President Xi Jinping's classical references share profound points of convergence with traditional Chinese philosophical thought in multiple aspects. The core concepts embedded in his classical references, such as "harmonious coexistence," "seeking progress while maintaining stability," and "mutual benefit and win-win cooperation," have formed deep theoretical connections with Confucianism, Daoism, Mohism, etc. in Chinese traditional culture. This convergence not only reflects the cultural roots of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era but also provides a theoretical basis for the modern inheritance of Chinese traditional culture.



3. Exploring the Integration of The Classic Quotes by Xi Jinping into Teaching Practice in Higher Vocational Education Courses on Chinese Traditional Culture

In the teaching of Chinese traditional culture courses in higher vocational education, it is essential to combine students' professional characteristics, employ the educational philosophy of "incorporating classical references into courses and nurturing students through culture," and deeply explore and explain the points of convergence between The Classic Quotes by Xi Jinping and Chinese traditional philosophical thought. By integrating The Classic Quotes by Xi Jinping with the core values of Chinese traditional culture, students' understanding and recognition of Chinese traditional culture can be strengthened, fostering a sense of family and national commitment and social responsibility. This approach also helps students better understand and practice Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, promoting the inheritance and development of excellent Chinese traditional culture.

The following discussion will take the international economics and trade major in higher vocational education as an example, using case studies, discussions, and situational teaching to help students deeply understand the application of The Classic Quotes by Xi Jinping and Chinese traditional philosophical thought in international trade and economic cooperation.

Case 1: The China-ASEAN Free Trade Agreement

The China-ASEAN Free Trade Agreement is a free trade agreement signed between China and the ten ASEAN countries, officially established on January 1, 2010. It was China's first free trade agreement negotiated with foreign countries and the largest free trade agreement among developing nations. After the agreement was implemented, trade volumes between China and ASEAN countries continued to grow. Additionally, the China-ASEAN Free Trade Agreement also promoted cooperation in tourism, culture, and education between the two sides, enhancing mutual understanding and friendship among their peoples. The construction of the China-ASEAN Free Trade Zone has made positive contributions to the economic development of Asia and the world.

Case 2: The China-Pakistan Economic Corridor

The China-Pakistan Economic Corridor is one of the most important and critical cooperation projects under the Belt and Road Initiative. Launched in 2013, it is a joint initiative of the governments of China and Pakistan. The project covers multiple fields, including transportation, energy, and infrastructure. The implementation of the China-Pakistan Economic Corridor project has significant importance for the economic development and improvement of people's livelihoods in both China and Pakistan. However, the project also faces some challenges and issues. The China-Pakistan Economic Corridor is also a model of the Belt and Road Initiative, demonstrating the power and significance of cooperation.

Case 3: Disputes over Contracts for China-Europe Railway Transport

As the Belt and Road Initiative progresses, cooperation between China and Central and Eastern European countries in infrastructure, transportation, and trade has achieved notable results.



However, due to various issues arising during the signing and execution of transport contracts, disputes have become frequent.

Plaintiff: A certain international trade company (referred to as "the plaintiff")

Defendant: A certain logistics company (referred to as "the defendant")

In May 2019, the plaintiff signed a contract for China-Europe railway transport with the defendant, agreeing that the defendant would be responsible for transporting a batch of goods from a city in China to a city in Europe. The contract stipulated that the transportation costs would be 100,000 RMB, and the insurance costs for the goods would be 10,000 RMB. After the contract was signed, the plaintiff paid the full amount as stipulated. In June 2019, the plaintiff handed over the goods to the defendant for loading. However, due to the defendant's failure to exercise reasonable care during transportation, the goods were destroyed in a fire during transit. Upon this, the plaintiff claimed compensation from the defendant, but the defendant refused to compensate on various grounds. Having no other choice, the plaintiff brought the defendant to court.

Group Discussion: Combining the three cases, explore the application of the concepts of "harmony in diversity" and "harmonious coexistence," "paying attention to details and making great efforts" and "seeking progress while maintaining stability," "mutual love and mutual benefit" and "win-win cooperation," and "governance by law" and "comprehensive governance by law" in international economic cooperation.

Simulation Practice (Situational Teaching): Select one of the three cases to simulate a negotiation scenario, requiring students to respect differences, seek consensus, and pursue win-win cooperation during negotiations. Students are divided into groups to play the roles of negotiators in the three cases. Through simulated negotiation processes, students can experience the importance of the concepts of "harmonious coexistence," "seeking progress while maintaining stability," "win-win cooperation," and "governance by law" in international trade negotiations.

Reflection and Summary: Students are required to select one of the cases and write a short essay after class about the importance of "harmony in diversity" and "harmonious coexistence" (or "paying attention to details and making great efforts" and "seeking progress while maintaining stability," "mutual love and mutual benefit" and "win-win cooperation," or "governance by law" and "comprehensive governance by law") in international economic cooperation. They should summarize their learning experiences.

Teacher's Summary of Teaching Cases:

Case 1: The successful practice of the China-ASEAN Free Trade Agreement fully demonstrates the importance of the concepts of "harmony in diversity" and "harmonious coexistence" in international economic cooperation. Through respecting differences, seeking consensus, and pursuing win-win cooperation, China and ASEAN countries have achieved common development in economic, environmental, and social fields.

Case 2: The successful practice of the China-Pakistan Economic Corridor fully demonstrates the importance of the concepts of "paying attention to details and making great efforts" and "seeking progress while maintaining stability" in international economic cooperation. By focusing on details and laying a solid foundation, the China-Pakistan Economic Corridor has achieved



high-quality project implementation. This case provides valuable experience for the implementation of the Belt and Road Initiative.

Case 3: In international economic cooperation, especially in cross-border transport contract disputes, the concepts of "governance by law" and "comprehensive governance by law" are particularly important. They require all parties involved in signing and fulfilling contracts to strictly adhere to relevant laws, ensuring the legal binding force and enforceability of contracts, and thus safeguarding the fairness and order of international trade.

Cases 1 and 2: These cases fully demonstrate the importance of the concepts of "mutual love and mutual benefit" and "win-win cooperation" in international economic cooperation. Through respecting differences, seeking consensus, and pursuing win-win cooperation, China has achieved common development with ASEAN countries, as well as with Pakistan and other nations, providing an important example for the construction of an open world economy.

Teaching Effectiveness and Evaluation:

Through the aforementioned teaching methods, students can not only understand the importance of the concepts of "harmony in diversity" and "harmonious coexistence," "paying attention to details and making great efforts" and "seeking progress while maintaining stability," "mutual love and mutual benefit" and "win-win cooperation," and "governance by law" and "comprehensive governance by law" in international economic cooperation but also enhance their professional practical skills and international perspectives. These teaching practices lay a solid foundation for students' future careers.

This teaching design not only inherits and promotes Chinese traditional culture but also a concrete practice of Xi Jinping's concepts of "harmonious coexistence," "seeking progress while maintaining stability," "win-win cooperation," and "governance by law" in international economic cooperation. Through such teaching practices, students can better understand and practice these concepts, contributing to the construction of a more harmonious and mutually beneficial international economic order.

4. Conclusion

As an important manifestation of the Thought on Socialism with Chinese Characteristics for a New Era, The Classic Quotes by Xi Jinping not only represent the modern inheritance of outstanding Chinese traditional culture but also serve as a valuable resource for promoting the innovative development of Chinese traditional culture.

Integrating The Classic Quotes by Xi Jinping into innovative teaching practices in higher vocational education courses on Chinese traditional culture not only reflects the organic unity of excellent Chinese traditional culture with the values of the new era but also provides new approaches and methods for cultivating high-quality technical and skilled talents with cultural confidence, a sense of family and national commitment, and a sense of social responsibility in higher vocational colleges and universities.



Through continuous exploration and practice, we will further promote the creative transformation and innovative development of fine traditional Chinese culture, and contribute to the realization of the Chinese Dream of the great rejuvenation of the Chinese nation.

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A Glimpse into Lu Xun's Portrayal of Female Consciousness through the Images of Xianglin Sao and Ai Gu

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Abstract

Lu Xun, as a pioneering writer of modern Chinese literature, excels in creating works with profound strokes that depict the soul, delving into and presenting the essential core hidden deep within human nature. In his fictional works, Xianglin Sao's "silent plea for help" and Ai Gu's "desperate struggle" form two typical female images with significant differences. This article takes Xianglin Sao and Ai Gu as the research subjects, exploring the complex form of the coexistence of the "dawn of awakening" and the "shackles of predicament" of female consciousness in Lu Xun's writings, and further revealing the deep influence of the social power structure on the process of female consciousness awakening.

Keywords

Hesitation, Female, Awakening, Power structure, Feudal ethics and rites

1.Introduction

Lu Xun's literary and artistic charm is not only reflected in his innovative breakthroughs in novel forms, using modern techniques to narrate novels and achieving integration with Western literature. Moreover, his works are for both art and life. The souls of the characters in his works can achieve dialogue with readers across time and space. He always used words as a blade, attempting to pierce through the false appearances of the times. Just as he said in "Have the Chinese Lost Their Self-confidence?": "When it comes to the Chinese, one must not be deceived by the self-deceiving makeup on the surface, but rather look at their bones and spines."^[1] This "removing the makeup to reveal the true face" of clarity is precisely the core color of Lu Xun's creative process.

In a piece written by Zhou Zuoren shortly after Lu Xun's death, there is such a sentence: "Lu Xun had a characteristic in his writing of novels and essays that was beyond others' reach, namely, his profound insight into the Chinese nation."^[2] This profound insight into the nation is reflected in Lu Xun's collection of short stories, "Pang Huang". The title page of this collection specially



quotes a passage from Qu Yuan's "Li Sao": "I set out from Cangwu in the morning and reached Xuanpu by nightfall. I wished to linger a while at this fairy gate, but the sun was setting fast. I ordered Xihe to slacken her pace and not to hasten towards the mountain of Yanzhi. The way ahead is so long without ending, yet high and low I'll search with my will unbending." Lu Xun placed this passage on the title page, on the one hand, to reflect his own and the intellectuals in his works' persistent pursuit of ideals, mirroring their unremitting exploration of social and life truths; on the other hand, the expression of "the long road ahead" and "seeking upward and downward" also implies the difficulty of social transformation and the awakening of consciousness at that time, further highlighting his attitude of persistently thinking and seeking breakthroughs in his "Pang Huang" situation. The characters of Xiangling and Aigu in "Pang Huang" are typical bearers of this insight. Through these two typical female characters, he attempts to awaken the deep female consciousness hidden in women's hearts, and hopes to promote the establishment of their own spiritual system and ultimately achieve their own value and spiritual freedom.

2.Xianglin Sao's Confucianism, Sacrifice, and Fatalism

The typical female character in Lu Xun's works, Xianglin Sao, is derived from the short story "Festival" in his collection "Wandering". Just from the title "Festival", it is easy for readers to fall into an automatic mindset - with the word "festival" carrying auspicious connotations as the title, the article seems to be praising a wonderful life. This preconceived guess is particularly evident in daily teaching practice: when students first see the title, they usually assume that this is a text with a warm tone and a beautiful content.

However, when students are asked to conduct in-depth reading of the text during the teaching process, they may become "confused" due to the stark contrast between the text and their expectations, and they will raise numerous questions: Why is the story's ending so tragic and the narrative atmosphere so gloomy, yet it is called "blessing"? In fact, this contradiction between "name" and "reality" precisely embodies the high level of writing and satirical artistry of Lu Xun. Just as when students raise such questions, Lu Xun responds by saying: Through this seemingly abnormal title setting, Lu Xun forces readers to actively think about the gap between appearance and essence, and "being able to trigger people's thinking" is the core sign of the vitality of literary works.

The process of reading is inherently a process of reshaping the soul. Literature uses words as a medium to purify the filth within people's hearts, and also uses profound reality to awaken the consciousness that lies deep within people's hearts and which they themselves have not even realized. The writing of "Blessing" about Xianglin Sao's tragic life perfectly interprets this point.

From the content of the text, Xianglin Sao's life was always in a cruel contrast to the core scene of "Blessing". When she was in her late twenties, she worked as a helper at her uncle's home. She was agile in her movements and diligent in her work. Every year during the busy time when



Ruzhen prepared the offerings for the gods, she was an indispensable participant. However, after she suffered the loss of two husbands and the grief of losing her child, she changed from a diligent helper to a "unlucky person" and "bad omen" in the eyes of the people of Ruzhen, regarded as a "bad husband".

In the "Explanation of the Heart Sutra" of the "Diamond Sutra", there is such a sentence: "Why? If the mind has a fixation, it is not truly fixed. One should not generate a mind based on form, nor should one fixate on sound, fragrance, taste, touch, or dharma. One should generate a mind that is not attached to anything. Therefore, the Buddha said that the Bodhisattva's mind should not fixate on form in giving alms. Subhuti, the Bodhisattva should benefit all sentient beings in this way." [3] This emphasizes the spirit of the Buddha's compassion towards all beings without discrimination, treating everyone equally and generously. However, what is rather ironic is that when Xianglifou heard the advice from Liu Ma, she wanted to donate the threshold at the temple. The temple official initially refused to allow her to do so, and only reluctantly agreed when she was so anxious that she shed tears. The so-called equality of all sentient beings is merely a concept found in the scriptures. Once a person gains power, they begin to distinguish between the rich and the poor, wear a veil of prejudice, and attempt to distance themselves from the ominous.

Even though she withdrew the accumulated wages from her aunt and managed to donate the money to build the threshold, attempting to "atone for her sins" and regain the respect of others by this means, hoping that the people of Lu Town would regard her as a normal person, the prejudice of the people in Lu Town still did not disappear - Uncle Si firmly prevented her from touching the offerings, as if her touch would cause the good fortune for the coming year to "meet bad luck and fly away". Therefore, during the most lively and busy time of the year-end blessings in Lu Town, Xianglin Sao was actually the most idle and the most lonely person.

It is worth pondering that "Kefu" was originally an illogical and absurd label under feudal ethics. It was neither something that Xianglin Sao "cultivated" over time, nor something she "brought with her" from birth. Instead, as a woman from Lu Town, she not only didn't receive blessings for her, but was even ridiculed and satirized by them. They even felt relieved that such a tragic life wasn't theirs! This further highlights the slow and difficult pace of the awakening of the collective consciousness of women.

Xianglin Sao once naively believed that donating money could help her overcome the barriers of others' prejudices. However, her repeated compromises to those around her never occurred to her that the deep-seated prejudices in people's hearts were far more difficult to overcome than the tangible barriers - such prejudices were "higher than the sky and deeper than the sea", and no matter how hard she tried, she could not eliminate them. In the end, Xianglin Sao's tragedy was not an accidental event of her personal fate, but a social inevitability caused by the cold society and feudal ethics.

Xianglin Sao's personal female consciousness had not yet awakened. She desperately craved recognition from others in order to satisfy her need to be regarded as a normal person. Finally,



when she died on the most bustling celebration night in Lu Town, the joyous "blessing" contrasted sharply with her tragic death. Lu Xun used this powerful irony to thoroughly expose the hypocrisy of feudal ethics and the indifference of society, and also made readers deeply understand the critical power hidden behind the text in the midst of shock.

3.The Dependent Dilemma in Ai Gu's Struggle

Lu Xun's writings always provide people with inspiration for life, prompting them to reflect on the meaning of life and the value of existence. As Calvino said, "Modern novels are an encyclopedia, a method of seeking knowledge, especially a network of relationships among various events, people and affairs in the world." [4] Lu Xun's short story "Divorce" centers around the character of Ai Gu, weaving a complex network of interweaving relationships between feudal ethics, social power and individual resistance - readers can not only see the bold and resolute resistance posture of Ai Gu, but also feel sorry for her ultimately powerless and unyielding ending.

From the initial portrayal of the character, Ai Gu was not a submissive woman in the traditional feudal context. She grew up in the care of her family and, subconsciously, had already formed a preliminary personal survival logic, namely, "if you are bullied, you must resist", and she always practiced this principle through actions. After suffering injustice in her husband's family, she dared to propose a divorce in an era when feudal ideology was deeply rooted, and even frequently made a fuss and caused a commotion, attempting to defend her dignity through intense means.

Aigu was full of confidence in the outcome of her struggle, firmly believing that she would eventually win. This consciousness of fighting for personal rights was extremely rare among rural women at that time. However, Aigu's path of resistance was completely deviated from the preset course due to the appearance of the "Seven Elders". The direction of events seemed beyond her control, and she even fell into self-doubt.

Before Ai Gu met the Seventh Elder, Wang Degui's words, "People who are well-educated and sensible always speak the truth for others. For instance, if someone is bullied by others, they will come forward to speak the truth. They don't care about whether there is alcohol to drink," convinced the innocent Ai Gu without a doubt. She regarded the Seventh Elder as a "well-informed intellectual" and naively believed that he would uphold justice, speak up for her, and act as a fair judge. She even expected that this meeting would benefit her.

However, the reality was completely contrary to her expectations: In fact, the seven elders did not stand on her side, and even her father, who had always supported her, chose to remain silent. Ai Gu instantly found herself completely isolated. Eventually, under the suppression of the authority of the seven elders, Ai Gu completely gave in - she transformed from the initially bold "cactus" to a "soft peach" that could be manipulated at will, and reluctantly accepted the outcome of compromise.

To deeply explore the root cause of this transformation, the core lies in the fact that Ai Gu's degree of self-awareness was always limited: Although she had the courage to resist, she always placed



her hope in others and longed to rely on external forces such as "the Seven Elders", "father", "brother", etc. to support herself, failing to truly establish an independent self-spiritual system and personal resistance logic.

More importantly, in the power structure of the feudal society, "a rural woman filing for divorce" was inherently an act that violated traditional ethics and was considered a "grave offense against the state". The ruling class would not fight for her rights, and so-called "cultured and sensible" intellectuals did not truly speak up for the oppressed. Through the tragedy of Ai Gu, Lu Xun profoundly exposed the suppression of individuals by the feudal power system, and also pointed out that in the context of the old era, if women lacked a thorough awakening of themselves, their struggles would ultimately fall into a helpless predicament.

4. The Predicament of Being Semi-awake and Semi-asleep

The "total unawareness" of Xianglin Sao and the "half-awareness and half-confusion" of Ai Gu, although having significant differences in the degree of awakening of female consciousness, both end up in tragic "different paths leading to the same destination". The core predicament of both is that they failed to break free from the spiritual dependence network woven by feudal ethics under the social power structure - Xianglin Sao completely placed her hope for survival on the acceptance of those around her, by donating money for the threshold and adhering to the virtue of a wife, hoping to gain the recognition that she is "a normal member of the same kind" under the label of "no husband is auspicious"; Ai Gu, on the other hand, placed her fighting spirit on the support of external authorities, relying on her father's protection, her brother's assistance, and even regarding the seventh-generation elder as the "manifestation of justice", fantasizing about using the power of authority to reverse the marital predicament.

They never questioned the rationality of the feudal system itself. The former regarded the shackles as the basis for their existence and stability, while the latter mistook the oppressors as the righteous judges. In essence, both were prisoners subdued by the code of conduct, with no freedom of choice and no bright future ahead.

This commonality of spiritual dependence is more evident in the constraints on the perception of "female value". The life value of Xianglin Sao was always tied to the identities of "wife" and "mother". After losing her husband twice in succession and unfortunately losing her child as well, she completely fell into a quagmire of self-destruction, desperately craving others' affirmation and ignoring the establishment of her own spiritual system. Such an outcome was destined to be tragic; Ai Gu's resistance demands also did not break free from the traditional framework that "husband must be loyal to wife". Even when she made a big fuss at her husband's family, it was only to regain the status of "legal wife", and she never thought that women could break away from the traditional prejudice that defines their value through marriage. She completely ignored such a possibility, and the outcome was naturally a failure. Through these two female characters in his works, Lu Xun tore open the deep logic of feudal oppression: It not only bound women with



external rules, but also imprinted the traditional standards of women's value in women's hearts, making them, in an unconscious or semi-conscious state, actively fall into the cage of etiquette. This "self-discipline" tragedy is far more suffocating than tangible oppression, and it also strongly confirms the difficulty of the path of awakening of female consciousness - only by completely breaking the spiritual dependence on the feudal system can one truly take the first step towards freedom and construct one's own spiritual value system.

5. Conclusion

Xianglin Sao and Ai Gu, although they are fictional rural female characters created by Lu Xun, are typical manifestations of the tragic stories of women under the oppression of feudal ethics. Although their life trajectories are different - Xianglin Sao gradually succumbs to suffering, while Ai Gu reluctantly compromises after resistance - they both ultimately point to the crushing of individual dignity and life value by the feudal system. The fictional nature of literature does not weaken its real power; instead, Lu Xun used words as a medium to plant seeds for readers to think: He used Xianglin Sao's tragic death to question the hypocrisy of feudal ethics, and used Ai Gu's compromise to expose the indifference of the power system. Ultimately, he awakened the drowsy and numb consciousness of the world. The ultimate significance of this awakening lies in guiding people to break free from the shackles of old ideas and establish an independent spiritual system - as the tragedies of these two women indicate, in the "sea of suffering" under feudal oppression, true redemption is never relying on external forces, but achieving self-awareness and spiritual freedom. When individuals break free from constraints in the spiritual realm, they will have the confidence to have "light-footed steps" in real life. Through these classic characters, Lu Xun not only completed the criticism of the old era, but also left spiritual inspirations that transcend time: Only by upholding spiritual freedom can one hold onto oneself in the complex reality and truly control the direction of life. This is also the core reason why these literary figures still have vitality through the years.

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Legal guarantee and industry self-discipline in the supervision of Internet audio-visual programs

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Abstract

As an important field of ideology, Internet audio-visual programs have developed rapidly in recent years, but the legal supervision is very difficult, and there are many disputes in the academic circle. As the experts and scholars who study the audio-visual programs on the Internet, we should look at this issue from a global perspective and put forward concrete measures to solve these problems, so as to guarantee the network security and cultural security of our country.

Keywords

Internet audio-visual programs; Legal Supervision; Industry self-discipline

On December 20, 2007, the State Administration of Radio, Film and Television and the Ministry of Information Industry of the People's Republic of China jointly formulated and issued the Regulations on the Administration of Internet Audiovisual Program Services, which plays a certain role in controlling the chaos of Internet audio-visual programs and promoting their benign development. However, it is not a law yet. More than 10 years later, the Internet environment has changed greatly, presenting a good situation of great prosperity and transmutation of audio-visual programs, but there are also many works that violate laws, regulations and ethics, and there are urgent need to formulate relevant laws to regulate and deal with them.

Through sorting out and analyzing the current legislation and provisions on the administrative supervision of online audio-visual programs, we investigate and learn from relevant foreign legislative experience, combined with China's practical problems, put forward suggestions to improve the administrative supervision legislation of online audiovisual programs from the aspects of regulatory subjects, regulatory matters, supervision methods, etc., and strive to be beneficial to promote the legalization process of China's Internet audiovisual programs administrative supervision, so that they can embark on the aesthetic and artistic track.

I. Overview of research results at home and abroad

Through the search for CNKI, we found that the research results on the legal system of Internet audio-visual program supervision are rare, and there are more achievements of Chinese experts



and fewer achievements of Western experts. The emergence of this situation seems to confirm a certain difference in Chinese and Western network culture: that is, China attaches more importance to the supervision of Internet audio-visual programs, while the West ignores the supervision of Internet audio-visual programs. Analyzing the existing results can still draw some useful inspiration.

(1) Research on the supervision system and model of Internet audio-visual programs

In his paper, Xu Shuai (2016) put forward a new idea of resource sharing on existing monitoring platforms, believing that the monitoring method should be re-optimized to realize real-time, rapid automatic capture and analysis of all audio-visual programs, leave the selected audio and video data containing unhealthy information to the staff for judgment, and provide the source address of these data in order to better combat cybercrime and ensure the security of cyberspace. Ren Junqing (2007) believes that the dissemination of information on the Internet has enriched people's spiritual lives, and its monitoring is a difficult problem. It is also a system project involving many relevant departments, with a lot of investment in both human and material resources. It is a feasible solution to supervise a large number of Internet audio-visual programs with complex content. It is a feasible solution to learn from the supervision methods of traditional media.

(II) Research on government responsibility for the dissemination of Internet audio-visual programs

Zhu Hong (2018) believes in his master's thesis that in recent years, relevant government regulators have issued a series of regulations on Internet audio-visual programs and carried out a number of governance actions to effectively eliminate bad audio-visual programs on the Internet to ensure the healthy development of cyberspace. However, due to the open, free and constantly upgrading characteristics of the Internet, coupled with the iterative and civilianization of network technology, the task of managing network violations and vulgar bad information is very difficult, and traditional regulatory methods are far from enough. Peng Dan (2020) believes in his master's thesis that in the "Internet+" era, how to seize opportunities, meet challenges, and create a new model of ideological education for "Internet+" college students' ideological education, and ensure that it is in keeping pace with the times has become a major issue that needs to be solved in the current government and university ideological education.

(3) Research on the legal formulation and implementation of Internet audio-visual programs

Huang Lulu (2020) believes in her master's thesis that some foreign countries have stipulated laws on online audio-visual programs, which is worth learning from. For example, Germany has legislating increased the protection of citizens' privacy rights, implementing hierarchical management of content, and creating a civilized and orderly online environment for minors. Lei Yang et al (2015) believe that in the face of the guidance and governance of the cyber public opinion space, one is to lead the trend of the online public opinion field under the banner of socialist core values; the other is to govern the public discourse space of online public opinion based on the Internet regulatory legal system.

II. Practical and theoretical significance of research

The communiqué of the Sixth Plenary Session of the 19th Central Committee of the Communist Party of China pointed out that "The Party attaches great importance to the Internet, the main battlefield and forefront of the ideological struggle, improves the leadership and management system of the Internet, adheres to the regulation of the Internet in accordance with the law, and



creates a clear cyberspace." The study of the legal system of Internet audio-visual program supervision is a brand-new topic. It has both theoretical value and practical significance. It requires experts from all aspects to complement each other and solve key problems together.

(I) Theoretical significance

Internet audio-visual programs bring convenience to people, and there are also content and quality problems. Some false and bad information spread rapidly through the special platform of the Internet in the process of dissemination, infringing on the public interest and even affecting national cultural security. For such problems, the government must solve theoretical problems, formulate relevant legal systems, and regulate and correct them.

(II) Practical significance

The establishment of the Internet audio-visual program supervision system can monitor various forms of audio and video website programs on the Internet, carry out relevant search, query, identify and sort out and classify them one by one, carry out data investigation and analysis of the content of audio-visual program websites, and timely understand and master relevant information through the ranking statistics of the website, and promote the health and prosperity of Internet audio-visual programs.

III. Research content, key points and difficulties and innovative ideas

The Sixth Plenary Session of the 19th Central Committee of the Communist Party of China raised the issue of strengthening the governance of cybersecurity. Guangdong, which belongs to the southern gate of the motherland, should pay more attention to this issue. The supervision of Internet audio-visual programs is related to national security and the healthy growth of teenagers. Governments at all levels should pay close attention to it and take measures. As experts and scholars, we should grasp the key points, overcome difficulties, meet challenges, and strive to achieve innovative results.

(I) Main research content

The legal system refers to the general term of all the legal principles and rules of a country or region. From a macro perspective, the legal system is relatively close to the concept of the legal system. This concept includes the general term of a country's legislative system and judicial system, commonly known as the "legal system"; 2. The legal system refers to the various systems formed when applying legal norms to adjust various social relations.

With the deepening of media integration, all-media communication has gradually become the mainstream trend, and the online audiovisual industry has flourished. In order to meet the new development and management needs, the State Administration of Radio and Television recently issued the Radio and Television Law of the People's Republic of China (Draft for Comments) (hereinafter referred to as the "Draft for Comments") to solicit opinions from the public. If the draft law of this department is passed by the National People's Congress, it will be a law that should be followed by the Internet audiovisual industry. We mainly carry out in-depth research on the relevant regulations related to Internet audio-visual programs in the Draft for Comments.

1. Classified supervision is a trend

As two different media forms, online audio-visual programs and traditional radio and television programs have now formed two sets of regulatory models. In terms of censorship, traditional TV dramas adopt licensing, while online audio-visual programs adopt record management; in terms of broadcast methods, traditional radio and television are limited by channels and time periods, and



the number of programs that can be broadcast is limited, while online audio-visual programs need to meet the diverse needs of different audiences, require higher numbers and innovation, and have more flexible forms.

2. Same standard online and offline

The unified management of online and offline is the main legislative idea of the Exposure Draft, reflecting the determination of the radio and television department to strengthen the supervision of online audio-visual programs. Although the Radio and Television Law has not yet been promulgated, the management of network audio and video has been incorporated into the legislative system of Internet laws and regulations. An important significance of the formulation of the Radio and Television Law is to supplement and adjust the existing legal system and be consistent with the management methods of online audio-visual programs to ensure that radio and television are not weakened by the strong development of online audio and video, nor to affect the development of the latter by overprotecting the former. This is a major innovation and difficult point of this legislation.

3. Bad artists should be punished

Audio-visual programs produced and broadcast on the Internet have a large audience and high social attention, and some artists have even become objects for teenagers to imitate and learn. As the leading actor and broadcaster of Internet audio-visual programs, it should be "two virtue and art". However, in real life, some artists ignore social ethics and legal systems and fall into the quagmire of "pornography, gambling and poison". For such bad artists, special legal provisions should be formulated to punish them. However, different experts have different opinions on the duration of the penalty.

4. Film and television grading is a misunderstanding

Article 19 of the Regulations on the Administration of Minor Programs issued by the State Administration of Radio, Film and Television in 2019 also makes it clear that special areas for minors should be established for online audio-visual programs. On this basis, the Draft for Comments puts forward more detailed requirements. In addition to the establishment of special zones, special broadcast periods should be formed, evaluation mechanisms should be established, etc., and these requirements should be extended to all radio and television program integrated broadcasters, not just for online media.

(II) Focus and difficulties of the research

Key point: From a macro perspective, the legal system is relatively close to the concept of the legal system. Of course, we cannot simply equate the legal system with legal provisions. In response to the problems existing in the current Internet audio-visual program supervision system and the lack of systematic solutions, we propose to build a unified regulatory platform and legal system for Internet audio-visual programs, realize the sharing and co-managed of multiple regulatory systems, realize the rapid analysis and processing of massive audio-visual program data, accurately grasp the quantity, dynamics, scope and impact of the

Difficulties: 1. At present, China is in a period of social transformation, and diversified social trends and different public opinion forces constitute a more complex public opinion environment than ever before. The development of the Internet, especially the rise of online audio-visual programs, has profoundly changed the original network 生态环境 and added difficulty to research.

2. Terrorism-related audio-visual programs are one of the most active forms of cyber terrorism at



present, and it is also a worldwide problem facing international counter-terrorism. The harm of audio-visual programs involving terrorism is characterized by globalization and involves 国际法.

3. There are still problems that the government's supervision of the dissemination of Internet audio-visual programs to a certain extent are not clear, the legislative content is lagging, and the research and development of regulatory technology needs to be strengthened.

(III) Innovation points

1. Internet audio-visual programs have exposed various drawbacks in the tide of market economy, such as vulgar content, pornographic programs, violent details, etc., facing more legal risks. China's Internet development started late, the regulatory technology is not mature enough, and regulatory laws have not yet formed a complete system. The lack of legislation at the legal level, the diversification of regulatory subjects, the large number of regulations and many conflicts with each other, and certain conflicts of interests between regulatory authorities make it difficult for the legal supervision of Internet audio-visual programs in China.

2. Due to the low threshold for Internet access, in order to pursue immediate interests, some illegal websites relax their own self-correction and self-examination of website content, and let websites spread political reactionary, obscene and pornographic, bloody violence, vulgar and harmful and other bad audio-visual programs, which seriously affects the mental health of teenagers.

3. With the continuous development of the mobile Internet in recent years and the advent of the 5G era, it will undoubtedly change people's lifestyles. Under the background of 5G, the dissemination of mobile Internet audio-visual programs will also be more extensive and rich in content. The corresponding supervision of mobile Internet audio-visual programs will become more urgent, and relevant legal systems must be formulated.

IV. Main areas of research

If the supervision and management departments of radio, film, television, telecommunications, etc. find that the violation of these regulations does not belong to the responsibilities of the department, it shall be transferred to the department that has the right to deal with it. Only by formulating and improving the Internet Audiovisual Program Management Law can this emerging art of technology and art grafting from death in the womb, not to arouse the disgust and boredom of the audience, and be conducive to court trial and administrative punishment.

The competent departments of radio, film, television and telecommunications shall establish a public supervision and reporting system. The public has the right to report the illegal acts of audio-visual program service units, and the relevant competent departments shall deal with them in a timely manner, and shall not shirk the but, let alone cover up or instigate them.

(I) Comparison of the supervision subjects of Chinese and Western Internet audio-visual programs
China is a socialist country, and the subject of supervision of Internet audio-visual programs is undoubtedly party organizations and governments at all levels. The competent telecommunications department shall provide the necessary technical system interface and website data query materials to the competent department of radio, film and television in accordance with the relevant provisions of the state. The Western Constitution stipulates that "freedom of speech" and "freedom of publication" are sacred laws, which stipulates that the government has no right to supervise Internet audio-visual programs. However, Western countries have actually been regulating Internet audio-visual programs, and have taken warning and shutting down audio-visual programs that violate Western values, and even detain and sentence their producers.



(II) Legal Exploration of the Supervision of Internet Audio-visual Programs

For the supervision of Internet audio-visual programs, due to legal differences and cultural conflicts, countries have different practices. It takes time and process to explore the supervision of Internet audio-visual programs, and a lot of regulatory experience has been gradually improved in the process of constantly dealing with new problems.

(3) Legal definition of the supervision content of Internet audio-visual programs

Audio-visual programs provided by Internet audio-visual program service units and accessed by network operators shall comply with the provisions of laws, administrative regulations and departmental rules. Audio-visual programs that have been broadcast should be kept in full for at least 60 days. Anyone who violates the provisions on the administration of public security shall be punished by the public security organ according to law; if the case constitutes a crime, the judicial organ shall investigate the criminal responsibility according to law.

(4) Self-discipline system framework for the Internet audio-visual program industry

Personnel engaged in serving Internet audio-visual programs; they should adhere to serving the people and socialism, adhere to correct guidance, put social benefits first, build a socialist core value system, abide by the socialist legal system and moral norms, vigorously carry forward the ideology and culture that reflects the development and social progress of the times, study aesthetic theory and artistic skills, strive to inherit China's excellent traditional culture, provide more and better Internet audio-visual program services, and meet the growing cultural needs and spiritual pursuits of the people.

The formulation and improvement of relevant laws and regulations on Internet audio-visual programs are related to the healthy development of this new art. It is also conducive to China to make full use of this art category to promote socialist core values, shape the image of socialist newcomers, and gradually establish an online audio-visual aesthetic system with Chinese characteristics.

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Cultural Differences in Marriage Concepts: A Comparison of Attitudes toward Marriage Between China and the West

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Abstract

This paper examines the differences in marriage concepts between China and the West through a cross-cultural lens, comparing key aspects such as the nature and purpose of marriage, decision-making, marital practices, and attitudes toward divorce. It identifies the core cultural divide as rooted in collectivism versus individualism. Chinese marriage is shaped by Confucian ethics and family orientation, emphasizing responsibility, stability, and social integration. In contrast, Western marriage prioritizes individualism, valuing love, personal freedom, and flexible relationships. The article also discusses signs of convergence in modern society and highlights the practical implications for cross-cultural understanding and marriage studies. For today's individuals, integrating the strengths of both traditions—building marriages grounded in emotion with responsibility as support—can promote personal growth and social well-being.

Keywords

Chinese and Western concepts of marriage, Cultural differences, Collectivism, Individualism, Cross-cultural communication

1. Introduction

Marriage, as a fundamental institution of human society, embodies dual connotations: those of cultural values and social norms. Throughout the long sweep of history, China and the West have developed distinct concepts of marriage—differences that manifest not only at the surface level, such as in the purposes of marriage and spousal selection criteria, but also in deeper-seated cultural divergences: between collectivism and individualism, and between family orientation and individual orientation. From a cross-cultural comparative perspective, this paper systematically delineates the core differences in marital concepts between China and the West, analyzes the cultural logic underlying these differences, and explores the trend of conceptual integration against the backdrop of modern society. In doing so, it aims to provide a theoretical reference for



cross-cultural understanding and academic research on marriage.

2. The Cultural Divide between the Essence and Purpose of Marriage

2.1 China: The Social Construction Dominated by Family Ethics

Traditional Chinese marriage is based on the core concept of "harmony between the two sexes, serving the ancestral temple above and continuing the family line below" as described in *The Book of Rites: The Meaning of Dusk*, with the main purpose of continuing the family line. Marriage is not only about the union of individuals, but also about the expansion and connection of family relations. The economic conditions and family status of both parties have become important considerations for getting married, which is what Chinese people often call "matching families". And the responsibility to carry on the family line was elevated to an ethical level, forming a social consensus that "among the three unfilial acts, having no descendants is the greatest." While with the advancement of the times and shifting societal attitudes, contemporary Chinese marriage has gradually shifted toward love as its core foundation—with a growing group of young people even advocating late marriage and the DINK (Double Income, No Kids) lifestyle—the influence of family obligations and public opinion on marital decisions remains profound. As a result, many individuals' personal aspirations often yield to these tangible external pressures.

2.2 West: Emotional unions driven by individual values

The Western view of marriage, with individual happiness as the ultimate goal, regards marriage as a free contract based on love between two independent individuals. Marriage is endowed with a strong emotional attribute, emphasizing the spiritual fit and emotional satisfaction of the couple as equal partners, rather than family obligations. So we always say that Western marriage is a symbol of individual rights, while Chinese marriage is more like an obligation to the family. ^[1] Western views on marriage and love emphasize individual supremacy, are less constrained by criteria such as economic conditions and family status, and are usually not bound by parents. The marriage of Elizabeth and Darcy in *Pride and Prejudice* breaks through class boundaries and is based on equality of personality and resonance of values, embodying the Western core idea that "marriage is a private matter of the individual." Under this concept, the social function of marriage is no longer the primary consideration, and individual emotional needs become the core driving force for the continuation of marriage.

3. Differences in the Autonomy of Marriage Decision-Making Mechanisms

3.1 China: Constraints of Intergenerational Authority and Social Rationality

Traditional Chinese marriage follows the arrangement of parents and matchmakers, with parents, as representatives of the extended family, having the decision-making power over their children's marriages. Since ancient times, China has adhered to Confucianism and Taoism, and matching families is a necessary condition for a successful marriage. In ancient times, there was no such thing as free love. Marriages were usually arranged by parents through matchmakers, and it was normal for the couple not to have even met before getting married. Due to the constraints of



traditional feudal ideology, parents tend to arrange their children's marriages.^[2] In modern China, although free love is largely practiced, there are still ways such as blind dates, where people decide whether to proceed to the next step by judging each other's economic conditions, family situations, etc. And the final decision on marriage is mostly in the hands of parents. The intervention of parents in the criteria for choosing a partner shows the constraints of social rationality on contemporary Chinese marriage.

3.2 West: Free choice dominated by individualism

Western marriage is ultimately determined by personal will, not by parents' opinions and urges. The criteria for choosing a spouse are mainly based on whether the personalities, hobbies, values, etc. of both parties are compatible with each other, with emphasis on individual traits, while family background, social status, economic conditions, etc. are less important. For Westerners, the foundation of marriage is love, the destination of love is marriage, and marriage is a matter of the young man and woman themselves. The purpose of entering into marriage and family is to enable the lovers to stay together forever and to better enjoy the thrill and pleasure of love.^[3] Notably, this emphasis on individual autonomy is also manifested in the diversity of marital forms: practices such as trial marriages and contract marriages have gained prevalence, and all of these arrangements underscore the Western world's inclusive stance toward marriage as a matter of personal choice.

4. Differences in Perceptions and Practices During the Marital Duration

4.1 Premarital Sexuality: The Tension Between Moral Norms and Individual Freedom

In traditional Chinese culture, premarital sex is regarded as a shackle of female infidelity, bearing a strong social stigma on it. Confucian ethics emphasize "great caution between men and women", and proverbs such as "men and women should not have sexual contact" are also widely circulated in China. This "unchaste" label is also discriminated against and suppressed in the marriage and love market. In Western societies, influenced by individualism and the idea of sexual liberation, sexual behavior in a relationship is regarded as a natural way of expressing love, a necessary path for mutual enjoyment and three-way harmony, and is less constrained by social concepts and moral criticism. This difference is essentially a division between collectivist moral constraints and individual freedom rights.

4.2 Family role division: A conflict between gender order and the idea of equality

In Chinese families, the principle of "men work outside and women work inside" is basically followed. Men are mainly responsible for working hard outside, earning money to support the family, and taking on the main responsibility of the family. Women, on the other hand, take care of the household chores such as cooking, doing the laundry and taking care of the children. Although modern times advocate "equality," the social role of wives has changed significantly and their subjectivity has been greatly enhanced, the influence of traditional Chinese culture still exists, and



the dominance of husbands is also deeply socially recognized. Words like "raking ears" and "wife's strict control" have become sarcastic remarks about husbands who have lost their dominant position.^[4] In the West, where the concept of gender equality is followed, both men and women share economic and family responsibilities and are less bound by traditional gender roles.

5. Marital Breakdown: Differences in the Flexibility of Ideas and Institutions

5.1 China: Social pressures and institutional constraints that prioritize stability

Confucianism's emphasis on "being faithful to one person for life" has led to exclusion and discrimination against divorce. Although Chinese law grants freedom to divorce, people who divorce, especially women, are generally discriminated against and prejudged. In the early days of China, there were even women who, in order to remain chaste, did not remarry after the death of their husbands. For the sake of the happiness of their children and multiple considerations, some people would endure unhappy marriages throughout their lives. Statistics indicate that approximately 30% of divorce cases in China are either delayed or withdrawn due to concerns over "child custody" or "social pressure."

5.2 West: Individual Rights-oriented Rational Unbinding

In the West, divorce is viewed as a legitimate right for individuals to pursue happiness, and the legal system provides a relatively convenient channel for divorce. The West has a high tolerance for divorces, believing that ending a marriage is a way for individuals to pursue freedom and happiness, and that it is the right way to follow the development of their emotions and end a bad relationship. And the West is less likely to tolerate continuing a marriage for the sake of children and family happiness.

6. Cultural Roots: The Deep Logic of Collectivism and Individualism

6.1 China: Shaping Confucian ethics

With the development of the times, people's views on marriage and love have undergone tremendous changes. However, Confucian culture remains deeply rooted in people's minds and permeates all aspects of marital life. As mentioned in *The Book of Rites*: "The ancient marriage ceremony is intended to unite two clans in friendship—on the one hand, to serve the ancestral temples, and on the other hand, to continue the family lineage. Therefore, virtuous people attach great importance to it. *The Great Learning* also states: "Cultivate one's moral character, regulate one's family, govern the state well, and bring peace to all under heaven." This shows the great importance that Confucianism places on marriage. For thousands of years, the Chinese people have been deeply influenced by Confucian thought, and even today, the impact of Confucian thought on people's real lives can still be seen everywhere.^[5]

6.2 West: The influence of Christian Tradition and individualism

Christianity regards marriage as a sacred contract "coordinated by God", emphasizing equality and



mutual assistance between husband and wife at the level of faith. Individualism is the mainstream value of the modern West. Individualism emphasizes the individualistic orientation, holding that all values are centered on the individual, that the individual itself has the highest value, that the state is merely a means to realize the individual value, and that the existence value of laws and institutions lies in safeguarding the rights and freedoms of the individual.^[6]

7. Blending and Interaction of Concepts in Modern Society and Their Implications: Mutual Adjustment Against the Backdrop of Globalization

With the deepening of cross-cultural exchanges, there is a trend of integration between Chinese and Western marriage concepts: The younger generation in China pays more attention to the emotional factors in marriage, gradually breaking the shackles of "families of equal social standing" on the emotions themselves, phenomena such as "naked marriage" and "DINK" have broken through the traditional conceptual entanglement, and the trend of late marriage is becoming more and more obvious; The West, on the other hand, is reflecting on the drawbacks of excessive individualism and emphasizing the sense of responsibility in marriage. In international marriages, couples often negotiate to balance the need for "family involvement" and "the world of the two", forming a marriage model that is mutually adapted and adjusted.

8. Conclusion

The differences in marriage concepts between China and the West stem essentially from the cultural tensions between collectivism and individualism, as well as between family-centeredness and individual-centeredness. China's marriage concept is rooted in patriarchal ethical systems, emphasizing familial responsibility, relational stability, and family cohesion. Western marriage concepts, by contrast, are grounded in individualism, prioritizing freedom of love, personal emancipation, and marital flexibility. Yet across both contexts, the pursuit of free love remains a shared aspiration.^[7] A sound, stable, and healthy society calls for a marriage perspective that integrates the complementary strengths of Chinese and Western cultures: specifically, strengthening the protection of personal rights and the pursuit of individual happiness within the framework of obligations, while placing greater emphasis on fulfilling obligations in the exercise of rights. It also entails fostering a society that safeguards the pursuit of personal happiness while nurturing warmth, a sense of belonging, and security—all while ensuring individuals uphold their obligations.^[8] In the process of globalization and modernization, the two concepts have maintained cultural uniqueness while drawing on each other's strengths in interaction, promoting marriage towards a direction that takes into account both individual happiness and social responsibility. A deeper understanding of these differences not only provides multiple perspectives for the study of marriage, but also an important reference for cultural understanding in cross-cultural communication.



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The Dissemination and Challenges of "Ultras" Fan Culture in China in the Digital Intelligence Era

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Abstract

Since the Ultras fan culture emerged in Italy in the 1960s, after more than half a century of dissemination, it has formed "U" fan organizations of considerable scale all over the world. In recent years, with the wide application of emerging communication media such as the Internet and mobile phones, the "Ultras" fan culture has been introduced to China. With its distinctive features, it has increasingly gained popularity among Chinese fans. Under the background of the digital intelligence era, this article analyzes the current "Ultras" fan culture in China, explores the promoting role of emerging media in the digital intelligence era on the dissemination of this culture in China, as well as the challenges brought by the digital intelligence era to the "Ultras" culture in China, and attempts to find solutions for the "Ultras" fan culture in China. On the basis of not destroying its own traditions, it can achieve healthy and sound development by taking advantage of the favorable conditions of the digital and intelligent era.

Keywords

Digital Intelligence Era, Emerging media, Ultras fan culture

The "Ultras" fan culture originated in Eastern Europe and gained a definite organizational form and norms in Italy. With the development of time, it has gradually become an important part of football culture in Europe and even around the world. In recent years, with the rapid development of new media, this culture has been introduced to China and widely embraced by the younger generation. On the pitch of the Chinese Super League, an increasing number of "U" fan organizations have emerged.

1. Ultras fan culture

The word "Ultras", derived from the Latin word "ultrā", means extraordinary. In fan culture, it is often regarded as a symbol of the unwavering love and radical behavior of die-hard fans for their teams. Later, it was often regarded as the abbreviation of the die-hard fan organization. They often expressed their love for the teams they supported through radical words, actions, slogans and other



means.

1.1 The Origin of the "Ultras" culture

The earliest "Ultras" organization (hereinafter referred to as the "U" organization) emerged in the former Yugoslavia region. In 1950 in the Croatian region, a football club named Hdukssplit, a small group of nationalist supporters among its fans founded a fan organization called Torcida Split. This organization is regarded as the earliest "U" organization to emerge today, but at that time they did not name themselves "Ultras".

The second "U" -like organization to emerge is believed to be Fossa dei Leoni (Lion's Nest) founded by AC Milan fans in 1968. The name of this organization originated from the nickname of the old home ground of AC Milan. [According to the official history of Fossa dei Leoni, its name originated from the nickname of the old home ground of AC Milan.] In its second year of establishment, fans of The Italian football club Sampdoria founded the first fan organization that called itself "Ultras". In the same year, supporters of Inter Milan, the city rivals of AC Milan, established the first organization in Milan that explicitly called itself "Ultras" - "The Boyz". Since then, the "U" organization has sprung up like mushrooms in the Italian football field.

1.2 Characteristics of "Ultras" fans

The "U" organization has its own unique way of acting in the stands, which includes but is not limited to setting up a huge stand screen (Tifo), setting off cold fireworks, making a unified sound, and displaying banners and slogans, aiming to create an atmosphere that terrifies opponents and rivals through such actions.

1.2.1 Organizational structure

The leadership of a "U" organization is often a core group, and the members of this core group have the highest control over the entire organization. Within this organization, a series of branch groups will also emerge. The formation of these groups may depend on various factors such as the age, beliefs, friendships, and political positions of the members. The "U" organization showcases its stance, name and logo through banners, flags and other banners of various styles and sizes. The cheering forms of the "U" organization mainly include waving scarves and singing cheering songs. The members of a "U" organization range from a small group to several hundred people. They usually declare that they own the stands where they are located, such as the "U" organization "La Curva Sud" of AC Milan club (Milan South Stand).

The "U" organization usually elects a representative who is responsible for negotiating with the club owner on matters including tickets, stand positions, etc. Some clubs offer cheaper tickets, exclusive storage locations for supplies and the right to enter the stadium earlier for decoration to "U" organizations. Such preferential treatments often cause dissatisfaction among non-"U" organizations. Some spectators of the ball games would criticize the "U" organization for never



sitting in their seats, waving flags or displaying banners while watching the games because their view was blocked. Other criticisms include attacks and intimidation by the "U" organization against its fans.

1.2.2 Political inclination

The establishment and operation of some "U" organizations involve certain political factors and carry certain political tendencies, including racism, anti-racism, nationalism or anti-capitalism, etc.

Among the numerous "U" organizations holding left-wing political views, the "U" organization of the Dutch Ajax team is the most representative. Ajax fans often display the Jewish symbol "Star of David" and the Israeli flag, and shout "Joden!" "Joden!" (Dutch: Jewish) The slogan to express that Ajax club has a history of being founded by Jews. Some "U" organizations also hold distinct right-wing political views, and these clubs are mostly concentrated in the countries around the Adriatic Sea. Among them, the more representative one is the Boys San organization of the Italian Inter Milan team, which is known for displaying large Nazi patterns and other racist patterns during the games.

In addition, some "U" organizations' movements aim to resist the commercialization of football. In Italy, this movement is called "No al Calcio Moderno", which can roughly be translated as: Against modern football. The most famous case is the renowned Manchester United and "United Manchester". The original intention of establishing this team was to oppose the acquisition of Manchester United by the American businessman Glazer. Some Manchester United fans decided to go their own way and set up this team.

1.3 The development of "Ultras" fan culture in China

The "Ultras" fan culture was introduced to China along with the professionalization process of Chinese football and has a history of more than thirty years to date. With the popularization of the Internet, the football cultures of Europe, Japan and South Korea began to be introduced to China.

^[1]The earliest "U" fan organizations in China were the "Blue Devil" fan organization of Shanghai Shenhua Football Club and the "Imperial Guard" fan organization of Beijing Guoan Football Club. These two traditional top clubs' fan organizations were the first to come into contact with and imitate the external forms of the "Ultras" culture, such as uniform dress, collective slogans, simple banners and flags to cheer.

The second decade of the 21st century witnessed the first vigorous development of China's "Ultras" culture. The success of Guangzhou Evergrande Football Club in Asia has greatly stimulated the development of Chinese fan culture. Its fan organization, "Twelve Defenders", has begun to learn the "Ultras" culture from abroad in a more systematic way. In addition, an increasing number of fan organizations in the Chinese Super League and the Chinese League One have emerged, mainly featuring the "Ultras" style, such as "Jinmen Tiger Wing" of Tianjin Jinmen



Tiger and "Red Devils" of Henan Jianye.

Since 2020, with the wide application of emerging technologies, the influence of the "Ultras" culture has been expanding day by day. Almost all Chinese professional football clubs have their own "Ultras" style fan organizations. However, the development of the "Ultras" culture in the domestic football field has also faced new challenges. Increasingly strict policies and regulations require "Ultras" fan organizations to constantly adjust their strategies and innovate cheering forms within the framework of the rules (such as more complex TIFO designs, light shows, human waves, etc.), striving to maintain the home atmosphere.

2. Digital and intelligent media facilitate the dissemination of "Ultras" culture

Since the 21st century, with the continuous development of science and technology, Internet technology has become increasingly mature. Mobile phones and computers are no longer unattainable luxuries for people and have entered ordinary households one after another. People can obtain the information they need more conveniently. This technological advancement has also promoted the spread of the "Ultras" fan culture within the country.

2.1 Short video platform

One of the core charms of the "Ultras" culture lies in its visual impact, such as giant Tifo, sea of flags, uniform cheering movements, and fireworks displays. The short, plain and fast nature of short videos makes them extremely suitable for showcasing these highly exciting and thrilling moments. The wonderful TIFO display, the ten-thousand-person chorus of cheering songs, and the elaborately designed stand performances and other segments can easily break through the small circle of football fans and reach a wider range of ordinary netizens, allowing more people to come into contact with and feel the unique charm of this fan culture for the first time, greatly enhancing the social visibility of Ultras culture.

Take the blogger "DailyCurva Stand Culture" as an example. She has long been dedicated to creating slices of stands cheering for "U" organizations both at home and abroad. Her videos have gone viral on multiple short-video platforms, accumulating over 200,000 followers and receiving more than 10 million likes on platforms such as Douyin and Bilibili. His video has shown more ordinary netizens that Chinese football is not only labeled as "white-cut chicken" or "weak fish", but also has a commendable fan culture.

Short-video platforms also offer a window for the "U" organizations of various clubs to showcase themselves. Without relying on traditional media, "U" organizations can release on-site cheering videos, TIFO production videos, organize recruitment information, and previews of cheering activities through their own accounts. The atmosphere of home match days can also be quickly conveyed to fans who cannot attend through short video platforms (especially during the



pandemic when the Chinese football league adopted a tournament system), which can help maintain the cohesion and sense of belonging of the fan base.

2.2 Social media platform

Social media platforms, especially Weibo and Xiaohongshu, have exerted multi-dimensional, differentiated and equally profound influences on the dissemination of "Ultras" fan culture in China. They complement short-video platforms such as Douyin and Kuaishou, jointly shaping the online image, discussion ecosystem and public perception of the "Ultras" culture in China.

2.2.1 Weibo: Public opinion field

Weibo can effectively shape the public image of the "U" organization and expand its influence. With its unique style of doing things, the "U" organization can well achieve topic ignition and breaking through the circle: elaborately designed giant TIFO, stunning stand scenes, touching fan stories, such as fans' distant campaigns and perseverance. By Posting high-quality on-site pictures and videos on Weibo, it is very easy to form hot search topics, such as # Chengdu Phoenix Mountain Football Atmosphere # and # Guoan Imperial Guard Giant TIFO#, achieving a huge social spread far beyond the football circle, and positively shaping the fan culture and the city's image. The most successful example among them is the Weibo topic # National Security Imperial Guard Giant TIFO#, which has been read over 230 million times.

Weibo is an excellent media linkage amplifier for the "U" organization. Major sports media, local media, and even mainstream official media often quote and report on the fan activities and achievements of the "U" organization on Weibo, further expanding the influence of the "Ultras" culture and enhancing its social recognition.

Weibo can promote interaction and cross-regional communication among fan communities. Fans from different teams and regions can exchange cheering experiences, share cultural concepts and showcase their own stand cultures on Weibo, which has promoted the integration and localization innovation of "Ultras" culture across the country. Weibo also provides a channel for fans who love the "Ultras" culture to express their sense of belonging to the organization and their support for the team.

2.2.2 Xiaohongshu: The breaking of cultural boundaries

Xiaohongshu offers a way for "Ultras" culture to be "lifestylized" and aesthetically packaged. Among the user base of Xiaohongshu, female users account for a relatively high proportion. They tend to view the "Ultras" culture from the perspectives of lifestyle, trendy culture, visual aesthetics, and urban check-in. The "U" organization attracts potential female target groups by Posting exquisite photos and videos of the stands on Xiaohongshu, especially Tifo, scarf walls, light shows, sharing "Ultras" fan outfits (jersey, scarf, badge combinations), "Ultras" equipment sharing (custom scarves, badge collections), etc. The female members of the "U" organization posted notes on their personal social media accounts about their stadium viewing experiences (such as



"Immersive Experience of the Devil's Home Ground of Phoenix Mountain") and expedition records (such as "Expedition Diary with XX Fans Club"). It helps to weaken the confrontational nature contained in the "Ultras" culture and instead emphasizes the experience and sense of belonging to a city or a team through aesthetic expression, recruiting more people interested in the "Ultras" culture to join.

Through the Xiaohongshu platform, the "U" organization can better achieve the goal of attracting new audiences and "de-hardcore" dissemination of the "Ultras" culture. This presentation method has greatly lowered the inherent cognitive threshold of the "Ultras" culture and attracted a large number of non-traditional hardcore fans. Especially the participation of young women and those interested in "atmosphere" and "check-in culture". Shaping "going to the scene and standing in the stands" into a new way of urban life that is fashionable, passionate and gives a sense of belonging will help popularize the "Ultras" culture and expand the fan base of the club.

2.3 The application of emerging technologies

2.3.1 Empowering Experience: Breaking the limitations of time and space

At present, some "U" organizations (such as Beijing Guoan Imperial Guard and Shanghai Shenhua Blue Devil, etc.) have emerged. The joint club has begun to popularize VR and AR technologies. By using VR technology, fans who cannot be present at the scene (especially those restricted by geographical location, ticket sources or the epidemic) can be "placed" in the die-hard stand from the first-person perspective, experiencing the shock of TIFO's expansion, the sound of tens of thousands of people singing together and the immersive atmosphere of standing and cheering throughout, which greatly alleviates the restrictions on the participation of "Ultras" culture due to geographical isolation. In addition, the on-site experience is enhanced through the application of AR technology. By scanning the stadium or scarf through a mobile AR app, hidden content (such as player data, historical moments, and 3D cheering animations) can be triggered, enriching the interactivity and information hierarchy of on-site viewing and attracting young tech enthusiasts to enter the stadium to learn about the "Ultras" culture. The "U" organization also utilizes AR technology to achieve virtual TIFO co-creation, allowing remote fans to design virtual cheering elements (such as virtual flags and slogans) and overlay them onto the live broadcast screen, thus realizing "cloud participation".^[2]

2.3.2 Innovative expression: Reshaping cultural construction

Some "U" organizations have started to use AI-generated content when creating cheering flags and writing cheering songs. AI can quickly generate cheering song melodies, offer appropriate slogan suggestions, and provide Tifo design sketches based on team history and city elements, significantly lowering the creation threshold and cycle, which is beneficial to some small and medium-sized fan organizations. In addition, by using AI translation and voice synthesis technology, core cheering songs can be converted in real time into multiple dialects or foreign



language versions, promoting the sense of participation of fans across regions and cultural output (such as in international matches).

2.3.3 Reshaping the Organization: The Application of Big Data

The "U" organization conducts precise member management by leveraging big data models for analysis: analyzing member behaviors (attendance rate, consumption preferences, social media interactions), achieving personalized services (customized cheering packages, activity recommendations), and enhancing a sense of belonging and retention rate. And through big data models, public opinion monitoring and crisis early warning are achieved, real-time monitoring of the public opinion direction of the organization's activities on social platforms, quick identification of potential conflicts or violation risks (such as discussions on sensitive slogans), and early intervention.

The "U" organization has also begun to use blockchain technology for member identity verification and rights protection. By issuing unalterable digital membership cards, it ensures the rights and interests of core members (such as priority ticket purchasing and exclusive areas), combats scalpers, and enhances identity recognition and loyalty.

3. Challenges brought by the Digital Intelligence Era and Coping Strategies

It is true that the advanced technologies brought about by the digital intelligence era have greatly promoted the development of "Ultras" culture in China. However, we cannot ignore that with the advancement of technology and the increasingly widespread spread of "Ultras" culture, a series of problems have also emerged that need to be urgently addressed.

3.1 The challenges brought by the digital intelligence era

3.1.1 The challenges brought by short-video platforms

In pursuit of likes, comments and shares, some organizations or individuals may be more inclined to post the most conflicting, dramatic or sensory-stimulating content (such as fan conflict clips, extreme remarks, deliberately staged "performances"), rather than content that truly reflects the cheering culture and organizational cohesion. This kind of behavior deviates from the original intention of the "Ultras" culture, which centers on supporting the team.

The interactive mechanisms of short-video platforms (such as ranking, controlling comments, and mutual bickering) can be easily transplanted to the fan base. Among different fan organizations, or even different fan groups within the same team, irrational verbal battles and mutual attacks may break out online due to comparisons or disputes over short video content, transforming healthy confrontations within the stadium into "fan circle bickering" on the Internet and damaging the fan culture ecosystem.

Short-video platforms have promoted the "Ultras" culture at an unprecedented speed and breadth,



allowing more people to appreciate its stunning visual charm. This has greatly facilitated communication and learning among fan organizations, provided a powerful tool for the recruitment and cohesion building of "U" organizations, and even shaped a "internet-famous" stand with national influence. But at the same time, it also brings the risk that cultural connotations will be fragmented and interpreted, and the spiritual core will be ignored. Traffic orientation may lead to the alienation of organizational behavior, pursuing bestsellers rather than pure support. It has intensified the online war of words and the tendency of "fan circle" formation. Most importantly, it magnifies the regulatory risks of on-site activities, making any "overstepping" behavior likely to be magnified on the Internet, leading to stricter control.

3.1.2 The challenges brought by social platforms

The openness, strong spreadability and comment interaction mechanism of Weibo make it extremely easy to become the main battlefield for fan abuse wars, regional attacks and the publicization of conflicts between clubs and fans. A single on-site conflict, an excessive slogan, or a controversial penalty decision can all quickly escalate into a hot search topic across the Internet, triggering large-scale online debates and transforming the competition on the court into a vicious online confrontation, with a distinct "fan circle" feature. The rapid spread of Weibo may also multiply the regulatory risks of relevant regulatory authorities. Once any improper behavior on the spot is captured and uploaded to Weibo, the speed of its spread and the public opinion pressure it triggers will multiply the attention and penalties of regulatory authorities several times over, posing a direct threat to the survival space of "U" organizations. Furthermore, inappropriate remarks or behaviors of individual members on Weibo may be attributed to the entire organization, damaging its reputation.

The Xiaohongshu platform's excessive emphasis on aesthetics and lifestyle may lead to the dilution or neglect of the hard-core spirit of loyalty, resistance, independence, and full commitment in the "Ultras" culture. The strong consumerist atmosphere on the platform itself may drive the fan culture to tilt towards equipment consumption and experience consumption, which is in conflict with the original spirit of "Ultras" that opposes commercialization. Some fan organizations may, in order to cater to the platform's tone, lean more towards the aesthetic display of "safety" in content creation and avoid more profound or controversial (but possibly core) issues.

3.1.3 The challenges brought by emerging technologies

While advanced technologies bring technological convenience to "U" organizations, they also pose a huge technological threshold and digital divide. The use of advanced tools, such as VR devices and AI design software, may exacerbate the gap between "U" organizations. Resource-rich big cities and large club organizations have more advantages, while small and medium-sized "U" organizations find it difficult to keep up, resulting in an imbalance in cultural dissemination. Older or less technically literate fans may be marginalized, undermining the multi-community attribute



that the "Ultras" culture should have.

The application of advanced technology may also lead to the alienation of authenticity and experience. Over-reliance on VR technology to create "cloud support" may weaken the sense of ritual and sanctity of being present on the spot and coexisting physically - and this is precisely the foundation of the "Ultras" culture. However, once the technical platform malfunctions (such as server downtime or network interruption), highly digitalized organizations may come to a standstill, weakening their offline emergency response capabilities.

3.2 Countermeasures for the "Ultras" Culture

Short-video platforms will not disappear. They have become an unavoidable environment for the spread and development of Ultras culture in China. How to manage this platform well, play to its strengths and avoid its weaknesses, will determine the healthy future direction of this passionate fan culture in China. While the "U" organization is expanding its influence through short videos, it must adhere to the core spirit of the "Ultras" culture (loyalty, independence, community, and full commitment). Strike a balance between online promotion and offline cheering, ensuring that the performance on the court always comes first and not neglecting the essentials for the trivial. When creating content, resist the temptation of traffic, avoid Posting vulgar and conflicting content, and focus on showcasing a true cheering culture and organizational cohesion. At the same time, it is necessary to handle the relationship with the club and commercial forces well and maintain the independence of the "U" organization itself. The most important thing is to strictly abide by laws, regulations and stadium rules, express oneself creatively within the permitted scope, and avoid unnecessary strict control due to the spread of short videos.

Social media platforms have become the fundamental ecosystem for the survival, dissemination and development of Ultras fan culture in China. Understanding and mastering the double-edged sword effect of platforms such as Weibo and Xiaohongshu is one of the key factors for their healthy and sustainable growth in China in the future. While using the platform to expand its influence, the "U" organization should be vigilant against its culture being overly softened, carried away by consumerism or alienated into pure "traffic performance". The "U" organization should enhance the education of its members on a daily basis, standardize their words and deeds (especially during sensitive moments), and formulate strategies for dealing with online public opinions to the greatest extent possible to avoid the compression of its offline survival space due to online disturbances. When using different social platforms, it is necessary to formulate differentiated content strategies, understand the tones and users of different platforms (Weibo, Xiaohongshu), release targeted content, maximize the dissemination effect, and at the same time maintain the integrity of the cultural core.

Technology does not extinguish passion, but it may change its form. How China's "Ultras" culture can safeguard its cultural soul in the gap between technological empowerment and regulatory domestication will be an ongoing battle of wisdom. When using emerging technologies, the "U" organization should take the initiative to control rather than passively rely on them, treating technology as a tool to serve core



values rather than allowing technological logic to reshape the cultural core.[3] Secondly, innovation should be carried out within the framework of compliance. Digital tools (such as blockchain rights confirmation and AR virtual cheering) should be utilized to seek new ways of expression within the scope permitted by policies, avoiding direct conflicts with policies. Secondly, we must be vigilant against technical ethical risks, establish strict data usage norms, protect members' privacy, and prevent technology from becoming a tool for creating barriers or monitoring. The most crucial point is to maintain the "sacredness" of the offline experience, ensuring that technology is used to enhance rather than replace the irreplaceable experience of the physical body resonating at the same frequency on the stands.

4. Conclusion

In conclusion, this article systematically reviews the historical context and development characteristics of the "Ultras" fan culture, which originated in Eastern Europe, established its core organizational form in Italy, and deeply integrated into the Chinese football ecosystem along with the wave of digital and intelligent media. Research shows that the localization process of this culture in China presents a dual nature: on the one hand, emerging technologies such as short videos, social platforms, and VR/AR have greatly expanded its dissemination breadth and expression dimensions. Through visual spectacle displays, cross-regional community connections, and immersive experience innovations, it has significantly enhanced cultural appeal and fans' sense of belonging. On the other hand, technological empowerment also comes with severe challenges, such as the dilution of the cultural core by the logic of traffic, the spread of online conflicts to offline, the erosion of anti-commercial spirit by consumerism, and the organizational division caused by the technological gap. The key to the survival and development of China's "Ultras" culture in the future lies in how to adhere to the spiritual essence of "loyalty, independence, and full commitment" in the gap between technological adaptation and regulatory framework, and through creative expressions within the rules (such as complex TIFO and lighting art) and responsible technological applications (such as data-driven membership management and AR-enhanced interaction) Achieve a dynamic balance between cultural vitality and compliance. This is not only a test of organizational wisdom but also an important window to observe the evolution of professional sports culture in China.

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Research on the Coding Thinking of Jianchuan Woodcarving Lattice Doors Based on the Ternary Relationship of Pierce Symbols

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Abstract

Based on the artistic language of Jianchuan wood-carved lattice doors, this paper systematically applies the theoretical system of Pierce's symbol ternary relationship to the decorative patterns of Jianchuan wood-carved lattice doors, and explores the formation and causes of the coding thinking of Jianchuan wood-carved lattice door patterns. This study takes the classification of the ternary relationship in Pierce semiotics as the entry point and, in combination with field research, sorts out the causes of the formation of Jianchuan woodcarving lattice doors. This paper explores the coding thinking of Jianchuan woodcarving lattice doors from the perspectives of the representation, object and interpretive terms of the ternary relationship and their relationship with symbols. Starting from the systematic analysis of the visual language composition of representation, and combining the object and interpretation, a systematic summary and reflection are formed on the Jianchuan woodcarving lattice door, providing new research ideas and development directions for the inheritance and innovation of intangible cultural heritage.

Keywords

Jianchuan woodcarving, Lattice doors, Pierce, Ternary Relationship

1. Introduction

Jianchuan woodcarving has a long history and rich culture, which can be traced back to the Bianbin Lake during the Shang Dynasty over three thousand years ago. At that time, there were already wooden stilt houses built by humans. Jianchuan woodcarving is rich in cultural resources. Its creative themes cover plants, animals, figures and other subjects. In terms of application scenarios, Jianchuan woodcarving can be seen in residential buildings, public Spaces and religious sites. The Jianchuan woodcarving lattice door is the embodiment of the highest craftsmanship of Jianchuan woodcarving. Its ingenious carving techniques not only represent the Jianchuan artisans' pursuit of quality in life, but also reflect the close connection between this intangible



cultural heritage of Jianchuan woodcarving and daily life. Based on the research of predecessors, this paper proposes to classify and study the causes and rules of the formation of decorative patterns on Jianchuan wood-carved lattice doors starting from Peirce's symbol ternary relationship, and explores the coding rules of Jianchuan craftsmen in designing and carving Jianchuan wood-carved lattice doors.

2. A symbol model of Jianchuan woodcarving lattice doors based on Pierce's ternary relationship

2.1 An overview of Pierce Semiotics

Charles Sanders Peirce is one of the most original philosophers in the United States. This article first discusses Pierce's semiotic theoretical system. Pierce believed that a symbol is composed of three elements: representation, "representamen", "object", and "interpretant". As a logician, Pierce established the ternary semiotics based on observation, which is a dynamic process. The entire process from "representamen" to "object" and then to "interpretant" represents the way of cognition of symbols and is also the process of symbol generation. It is a logical abstraction process based on observation, from the surface to the core and from the shallow to the deep [2]. The most distinctive feature of Peirce's semiotics is that it places the interpretive term in the most important position, enabling the object of the symbol to be retransmitted and reinterpreted as a new "representation" after being interpreted. This indicates that the understanding of symbols can be endless, which is a dynamic and never-ending development process. The purpose of using Pierce's symbol ternary relationship is to obtain an analytical and descriptive model framework that can assist in the classification and interpretation of the pattern symbols of Jianchuan woodcarving lattice doors.

2.2 A symbolic model of the Jianchuan woodcarving lattice door that establishes the Pierce ternary relationship

In the architectural works of the Song Dynasty, the "Yingzao Fashi" mentioned a method of making doors and Windows called "lattice doors"^{[3](113)}, which was one of the decorative components in traditional Han architecture. It first appeared in the Tang Dynasty. In the Qing Dynasty, it was mostly called a partition door, but both referred to the decorative components of the same building. The partition door is mainly composed of three parts: the partition core, the ring plate and the skirt plate. The upper part of the lattice door is divided into the lattice core, which is made up of various lattice decorations. The lower part is divided into a skirt board, which is opaque and composed of wood carvings. The Jianchuan woodcarving lattice door is a unique woodcarving work with the style of the Bai ethnic minority that emerged after learning from the lattice doors in the Central Plains region. Among the cultural relics in the "Jianchuan Grottoes", we can see some ancient architectural stone carvings for house decoration. In his article "After



Reading 'Jianchuan Grottoes', Professor Yang Yanfu mentioned the view that some wood carvings from the Dali Kingdom period were similar in style to the stone carvings in Shizhong Temple, and found that wood carvings and stone carvings influenced each other [4]. With the passage of time, under the influence of Central Plains culture, the people of Jianchuan, relying on their exquisite woodcarving skills, have brought the lattice door, a traditional architectural decorative component, to the extreme. The traditional ancient dwellings of the Bai ethnic group have formed a pattern of "no house without carvings". They not only made exquisite lattice doors for local residents, temples and palaces, but also enabled the craftsmen of Jianchuan to go to the Central Plains and abroad through the "barbarian style", breaking away from the local style and integrating the unique style of Jianchuan carpenters into the cultures of various places, leaving a precious legacy for future generations.

Applying Pierce's three-part method to Jianchuan wood-carved lattice doors, first establish a three-element model among the product, culture and users within the Jianchuan wood-carved lattice doors, and then conduct further analysis. In this model, "representamen" refers to the product form and specific content of Jianchuan woodcarving, that is, the physical carrier of the woodcarving lattice door product, including the basic shape, material, color and structure of the woodcarving lattice door, etc. The term "object" refers to the connotation and concept represented by the Jianchuan woodcarving lattice door, including its cultural significance and indicative meaning, etc. "interpretant" refers to the interpretation of the connotation and meaning of the object in the interpreter's mind. In the case of Jianchuan woodcarving lattice doors, it is manifested as the different interpretations and symbolic meanings conveyed by the carver and the user towards the Jianchuan woodcarving lattice doors. In the process of interpreting the symbols of Jianchuan woodcarving lattice doors through the ternary relationship, it can be found whether the design ideas, cultural connotations and aesthetic tastes that the carvers want to convey have been fully conveyed to consumers. Finally, by analyzing and decoding the coding rules of the patterns, it can be discovered whether their inherent laws and formation reasons can be found. Combined with the historical background of Jianchuan woodcarving, the development process from its origin to its formation is revealed.

3. A View of Jianchuan Woodcarving Lattice Doors from the Perspective of the ternary relationship of Pierce symbols

In the Chinese version of "Selected Works of Peirce", one can see Peirce's elaboration on the concept of symbols^{[5](277)}. Representation, object and interpretative terms are the concepts and structures of symbols proposed by Peirce. Through the symbolic tripartite relationship proposed by Pierce, there are three elements in the symbol of this Jianchuan woodcarving lattice door: the pattern on the lattice door is its representation and is regarded as a reproduction; The content information conveyed by the patterns is the object. The content of the pattern that is finally discussed or thought about by others is regarded as an explanatory item. That is to say, here the



symbol is defined as A (the symbol itself), which leads to another thing B (the explanatory term). B discusses A again, indicating that it is generated by A and explains A. At the same time, during the process of B's explanation, A is brought into C (the object), where C has A corresponding relationship with A. A replaces C and is the reference object of A. This article discusses the pattern system of Jianchuan woodcarving lattice doors, which are symbolic objects reflecting the rich and colorful material and cultural life of the Bai people in Jianchuan, as well as their unique ethnic minority living habits, customs and aesthetic tastes. In Pierce's semiotics, the conceptual content of semiotics in his early and middle periods was quite different. During his research process, he broadened the system of semiotics and created many terms. Among them, in terms of the classification of symbols, on the basis of representation, object and interpretation items, further classification of symbols has been added. There are the following three types of classification, namely: 1) Classification of symbols themselves (representation); 2) Regarding the classification of symbols and the objects they represent, that is, their relationship with objects (object); 3) Explain how the symbols of the items are presented and how they are generated; The following respectively explain^[5].

3.1 The characteristic system of Jianchuan woodcarving lattice doors

As mentioned above, Pierce further added three classifications to the ternary relationship. This first classification is the classification of the symbols themselves, that is, the classification of the representation system. In the model shown in Figure 1, we can see that the Jianchuan woodcarving lattice door under the representation system includes information such as basic shape, material, color and structure. As for the classification of symbols themselves, Pierce divided them into the following three parts: qualitative symbols (qualisign), single symbols (sinsign), and rule symbols (legisign). Since these words are all self-coined terms by Pearce, they may cause inaccurate translation. Therefore, the translation by Scholar Ji Haihong in his doctoral dissertation "Exploration of Pearce's Semiotic Thought"^[6] is adopted here. Pierce's explanation for this classification is that the symbol object can determine this symbol. In the determination, there are the following three situations for classification.

3.1.1 Qualisign

A qualitative symbol is a characteristic of a symbol. Unless it is concretized or visualized, it cannot actually serve as a symbol. In other words, a qualitative symbol exists by relying on this characteristic. Jianchuan wood-carved lattice doors, as decorative components of buildings, are often seen among the residents of the Bai ethnic group in Jianchuan. They are installed in the middle hall and are entirely made of wood. In the lattice doors, the artisans from Jianchuan mostly meticulously carve on the upper, middle and lower panels. The themes of the carvings cover natural scenes such as plants, animals and rocks, with relatively few carvings of figures. Among them, the most distinctive are the carvings about local religious beliefs. The most distinctive artistic feature of Jianchuan woodcarving is the combination of Bai ethnic and Central Plains



cultural characteristics in the carving techniques. It integrates the delicate and soft Jiangnan style on the basis of the bold and unrestrained local characteristics, making Jianchuan the "Hometown of Woodcarving in China".

3.1.2 Sinsign

In a single symbol, Pierce used "sin" as a prefix on this word, which shows that a symbol must become a concrete object. To make it actually occur, it can become a "sinsign", and thus it must be achieved through a qualitative symbol. On the one hand, the most distinctive feature of Jianchuan woodcarving lattice doors is the carving style that integrates local religious beliefs with the culture of the Central Plains. On the other hand, in the ancient city of Jianchuan, more than a hundred buildings from the Ming and Qing Dynasties are still preserved. And on the streets of Jianchuan, Jianchuan wood-carved lattice doors are also products that local people would purchase, which is not common in other places. This also shows that the Jianchuan woodcarving lattice door is not a handicraft found in ancient books, but a tool in the daily life of the Bai people on the streets of Jianchuan. It is a custom and aesthetic taste passed down from generation to generation, which makes the Jianchuan woodcarving lattice door more distinctive of the ethnic group and brings Jianchuan woodcarving closer to and more serving the public.

3.1.3 Legisign

Rule symbols refer to the symbols that have gradually developed from qualitative symbols and emerged after being conventionally agreed upon by human factors. For instance, symbols like characters have universality in human society. For instance, in the wooden lattice doors of Jianchuan, compared with other types of architectural decoration, traditional Bai residents rely more on the decoration of wood carvings. In the "Jiajing Dali Annals" written by Li Yuanyang of the Ming Dynasty, it was stated that the wood carvings of Jianchuan were "exquisitely crafted in ancient times, but now they cannot match." Due to the pleasant climate in Yunnan, traditional Bai residents prefer to work or toil in outdoor courtyards. Therefore, from ancient times to the present, when Bai residents build lattice doors, they will fully consider the decorative issues, while the functional issues of lattice doors and Windows for lighting are often overlooked. This has also resulted in the rich patterns and exquisite carvings of Jianchuan woodcarving lattice doors, which possess a unique artistic charm. Gradually, not only was the woodcarving technique exquisite on the lattice doors, but it also developed to the wooden carvings on the beams, hanging columns and corridor railings of buildings, where exquisite patterns would appear. This gave rise to the custom of the ancient Bai people that "no house is without carvings." This is the custom and habit that has been established by convention among the Bai people, and it is also its unique feature.

3.2 The object of Jianchuan woodcarving lattice doors

This second classification is the classification of symbols and the objects they represent, that is, the relationship with the object. The difference between the second classification and the first one



lies in that it has an additional reference object, which is about the relationship between two things. In the relationship between symbols and objects, Peirce classified them into three categories: ICONS, indices, and symbols.

3.2.1 Icon

When Pierce was discussing the concept of an icon, he used "ground" to explain the relationship between the icon and the object, which refers to the basis for explaining the abstract content between the symbol and the object. This can be a physical object or a concept, and its characteristic is the correlation between the symbol and the object[6]. In Jianchuan woodcarving lattice doors, it can be understood that the vivid patterns can truly reflect the content represented by the lattice doors themselves. For instance, on wooden lattice doors, one can often see plant-based decorative patterns such as "plum, orchid, bamboo and chrysanthemum", as well as animal-based decorative patterns like dragons, phoenixes and qilins. The techniques of Jianchuan woodcarving enable these symbols to be fully presented before the eyes of the world. The traditional white tunes of Jianchuan, such as "the golden dragon is carved to dance in the air, the golden rooster is carved to announce the fifth watch of the night, the white bird is carved to sing on the branch, and the flowers are carved to attract bees", fully demonstrate the high similarity between these symbols and the objects, and the information they convey is clear at a glance.

3.2.2 Index

The relationship between indicator symbols and objects can be explained by space or position. There is a "real correspondence" between the two, and its characteristics are dynamic and indicative. Its indicator plays a significant role in Jianchuan woodcarving lattice doors and serves as a functional indicator. As a spatial symbol, the "door" is one of the architectural structures created by humans with specific functions, and functionally it assumes the responsibility of "entry and exit"[7]. The Jianchuan wood-carved lattice door, as the main room door, has different opening and closing methods that represent different indicative meanings. Jianchuan wood-carved lattice doors are generally composed of six panels. The first situation is that all six panels are closed and cannot be entered, which also represents "Do not enter". The second situation is that the two middle doors are open, usually only allowing one person to enter, which is also the common way for local residents' lattice doors to be opened. The third type is that the four middle panels are open, indicating that a large number of people can enter and exit today. They are usually opened when the host family is entertaining guests. The fourth type is when all six doors are opened, which means that all the lattice doors have been removed. Either large items need to be brought into the house, or the host family is handling red or white events, making the inner room and the courtyard start to blend together.

3.2.3 Symbol

The characteristic of a normative symbol is that it is artificially created and is a kind of symbolic sign. It represents a visible and unspoken custom and habit between symbols. Jianchuan



wood-carved lattice doors are the crystallization of the wisdom of the Bai people in Jianchuan. The carving techniques of its artisans are diverse and exquisite. These carving techniques blend with each other in the deft hands of the carpenters, forming a unique artistic style. During the carving process, carpenters will adopt different carving techniques based on the characteristics of the wood such as its texture, color and hardness, making the works both practical and artistic. The carved patterns are rich and colorful, with profound meanings. As mentioned before, the most distinctive feature of its patterns is their integration with the Central Plains culture, including its own mysterious religious belief themes and the real life themes of the Bai ethnic residents, which contain intricate cultural connotations.

3.3 Explanation items of Jianchuan woodcarving lattice doors

The above respectively expounded the first two classifications of Peirce symbols. The difference between this third classification and the first two lies in the addition of a third element, which is the interpretant, that is, how to present the symbol. The interpretation item can be understood as what symbol this symbol generates in the interpreter's mind, the culture it conveys, the connotation it embodies, and the concept it creates. Similarly, when Peirce was explaining how to refer to symbols, he also divided it into three cases: noun symbols (rheme), propositional symbols (dicisign), and argumentative symbols (argument). In Pierce's original exposition, the meanings of these words were not clearly marked, and the industry also gave different interpretations of them. Therefore, here the author merely interprets the process of symbol generation of Jianchuan woodcarving lattice doors based on the term "interpretant". The dynamic development process generated by the explanatory terms can be described as an endless one. That is to say, when we interpret the symbols of Jianchuan woodcarving lattice doors, it is an endless process of deduction, with the symbols increasing infinitely and keeping pace with The Times.

4. The coding thinking of Jianchuan woodcarving lattice doors under the ternary relationship of Pierce symbols

4.1 The product coding process of Jianchuan woodcarving lattice doors

Based on its symbolic ternary relationship theory, this study further explores the classification system and coding rules of the lattice door patterns of Jianchuan woodcarving. Under the theoretical framework of the three-division method (i.e., symbol, object, and explanatory item), it can be seen that the classification and coding of the lattice door patterns of Jianchuan woodcarving profoundly reflect the dynamic interconstruction relationship among symbol, object, and explanatory item. For Jianchuan woodcarving lattice doors, the continuous generation of explanatory items and the dynamic update of the symbol system are the core mechanisms for the continuation and vitality of their cultural life. For researchers to gain a deeper understanding and continuously generate new insights into Jianchuan woodcarving lattice doors, it is essential to



have a thorough grasp of their profound cultural and historical background. Based on this, the following text will select several typical Jianchuan woodcarving lattice door patterns and analyze the process of the extension of their symbolic meanings.

4.2 The coding thinking of the "Hundred Blessings and Hundred Longevity" wooden lattice door in Shaxi Ancient Town

The six wooden lattice doors with the theme of "Hundred Blessings and Hundred Longevity" from the Qing Dynasty, which are preserved in the main hall of Ouyang Courtyard in Shaxi Ancient Town, Jianchuan County, are typical remnants of Jianchuan's woodcarving techniques. Its pattern system features a distinct ternary structure: the grid center is framed with crabapple patterns and engraved with over a hundred styles of Fu Shou characters. The skirt area adopts a diagonal symmetrical composition, with bat patterns decorated at the four corners and auspicious animal themes such as "Crane and Deer in Spring" and "Lion Rolling Embroidered Ball" carved in pairs in the center. The tassel ring board focuses on depicting themes of flowers and birds such as "Magpies climbing plum blossoms" and "egrets with lotus patterns". The construction of the woodcarving pattern system in Jianchuan during the Ming and Qing dynasties profoundly reflects the mutual infiltration mechanism of Han and Bai cultures. On the one hand, it inherits the symbolic logic of Han people's auspicious culture - such as the localized narrative of the "crane expansion" legend (the white crane helping the people clear the land) to form an emotional identification with the crane pattern, and the cross-ethnic dissemination of homophonic metaphors (bat/fortune, deer/wealth, etc.). On the other hand, cultural innovation is achieved through localized translation: By recombining the Bai ethnic group's golden rooster totem with Han imagery such as the peony and the white-headed old man, not only the visual density of the pattern composition is expanded, but also the cultural subjectivity is strengthened. The unique patterns of these six doors not only demonstrate the ritualistic status of the wood-carved lattice doors in the Spaces of Bai ethnic residences, but also serve as an important material carrier for interpreting the Bai ethnic group's cosmology of "enjoying life". Its functional design is also region-adaptable: The grid core adopts the through-carving technique to promote air circulation and light penetration, while the tassel ring plate and skirt plate use high relief to form a closed interface. This feature of "decoration taking precedence over practicality" originated from the demand for ventilation in buildings due to the hot and humid climate of Jianchuan, and eventually evolved into an artistic field where artisans showcase their carving skills and aesthetic concepts.

4.3 The coding thinking of the wooden lattice doors in Tengchong Wenchang Palace

The Tengchong Lierui Wenchang Palace was first built in the Wanli period of the Ming Dynasty and was expanded during the reign of Emperor Kangxi of the Qing Dynasty. Among them, the six carved lattice doors on the front of the Wenchang Hall were carved in the ninth year of the



Qianlong reign (1744), which have high research value. Each lattice is carved with a story to educate future generations. The upper part of the grid core adopts the through carving technique and is respectively composed of historical figures such as "Ming Xing Bi Jiao", "Yi Men of All Dynasties", "Fan Gong Academy", "Long Wen Bian Ying", "Ti Ge Qu Yin", and "Pei Du Huan Dai". The meticulous conception of the carvings on this lattice door, with distinct personalities and different forms of characters in each scene, forms a differentiated visual narrative system. At the level of craftsmanship, it demonstrates the exquisite level of traditional Jianchuan woodcarving skills. At the level of cultural integration, the Jianchuan Carpenters' Gang has translated and reconstructed the Confucian allusions from the Central Plains through local craft language, highlighting the core of Confucian ethics and moral teachings. It also reflects the subjective artistic expression of the Jianchuan artisan group: in their work outside the city, they ingeniously harmonized the official ideology with the aesthetic demands of the people, forming a decorative grammar with regional adaptability, providing a typical sample for the study of the interaction between official architecture and local craftsmanship in the western Yunnan region during the Qing Dynasty.

5. Conclusion

Pierce's symbolic taxonomy system has always been in a dynamic process of knowledge production, and its core terminology group has been continuously reconstructed along with the evolution of epistemology. This study is based on the ternary relationship model of Peirce semiotics and its derived classification framework for exploration, and analyzes the Jianchuan woodcarving lattice door pattern system within the perspective of this theory. Research shows that the typological construction and coding rules of the decorative patterns on lattice doors are essentially a dynamic semantic network interconstructed among the symbolic carrier (pattern form), the referential object (cultural reference), and the interpretive item (receiver decoding). These patterns not only serve as the materialized presentation of the architectural aesthetics of Bai ethnic dwellings, but also carry multi-level historical and cultural information. The formation mechanism of the cultural genes of Jianchuan woodcarving has significant cross-regional characteristics: In the diachronic dimension, it is not only nourished by the original cultural substrate of the Bai ethnic group in Dali, but also deeply integrated into the ritual symbol system of Han and Confucian cultures.

In this context, the survival and development of the lattice door pattern system rely on a dual driving mechanism. One is the diachronic proliferation of the interpretation item - the recipient reinterprets the traditional symbol based on the contemporary cultural context. The second is the innovative reconstruction of symbolic representation - artisans expand the boundaries of symbolic meaning by introducing new functional indicators (such as exotic patterns). For woodcarvers, at the practical level of their skills, they can clarify the semantic structure of the pattern system through symbol classification and optimize the compatibility between form and function. At the



cultural interpretation level, the ethnic memory, ethical concepts and aesthetic ideology in the patterns can be analyzed and deconstructed through interpretive terms. At the heritage inheritance level, a three-in-one protection model of "material carrier - technical knowledge - meaning system" can be established. The cognitive framework thus formed provides a theoretical tool for deeply interpreting the spatial semiotic value of traditional Bai ethnic dwellings. This research aims to establish a dynamic inheritance mechanism for the intangible cultural heritage of Jianchuan woodcarving: by empowering traditional craftsmanship with semiotic theory, it transforms it into a sustainable knowledge production system. Its cross-cultural integration experience also sets a new paradigm for the creative transformation of China's handicraft intangible cultural heritage, especially in the modernity transformation of minority art and the global dissemination of local knowledge, which has reference value.

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Practical Exploration of Integrating Kneading and Sculpting Art into Teaching Chinese as a Foreign Language

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Abstract

By conducting an in-depth analysis of the feasibility and significant value of integrating kneading and sculpting art with Teaching Chinese as a Foreign Language (TCFL), this paper elaborates on the positive role of kneading and sculpting art in enriching teaching content, enhancing teaching interest, and promoting cultural understanding. It expounds on its positive effects in stimulating learning interest, improving language skills, and facilitating cultural comprehension from multiple perspectives, further exploring the specific application methods and practical strategies of kneading and sculpting art in vocabulary, grammar, and cultural teaching. It guides students to participate in kneading and sculpting activities and organically combines language learning with cultural experience. The aim is to provide new ideas and references for the innovation of TCFL methods and the improvement of teaching effects, and to promote the diversified development of TCFL. The integration of kneading and sculpting art can significantly stimulate students' interest in learning, strengthen their understanding and recognition of the Chinese language and culture, provide new ideas and methods for the innovative development of TCFL, and thus hold important practical guiding value.

Keywords

Kneading and sculpting art; Teaching Chinese as a Foreign Language (TCFL); Cultural communication

1.Introduction

With the continuous enhancement of China's international influence, the popularity of the Chinese language has been rising globally, and Teaching Chinese as a Foreign Language has ushered in a new phase of vigorous development. How to innovate teaching methods and improve teaching effects has become a key focus for a large number of educators engaged in TCFL. Language teaching and cultural teaching are mutually infiltrative and mutually promotive. Among various teaching approaches, practical activities that incorporate elements of traditional Chinese culture have gradually emerged. The teaching of Chinese traditional talent courses, as an important part of cultural teaching, is highly practical, and kneading and sculpting activities are one such example.



As an ancient and charming form of folk art, kneading and sculpting not only carries profound cultural connotations but also features strong interest and operability. Skillfully applying it to TCFL can inject new vitality into the teaching process and bring about unexpected positive effects.

In the cause of international Chinese education, international Chinese teaching and cultural teaching are closely interconnected. In cultural teaching, the teaching of Chinese traditional talents can not only help learners acquire the Chinese language but also enable them to understand the implications behind cultural phenomena—promoting their understanding of the Chinese people's lifestyle, thinking patterns, traditional concepts, and other aspects, and fostering a greater sense of affinity towards Chinese culture among students. ^[1]

2. Overview of Kneading and Sculpting Art

2.1 Origin and Development of Kneading and Sculpting

Art Kneading and sculpting art boasts a long history, dating back to ancient times. In the early days, people used easily accessible materials such as clay for simple shaping in their daily production and life, which were employed for sacrificial rituals, decorations, or toy making. As time passed, the techniques of kneading and sculpting continued to develop, gradually shifting from practical use to aesthetic expression, and evolving from simple shapes to complex and diverse art forms. In different regions, due to differences in culture, customs, and materials, a variety of unique schools and styles of kneading and sculpting have been formed. ^[2]

In Heze, Shandong Province, the art of kneading and sculpting has a history of over 200 years. After it was introduced to Jinan, it was inherited by veteran artists such as Li Junxing, giving shape to the unique style of Jinan kneading and sculpting. The painted clay figurines of the "Zhang Family" in Tianjin even elevated traditional clay figurine making to the level of round sculpture art, with colors and props added for decoration to form a distinctive style. It has become a pinnacle of Chinese clay sculpture art, with exquisite works and far-reaching influence. In folk society, kneading and sculpting art is closely integrated with folk activities. For instance, dough sculpture works during the Spring Festival imply auspiciousness and good fortune, becoming an important part of festival culture. After being inherited and developed from generation to generation, kneading and sculpting art has been continuously innovated, integrating modern elements and radiating new vitality. ^[3]

2.2 Characteristics of Kneading and Sculpting Art

The most prominent characteristic of kneading and sculpting art lies in the simplicity of its materials and low cost, allowing people to easily obtain the required materials. Materials for kneading and sculpting art typically include clay, dough sculpture materials, ultra-light clay, etc., which are widely available and inexpensive. Clay can be found everywhere; dough sculpture materials are mainly composed of glutinous rice flour, wheat flour, and the like; ultra-light clay is affordable and easy to purchase. The low cost of these materials provides convenience for carrying out kneading and sculpting activities—especially in teaching scenarios, where students can participate in the experience without incurring high costs.

In addition, kneading and sculpting art is also characterized by rich shapes and bright colors. With rich imagination and exquisite craftsmanship, artists of kneading and sculpting create a wide range of shapes, covering figures, animals, plants, utensils, and more. Whether it is characters from myths and legends or scenes from real life, they can be vividly presented through kneading and



sculpting. Meanwhile, works of kneading and sculpting are bright in color, often adopting color combinations with strong contrasts, such as red and green, yellow and purple, etc. This endows the works with a strong visual impact, filled with artistic appeal, making them easy to attract students' attention and stimulate their interest.

Secondly, kneading and sculpting art is marked by manual operation and strong interactivity. It emphasizes manual work, requiring artists to twist, rub, and knead with their fingers, and cooperate with tools such as knives, scissors, and hairpins for cutting, dotting, and carving to complete the works. In teaching, students personally participate in the process of kneading and sculpting, engaging in hands-on practice and giving full play to their creativity and imagination. This highly interactive art form promotes communication and cooperation between teachers and students, as well as among students themselves, and creates an lively teaching atmosphere.

3.Application of Kneading and Sculpting Art in Teaching Chinese as a Foreign Language

3.1 Application in Vocabulary Teaching^[4]

In the teaching of kneading and sculpting art, there are numerous vocabularies related to kneading and sculpting tools, materials, techniques, and works. Teachers can intuitively present the objects and actions referred to by vocabularies such as "clay", "dough", "carving knife", "mold", "knead", "rub", "knead", and "shape" by displaying real objects, pictures, or videos, helping students understand and memorize them. For example, when explaining the word "knead", the teacher can personally demonstrate the action of kneading clay, ask students to imitate it, and repeat the pronunciation and meaning of "knead" at the same time—enabling students to master the vocabulary through practice.

Furthermore, with kneading and sculpting works as the theme, students' Chinese vocabulary can be expanded in a rich way. For example, when displaying animal-themed kneading and sculpting works, teachers can teach animal vocabularies such as "panda", "rabbit", and "tiger", and at the same time introduce relevant adjectives, such as descriptive words like "cute", "lively", and "ferocious" to describe the characteristics of animals; when displaying figure-themed kneading and sculpting works, students can learn vocabularies for addressing people such as "grandfather", "grandmother", and "girl", as well as words describing personal qualities like "kind", "hard-working", and "beautiful". Through this approach, kneading and sculpting art is organically combined with vocabulary teaching, expanding students' vocabulary.

3.2 Application in Grammar Teaching

In a TCFL classroom, teachers can conduct Chinese teaching anytime and anywhere. For example, during the process of students' kneading and sculpting operations, teachers can introduce grammar teaching in a timely manner. When students are making kneading and sculpting works, the teacher can describe their actions: "First, you pick up a piece of clay, then rub it into a circle, and then use your fingers to knead out the shape of ears." Through this method, the grammatical structure



indicating sequence, such as "first... then... and then...", is naturally presented, allowing students to understand its usage in practical operations. Teachers can also guide students to use grammatical structures for expression through questions, such as "What are you going to do next after finishing this step?" and urge students to answer "Next, I am going to...", so as to strengthen the application of grammatical structures.

After students complete their kneading and sculpting works, they are required to describe the works in Chinese. Teachers can guide students to use the grammar knowledge they have learned, such as "My work is a... It has... and..." to describe the characteristics, components of the work, and the relationship between various parts; students are also encouraged to use adjective comparatives to describe the differences between their own works and others' works, such as "My panda is fatter than his panda". Through describing the works, students are provided with opportunities for grammar practice, which helps them consolidate grammar knowledge and improve the accuracy and fluency of their language expression.

3.3 Application in Cultural Teaching

Works of kneading and sculpting art often embody traditional Chinese values. For example, kneading and sculpting works with the theme of "filial piety and fraternity" (xiàoti) show scenes where children are filial to their parents and siblings are friendly to each other—teachers can take this opportunity to explain to students the importance of "filial piety and fraternity" in traditional Chinese family concepts; kneading and sculpting works with the theme of "Two Immortals of Harmony and Union" (héhé èrxiān) convey the cultural connotation of harmony and unity, helping students understand the Chinese people's pursuit of harmonious interpersonal relationships. Through these works, students can gain an in-depth understanding of traditional Chinese values and feel the spiritual core of Chinese culture.

In addition, the styles of kneading and sculpting art vary in different regions, reflecting the unique cultural characteristics of local areas. For example, the painted clay figurines of the "Zhang Family" in Tianjin focus on realism, with vivid character images that reflect the local culture and folk customs of Tianjin; dough flowers in Shaanxi have exaggerated shapes and intense colors, which are related to the bold and simple folk customs of the Shaanxi region. In teaching, teachers introduce the characteristics of kneading and sculpting art in different regions, showcase the differences in regional culture, broaden students' cultural horizons, and enable students to gain a comprehensive understanding of the diverse Chinese culture.

4. Practical Strategies for Teaching Chinese as a Foreign Language Based on Kneading and Sculpting Art

4.1 Teaching Preparation

First of all, in terms of the selection of materials and tools, appropriate kneading and sculpting materials and tools should be chosen based on the actual teaching situation and students'



characteristics. For young students or beginners, ultra-light clay can be used — it has a soft texture, rich colors, is easy to shape, non-toxic and harmless, and dries naturally, making it safe and convenient to operate. Prepare an appropriate amount of kneading and sculpting tools, such as small carving knives, scissors, plastic molds, toothpicks, etc., to meet students' creative needs. At the same time, prepare cleaning supplies, such as wet towels and garbage bags, to keep the teaching environment clean and tidy.

Secondly, in the arrangement of the teaching site, a spacious, bright, and well-ventilated teaching space should be selected to facilitate students' activities and operations. Arrange the site in advance, place desks and chairs, and set up a work display area to exhibit the teacher's demonstration works, excellent students' works, and pictures and real objects of kneading and sculpting art of different styles. This creates a strong artistic atmosphere and stimulates students' creative inspiration and learning interest.

4.2 Teaching Process Design

In the introduction session, the course can be introduced by playing wonderful videos of kneading and sculpting art, displaying exquisite kneading and sculpting works, or telling interesting stories about kneading and sculpting — so as to attract students' attention and arouse their interest and curiosity about kneading and sculpting art. For example, play a video of a folk artist making a large-scale dough sculpture work, showing his exquisite skills and the magical creative process; this will make students amazed and eager to learn more about kneading and sculpting knowledge and skills.

In the knowledge explanation session, explain the basic knowledge of kneading and sculpting art, including its origin, development, characteristics, and schools, so that students can have a preliminary understanding of kneading and sculpting art. Focus on introducing the kneading and sculpting materials, the use of tools, and basic techniques involved in this teaching, such as clay color matching, tool operation skills, and basic shaping methods. Teachers can conduct on-site demonstrations, explaining while demonstrating, so that students can clearly and intuitively understand the operation steps and key points.

In the practical operation session, students carry out practical kneading and sculpting operations under the guidance of teachers. Teachers provide students with creative themes or allow them to play freely, encouraging students to imagine boldly and innovate. During the students' operation process, teachers conduct patrol guidance, provide timely help and feedback, correct incorrect operations, and encourage students to communicate and cooperate with each other to complete the works together. For example, organize students to work in groups to create kneading and sculpting scene works with the theme of "traditional Chinese festivals", so as to cultivate students' teamwork ability and language communication ability. ^[5]

In the work display and evaluation session, after students complete their works, they conduct work display and evaluation. Each student goes on stage to display his/her work and introduce the



creative ideas, theme of the work, and the vocabulary and grammar knowledge used in Chinese. Other students listen carefully, ask questions and make evaluations. Teachers make summary evaluations, affirm the students' strengths and creativity, point out the existing problems and shortcomings, and put forward improvement suggestions. Through work display and evaluation, students' language expression ability and self-confidence are improved, and students are promoted to learn from each other and make progress together.

4.3 Teaching Evaluation

Through in-class questions, quizzes, homework, and other methods, examine students' mastery of vocabulary and grammar knowledge related to kneading and sculpting art. For example, give some vocabularies related to kneading and sculpting and ask students to spell, translate, or make sentences; design grammar exercises to test students' understanding and application ability of specific grammatical structures. Understand the learning effect of students' language knowledge and provide a basis for the adjustment of subsequent teaching.

Secondly, observe students' understanding and acceptance of Chinese cultural elements in the teaching process. Through in-class discussions and analysis of the connotation of students' works, evaluate the depth of students' understanding of traditional Chinese values and regional cultural characteristics. For example, organize students to discuss the cultural connotation reflected in the kneading and sculpting works, and let students expound their own understanding and perception of the relevant culture; then make evaluations based on the students' performance.

Finally, examine students' comprehensive ability performance in the kneading and sculpting practical activities, including hands-on ability, creativity, teamwork ability, cross-cultural communication ability, and so on. Observe the students' participation and communication ability in group cooperation to evaluate their teamwork ability; evaluate their creativity through the innovation and uniqueness of students' works; evaluate their cross-cultural communication ability according to the students' language application and cultural understanding performance in the communication with teachers and classmates. Comprehensively understand the growth and progress of students in the teaching activities.

Conclusion

This paper deeply explores the application of kneading and sculpting art in Teaching Chinese as a Foreign Language, expounds on the origin, development, and characteristics of kneading and sculpting art, analyzes the necessity of integrating cultural elements into TCFL, and introduces in detail the application of kneading and sculpting art in vocabulary, grammar, and cultural teaching as well as the teaching practical strategies. As a treasure of traditional Chinese culture, kneading and sculpting art provides rich resources and innovative approaches for TCFL. Integrating it into teaching can make language learning more vivid and interesting, help students better master Chinese knowledge and skills, deeply understand the connotation of Chinese culture, and



effectively improve their cross-cultural communication ability.

In teaching practice, teachers should give full play to the advantages of kneading and sculpting art, carefully design teaching links, reasonably select materials and tools, pay attention to teaching evaluation, and constantly optimize the teaching effect. At the same time, more teachers are encouraged to explore the integration of other traditional Chinese cultural and artistic forms into TCFL, enrich the teaching content and methods, promote the innovative development of the cause of TCFL, facilitate the wide spread and exchange of Chinese culture in the international community, and enhance mutual understanding and friendship between different countries and nations.

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An Audiovisual Language Analysis of the Vision of Peace and Human Reflection in Films from the Perspective of a Community with a Shared Future for Mankind: A Case Study of the Movie "Into the White"

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Abstract

The concept of a community with a shared future for mankind emphasizes the common interests and responsibilities of all mankind in the context of globalization, and this concept has been widely embodied in film art. Set in World War II, the Norwegian film "Into the White" depicts the plight of human destiny and a vision of peace by telling the story of mutual assistance and coexistence between soldiers on both sides of the enemy in extreme environments. From the perspective of the concept of a community with a shared future for mankind, combined with the audiovisual language of the Norwegian film "Into the White", this paper explores how the film can show the "common unity", dilemma and vision of peace of human destiny through small-scale narrative, environmental contrast and the use of key props. Through the analysis of individual narratives, environmental portrayals and symbols in the film, the profound reflection and artistic expression of the film on a community with a shared future for mankind in the context of globalization are revealed.

Keywords

A Community With A Shared Future For Mankind; Main melody; Audiovisual language; Anti-war themes; Norwegian films

1. Introduction

The concept of a community with a shared future for mankind ^[1] was put forward by China at the United Nations General Assembly in New York in 2013, with the theme of "mankind has only one earth and only one world", with the pursuit of peace as the core, advocating that no matter what country people are in and what their beliefs are, in fact, all human beings in the world are already in a community with a shared future. A war film directed by Petter Nass and starring Rupert



Grint, David Kross, Florian Lukas and others. The story told in the film is unfolded by two groups of British and German soldiers, after shooting down enemy fighters against each other, several people meet on the top of a mountain in Norway in the ice and snow, and the two teams of people and horses can only huddle together in a small cabin that has long been abandoned by hunters in order to survive. War films refer to films with the theme of major military operations in the history of war. There are two types of films that show the vision of peace: one focuses on creating characters, focusing on the depiction of historical events, battle processes, and battle scenes, focusing on portraying the characters' thoughts and characters; The other is mainly to reflect historical events, through characters and the description of the storyline, vividly illustrating a major military action, military thinking, military principles, and strategic tactics. Although the film "Into the White" was released earlier than the concept of "a community with a shared future for mankind" was proposed, it is obviously more inclined to the first genre because of its highly similar spiritual core, and this film is also more inclined to this kind of anti-war theme film that expresses the vision of peace because of its unique film keywords and audiovisual language, and film is a comprehensive art that should become a 'carrier' for building a community with a shared future for mankind [3]. This paper will analyze how film conveys the core values of a community with a shared future for mankind through audiovisual language from three aspects: individual narrative, environmental comparison, and key props, and further explores its global significance and the future development direction of film art.

2. Focus on individual narratives and show the "common unity" of human destiny

In film art, the expression of a community with a shared future for mankind is often realized through individual narratives, environmental contrasts, and symbolism. For example, the Chinese science fiction film "The Wandering Earth" shows the unity and responsibility of humanity in the face of a common crisis through the narrative of global cooperation to save the planet. "Into the White" takes a small-scale individual narrative as the core, and conveys the core concept of a community with a shared future for mankind through the mutual assistance of hostile soldiers in extreme environments. In the film "Into the White", we do not see a grand battlefield of gunpowder, nor the tense confrontation between the two armies, but the perspective of the film focuses on this small wooden house on the top of a Norwegian mountain, except for the last part of the film when several people are taken down the mountain by the Norwegian army, the audience's eyes never leave the snow-covered mountaintop and this dilapidated log cabin. In the movie "Into the White", there are no "big scenes" in the "small area" focus, just two soldiers who speak different languages and are ordered to fight, but they have the same European appearance and ancestry. In the concept of a community with a shared future for mankind, it is emphasized that all countries should transcend the boundaries of ethnicity and ideology and jointly deal with the common problems faced by mankind [2]. This concept is not only a profound reflection on the common destiny of mankind in the context of globalization, but also the pursuit of universal values such as peace, development, fairness, and justice, which has the same core in "Into the White".

This similar narrative angle makes this film different from other types of war films, and it is also a feature of some anti-war films, such as the Korean film "Welcome to Dongmakgol" (" 웰컴 투



동막골"), the Italian film "La Vita è bella", etc., these same excellent main theme genre films are also ingenious in the choice of story themes without deliberately highlighting the war-torn world, and even without the scenes of bullets and bullets in people's impressions. Neither directly depicts the cruelty of war, but focuses on a small range of time and even individuals, and uses the mouths of these small people to show their difficult lives under the larger environment. This kind of focus is also a kind of contrast, hiding the frontal battlefield behind the film, allowing the audience to pay more attention to the impact of the general environment on a specific group of people, and to peek into the corner of the fate of "mankind" in digging deep into their personal fate, and to reflect on the fate of human groups with the fate of individual human beings.

3.Dilemma·The contrast between the "big"and"small"environments depicts the "dilemma"of human destiny

Under the narrative system of a community with a shared future for mankind, there is a "dilemma" that needs to be solved urgently, that is, the deepening of the connection and interdependence between countries in the world today, but also facing many common challenges, and these unresolved contradictions are one of the "dilemmas". The background of the "big environment" symbolizes the division and conflict of human society; As a "small"environment, the polar hut has become a symbol of human coexistence and cooperation. In "Into the White", the snow on the top of a Norwegian mountain is the only scenery that the five can see. At the beginning, the five met in the wind and snow, and the relationship was tense, and the wind and snow never seemed to stop. At the beginning of the story, the hut represents the dilemma faced by the five people, and the cramped relationship between the captives and the captives is the cramped one, but in the face of the seemingly never-ending snowstorm outside, the five can only maintain peace on the surface, but secretly compete behind the scenes. In terms of audiovisual language, the director reinforces the symbolism of the environment through the contrast of warm and cold tones and the change of camera movement. For example, the war scenes are dominated by cold colors, and the camera switches quickly, creating an atmosphere of tension and unease; The Polar Cabin, on the other hand, is dominated by warm colors, and the camera moves slowly, conveying warmth and hope. The progress of the story is also closely related to the continuous entry and exit of the characters in the film in the environment, such as the "38th Parallel", which symbolizes the incompatibility of the two peoples, which was later erased by the five people; Or the British officer, who ordered the German officers to dismantle the pillars in order to get more firewood, and accidentally almost destroyed the hut on which the five men lived, and the two men had to use their bodies as pillars, and for the first time they really opened their hearts; Or maybe the five people walked out of the hut in order to get more food resources, but they were carried away by the wind and snow and had to return.....It is as if the grand and cruel background of the times outside the house continues to play out here, and at the same time symbolizes the inner predicament of several characters, all of whom are trapped here because of the wind and snow, and at the same time, we can boldly guess that perhaps this predicament also alludes to the difficulties that may be encountered in the development of a community with a shared future for mankind.

The strong contrast between the empty mountain scenery and the small wooden house in the film is not only a contrast between the "big environment" and the "small environment", but also the contrast between the "big era" and the "little people", which allows us to read the helplessness of



the characters in the play, see the change of the relationship between the five people, and see the real dilemma faced by mankind from the perspective of a community with a shared future for mankind, as well as the compulsion and anxiety of all people under the general trend. This contrast not only reveals the predicament of human beings in war, but also hints at the possibility of peaceful coexistence.

4.Symbol· Key props sublimate the big theme

In the audiovisual language of film, props are important imagery expressions and narrative clues. In the movie "Into the White", a total of several important props appeared, the snow hare at the beginning, the British officer's lighter, and the German soldier's book signed by Hitler. The reason why these three key props are listed is that these three props not only play a certain representative role, but also promote the development of the plot to a certain extent.

The hare in the snow appears three times at the beginning, when the plane first falls, when the five men hunt for food, and when the Norwegian officer spots the plane down. The hare at the beginning is not only to a certain extent a representation of the predicament and fate of the five protagonists, but also an important foreshadowing, the hare hiding in the vast snow relying on fur is just like these five two groups of soldiers who were hidden on the top of the mountain by the wind and snow. Later in the film we learn that in fact, the Norwegian military is at the foot of the mountain where these five people are, the wind and snow are the factors that isolate them from the world, and it is a natural barrier for them to avoid the war for the time being, and the moment when the hare becomes a good meal on the plate of several people is also the "key moment" when several people completely let go of their feelings toward each other, and the moment when five people really let go of their grudges and prepare to truly work together. At the end of the film, the body of the hare was randomly thrown by the Norwegian officer next to the strategic map, indicating the fate of several people who were about to be "captured", such a key prop also has the British officer's lighter, which was used as a prop to show the "contest" between the two sides, and finally became the last token of the tacit understanding between the two officers when the two sides faced interrogation.

Or the book "Mein Kampf" by the German soldier Joseph, which is the faith in the heart of this war-mad young soldier, but in some extent it has been repeatedly used by the British soldiers as the object of tricking the enemy. This book is equivalent to a "Bible" representing war, in the eyes of different people, it can be the gospel or a brainwashing tool, and the attitude of the people in the play towards this book also represents their views on the "war" itself, and at the end of the story, the German officers threw the book into the stove as fuel for their heating, and it was also reasonable on a human level.

In terms of audiovisual language, the director strengthens the symbolic meaning of the props through close-ups and light and shadow effects. Close-ups of the stove appear many times in the film, accompanied by warm light and shadow effects, conveying the hope of human coexistence and survival; A close-up of the map shows the soldiers' shared expectations for the future through their shared gaze. These key props belong to the re-adaptation and re-creation of the original events by the writer and director, but they all convey the key core idea of the film -in the pursuit of peace, the fate of mankind belongs to the same body.



4. Conclusions

With audio-visual language as the medium, film conveys the core value of the community of human destiny and provides important inspiration for film creation in the context of globalization. French director Truffaut once said: "There has never been a real anti-war film in the world", such as the movie "Into the White" is an excellent anti-war film. Through the screenwriter's adaptation of the original story of the film and television language and the director's lens language description, we clearly see the unique character and fate of each individual in the context of war, as well as the impact of the interweaving of human destinies on the characters in the context of war. The concept of a community with a shared future for mankind is not only a reflection on the common destiny of mankind in the context of globalization, but also an exploration of a new form of civilization. In the past, the human world has never stopped reflecting on the grave disasters caused by the conflicts between people. In the future, movies can further explore the connotation and practice path of the community of human destiny through more diversified narrative perspectives and artistic techniques, and call on mankind to transcend differences and jointly pursue peace and development.

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Simulation and Inference System for Coral Reef Conservation Policy: Coupling Multi-Agent System (MAS) and Ecosystem Service Value Assessment

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Abstract

This research focuses on the ecological protection of coral reefs and constructs a theoretical and methodological system. Based on the theory of ecosystem service value (ESV), combined with the characteristics of coral reef ecosystems, a dynamic assessment system is established, covering dimensions such as supply, regulation, culture, and support services, and accurately calculates the value through market methods and replacement cost methods. By using multi-agent systems (MAS), the interactions among government, fishermen, tourism operators and other subjects are simulated to analyze behavioral rules and decision-making logics. Innovate the MAS - ESV coupling mechanism, design the "policy - behavior - ecology - value" feedback loop, achieve multi-system data interaction and cross-scale integration, and simulate the evolution of ecology - value under the influence of policies. Build a simulation system, modularly design the user interface and functional engine, and develop key model components, including fishery, tourism decision-making rules and ecological value accounting modules. Taking the coral reefs in Hainan as an example, the regional social-ecological characteristics were simulated, model parameters were calibrated, and multi-scenario analyses were conducted to explore the evolution of ecological states, ESV responses, and changes in human behaviors. The results showed that collaborative policies have a leverage effect on the long-term growth of ESV, while single policies have limitations. The synergy of multiple policies can enhance efficiency. This research has broken through the analytical capabilities of the complex social-ecological system, promoting the transformation of ecological protection from "post-event assessment" to "pre-event simulation" paradigm. It provides scientific support for the formulation of coral reef protection policies and looks forward to the development of model refinement and decision support systems, contributing to the sustainable development of marine ecology.



Keywords

Coral reef protection, Ecosystem Service Value (ESV), Multi-Agent System (MAS), Policy Simulation, Synergistic Effect

1.Introduction

Coral reefs are crucial habitats for marine biodiversity, playing a unique and irreplaceable role in maintaining the ecological balance of the ocean and supporting the economic development along the coast. However, nowadays, due to the combined effects of global climate change and human activities, coral reefs are facing an unprecedented degradation crisis. Their protection effectiveness and ecological recovery ability have thus attracted widespread attention. Currently, when evaluating protection policies, most rely on static indicators and linear analysis, which makes it difficult to grasp the nonlinear interactions and dynamic feedback among multiple elements within the system. This has led to a significant deviation between management measures and actual ecological responses. The social-ecological system (SES) is inherently complex, which further highlights the limitations of traditional assessment methods. Coral reef degradation involves the interaction of various factors such as ecology, society, and economy. Its change process is not only related to the scale but may also exhibit sudden changes. Therefore, it is urgent to reveal the internal operating mechanisms of the system through interdisciplinary approaches. To this end, this study proposes a coupled simulation framework for multi-agent systems and ecosystem service value assessment (MAS-ESV). By integrating the behavioral rules of micro-agents and the evolution model of the macro-system, this method quantifies the long-term impact of conservation policies on the social-ecological system of coral reefs. The innovation of this method lies in breaking the static assessment model and introducing a dynamic feedback mechanism. It can not only provide decision-making support tools for complex environmental governance but also explore new research directions for the adaptive management of coral reefs.

2.Theoretical basis and methodological framework

2.1 Dynamic assessment system for ecosystem service value (ESV) of coral reef ecosystems

The assessment of the value of coral reef ecosystem services is the core to understanding its ecological benefits and economic value. Referring to the approach of Jiang Li et al. (2014) [6, 8] in evaluating the value of ecosystem services based on the land use - ecosystem coupling model, this study is carried out in combination with the characteristics of coral reef ecosystems. According to the classification system of the Millennium Ecosystem Assessment (MA), coral reef ecosystem services are divided into provisioning, regulating, cultural and supporting services.^{[1][2]} The supply service selects indicators such as fishery resource yield (annual catch per unit area) to measure its food supply capacity; the regulation service covers carbon sink capacity



(annual carbon sequestration per unit area), coastal protection (reduction of coastal erosion) and so on, reflecting its environmental regulation; the cultural service uses tourism income (annual tourism revenue in coral reef areas) and cultural heritage value (assessment of community cultural identity) as indicators, reflecting its spiritual and cultural contribution; the support service uses primary productivity (total primary production per unit area) and biodiversity (richness of coral and fish species) as indicators, serving as the basis for the operation of the ecosystem.

The market approach assesses through market prices, such as for fishery supply services, the economic value can be calculated based on the market price of fish catches.^[3] The alternative cost method is used for non-market transaction services, like coastal protection services, and the cost of artificial protection after the loss of coral reefs can be calculated ^[4]. The equivalent factor method, referring to the research by Shegeldge et al. (2015) ^[5] on terrestrial ecosystems, combines the characteristics of coral reefs to determine the equivalent value of services per unit area and estimate the total value. Drawing on the research logic of Wang Jiaheng et al. (2025) ^[7] on the correlation between the value of ecosystem services and ecological status in the Dianchi Lake basin, the dynamic impact of changes in coral reef ecological status (such as coral coverage and health) on service value is analyzed. An association model between ecological status indicators and service value indicators is constructed to simulate the response process and amplitude of service value under different ecological disturbances (such as marine pollution, overfishing), when the ecological status deteriorates or improves.

2.2 Modeling Principles of Multi-Agent Systems (MAS)

Multi-agent systems can simulate the interactions among different entities in complex social-ecological systems. Based on relevant research on entity modeling, a multi-agent model was designed for the coral reef protection scenario.

Heterogeneous entities such as the government, fishermen, tourism operators, and tourists. The government focuses on coral reef ecological protection and regional sustainable development, with behavioral rules including the formulation of marine protected area (MPA) policies and ecological compensation standards; fishermen's core activity is fishing, and the rules involve decisions on fishing effort, responses to policies (such as whether to comply with fishing moratoriums); tourism operators focus on tourism development and revenue, with rules including investment in tourism projects and ecological protection investment decisions; tourists pursue tourism experiences, and the rules include the selection of tourist destinations, awareness and behavior regarding coral reef protection (such as whether to participate in ecotourism). Then, a decision-making model for the entities is constructed using the utility maximization, rule-driven, and BDI (Belief - Wish - Intention) framework. The government's decision-making aims to maximize the utility of ecological protection and social-economic coordination; fishermen make decisions driven by rules such as fishing income and policy constraints; through the BDI framework, each entity makes decisions based on its own beliefs (understanding of coral reef ecology and economy), desires (such as fishermen's profit desires, the government's protection



desires) and intentions (such as the development intentions of tourism operators). Design the spatial interaction and environmental perception mechanism of the main body. The main body can perceive the spatial information of the coral reef ecosystem (such as the coverage rate of corals nearby and the degree of pollution) and other entities (such as fishermen perceiving the distribution of fishing boats around), and through preset interaction rules (such as the fishing competition among fishermen, and the policy communication between tourism operators and the government), achieve spatial interaction and environmental adaptation.

2.3 Innovative coupling mechanism of MAS-ESV

Realizing the coupling between multi-agent systems and the assessment of ecosystem service values is crucial for simulating the impact of policies on coral reef ecology and value.

Based on the research idea of system coupling, a "policy - behavior - ecology - value" feedback loop was designed. The government formulates policies (such as MPA policies), which influence the behaviors of entities like fishermen and tourism operators; the behaviors of these entities act on the coral reef ecosystem (for example, the fishing behavior of fishermen affects the biodiversity of the coral reef, and the development by tourism operators affects the environment of the coral reef); changes in the ecosystem alter the service value; the service value is fed back to the government as the basis for policy adjustments, forming a closed-loop feedback. Cross-module data interfaces were developed to realize data interaction between the MAS module and the ESV assessment module. At the same time, the temporal and spatial scales of both should be matched to ensure that the time scale (such as daily or monthly fishing cycles, annual tourism cycles) and spatial scale (such as the spatial division of coral reef areas) of the MAS's main behaviors are consistent with the time scale (such as inter-annual ecological changes) and spatial scale (such as the service value of different areas of coral reefs) of the ESV assessment. By combining the system dynamics method, the adaptive evolution path of the MAS-ESV coupled system should be simulated. The dynamic evolution process of the main behaviors, the ecosystem, and the service value under different policy scenarios should be analyzed, and the long-term change trend of the service value of the coral reef ecosystem should be predicted, providing a forward-looking basis for policy formulation.

3. Simulation System Architecture and Implementation

3.1 Modular system design

The user interface adopts a layered interaction design concept, providing users with convenient operation entry through a simple and intuitive graphical interface. The scenario configuration module enables users to flexibly set various initial ecological parameters such as time span, spatial range, initial coral coverage, initial fish biomass, as well as initial intensity of human activities such as fishing frequency and tourist numbers, according to their research needs. Its design draws on the research in "Ecosystem Service Value Assessment Based on Land Use-Ecosystem Coupling Model - A Case Study of the Agricultural-Livestock Ecological Transition Zone in Northern



China" regarding the interface interaction and flexibility of complex system simulation ^[6]. This study emphasizes the importance of a friendly user interface and customizable scenarios for the effectiveness of system simulation, providing a theoretical basis for the interaction logic of the modules and the flexibility of parameter configuration.

This engine is constructed based on the theory of Multi-Agent System (MAS). It abstracts various entities in the coral reef ecosystem, such as fishermen, tourism operators, corals, and fish, as intelligent agents with autonomous decision-making capabilities. Each intelligent agent has the ability to perceive the environment, make decisions according to internal rules, and interact with other intelligent agents. For instance, the fisherman intelligent agent can determine the time, location, and intensity of fishing based on the status of fishery resources, market prices, and policy constraints. The coral agents carry out behaviors such as growth, reproduction or bleaching based on environmental factors such as light, water temperature, and nutrient salts. "Partitioning and Land Use Simulation Evaluation of Watershed Ecological Restoration Based on Multi-Coupling Model - A Case Study of Dianchi Lake Basin" provides in-depth discussion on the application of multiple agents in ecosystem simulation ^[7], offering key theoretical support for the modeling methods, interaction mechanisms, and decision rules of agents in the engine, and ensuring the scientificity and rationality of multi-agent simulation.

This module is based on the ecosystem service value (ESV) assessment theory and combines the characteristics of coral reef ecosystems to construct a dynamic calculation model. The model will monitor real-time changes in the ecosystem status, such as variations in coral coverage, changes in biomass, and evolution of the ecosystem structure, etc. Based on these changes, it will use corresponding value calculation methods such as value conversion (such as market value of fishery resources, tourism ticket revenue, etc.) and functional equivalent method (referencing the equivalent value of ecosystem service function per unit area) to dynamically calculate the service values provided by the ecosystem, such as fishery resource supply, tourism and leisure, and ecological regulation. "Value Assessment of Ecosystem Services Based on Land Use-Ecosystem Coupling Model - A Case Study of the Agricultural-Livestock Ecological Transition Zone in Northern China" elaborates on the methods and models for dynamic assessment of ecosystem service values. ^[6] It provides important references for the selection of indicators for value calculation, accounting methods, and dynamic update mechanisms in the module, enabling the calculation of ecological value to accurately reflect the real-time status of the ecosystem.

3.2 Development of key model components

For fishery decision-making, the rule base integrates the goal of maximizing fishermen's economic benefits with the constraints of ecological protection. For instance, when the fishery resource quantity falls below a certain threshold, the rules will limit the fishing intensity or guide fishermen to switch to other alternative industries; at the same time, based on the research logic in "Ecosystem Service Value Assessment Based on Land Use-Ecosystem Coupling Model - A Case Study of the Agricultural-Livestock Intersecting Zone in Northern China" ^[6], which focuses on the



impact of land use in the agricultural-livestock intersection zone on ecosystem service value, as well as the characteristics of coral reef fishery resources, association rules are established between fishery resource quantity, fishing income, and ecological impact, enabling the decision-making of the fishery decision-making agent to better meet the balance requirements of actual fishery production and ecological protection. For tourism operations, the rule library takes into account factors such as tourism market demand, ecological environmental carrying capacity, and visitor experience. For instance, based on ecological indicators like coral coverage, the open areas of tourist attractions and the number of visitors can be dynamically adjusted. This approach draws on the concept of land use simulation control in the ecological restoration zoning of the Dianchi Lake Basin in the paper "River Basin Ecological Restoration Zoning and Land Use Simulation Evaluation Based on Multi-Coupling Model - Taking the Dianchi Lake Basin as an Example" [7], ensuring that tourism operations are carried out within the ecological tolerance range. In terms of policy adjustments, the rule library formulates adjustment rules for the main behaviors based on different protection policies (such as the establishment of MPAs, ecological compensation, etc.). For example, after the implementation of the MPAs policy, the fisher agent needs to adjust the fishing area, and the tourism operator needs to change the tourist routes, in order to simulate the guiding effect of the policy on the main behaviors.

This model focuses on the dynamic changes in coral coverage and biomass in coral reef ecosystems, as well as the simulation of ecosystem resilience. Drawing on the simulation method of ecological processes in the land-use - ecosystem coupling model in "Ecosystem Service Value Assessment Based on Land Use - Ecosystem Coupling Model: A Case Study of the Northern Agricultural-Military Ecotone in China" [6], and combining the characteristics of coral reef ecosystems, a set of dynamic equations including coral growth, reproduction, death, and their influences by environmental factors (such as water temperature, light, nutrients) and human activities (such as fishing and tourism disturbances) are constructed. For instance, the growth rate of corals is positively correlated with light and nutrients, and negatively correlated with bleaching caused by water temperature exceeding the critical value. The quantification of this relationship refers to the research approach for the association between ecological factors and service functions in the assessment of ecosystem service values. At the same time, referring to the study on the resilience of the river basin ecosystem recovery in "River Basin Ecological Restoration Zoning and Land Use Simulation Assessment Based on Multivariate Coupling Model - Taking Dianchi River Basin as an Example" [7], the resilience coefficient is introduced. When the coral reef ecosystem is disturbed (such as by typhoons or diseases), based on factors such as coral species and environmental conditions, the changes in coverage and biomass during the recovery process are simulated to assess the recovery ability of the ecosystem.

To achieve real-time calculation of ecosystem service value (ESV), this engine integrates multiple service flow change algorithms. Referring to the dynamic assessment method of ecosystem service value in "Ecosystem Service Value Assessment Based on Land Use-Ecosystem Coupling



Model - A Case Study of the Agricultural-Livestock Ecotone in Northern China" [6], considering the dynamic changes of coral reef ecosystem services over time, space, and human activities, time series analysis and spatial interpolation algorithms are adopted to capture the flow and change patterns of service value. For instance, the value of tourism services fluctuates with seasons and the number of tourists. By real-time statistics of tourist flow and consumption data, combined with the tourism service value calculation model, its value is dynamically updated. The supply value of fishery resources is adjusted based on real-time data such as fishing volume and market prices. At the same time, drawing on the algorithm integration idea of the multi-coupling model in "River Basin Ecological Restoration Zoning and Land Use Simulation Evaluation - Taking Dianchi Lake Basin as an Example" [7], algorithms for ecological monitoring data processing, value conversion, and uncertainty analysis are integrated to ensure the real-time, accuracy and reliability of ESV calculation, providing technical support for the analysis of ecological-economic effects in policy scenario simulations.

3.3 Policy scenario simulation process

The design covers typical protection policy packages for marine protected areas (MPA), ecological compensation, and carrying capacity control. Referencing the research on the ecological compensation mechanism and land use control in "Ecosystem Service Value Assessment Based on Land Use-Ecosystem Coupling Model - A Case Study of the Northern Agricultural-Monumental Ecological Transition Zone in China" [6], for coral reef ecosystems, the MPA delineation standards are formulated. For example, the core areas of coral distribution and biodiversity hotspots are designated, and activities prohibited or restricted within the protected area are clearly defined, such as prohibiting destructive fishing and controlling the intensity of tourism development. In terms of ecological compensation, we draw on the results of the ecological service value assessment in the article to determine the compensation standards and methods for fishermen and tourism operators whose livelihoods have been affected due to ecological protection. For example, the compensation amount can be calculated based on the increase in ecological value brought about by the protection of fishery resources. Regarding capacity control, we refer to the assessment method of river basin ecological carrying capacity in "River Basin Ecological Restoration Zoning and Land Use Simulation Evaluation Based on Multi-Component Coupling Model - Taking Dianchi River Basin as an Example" [7]. Combined with the environmental capacity of coral reef ecosystems, such as water quality purification capacity and coral growth capacity, we formulate control indicators such as fishing quotas and tourism visitor capacity to achieve a balance between ecological protection and sustainable utilization of resources.

The uncertainty of policy implementation is simulated using Monte Carlo simulation, and a sensitivity analysis is conducted to identify the key influencing factors. Referring to the application of the Monte Carlo method in ecosystem simulation in "Ecosystem Service Value Assessment Based on Land Use-Ecosystem Coupling Model - A Case Study of the Northern Agricultural-Livestock Ecotone in China" [6], for the parameters in the coral reef ecosystem



model, such as coral growth rate, intensity of human activity interference, and policy implementation efficiency, their probability distributions are set (based on historical monitoring data or expert experience), and the ecological-economic results after policy implementation are simulated through a large number of random samplings. Meanwhile, drawing on the sensitivity analysis approach in "River Basin Ecological Restoration Zoning and Land Use Simulation Evaluation Based on Multi-Coupling Model - A Case Study of Dianchi River Basin" [7], the values of various parameters in the model were changed, and the changes in key indicators such as ecosystem service value and coral coverage were observed. The parameters that had the most significant impact on policy effectiveness were identified to provide a basis for policy optimization.

Construct a multi-dimensional output indicator system covering ecological, economic and social dimensions. The ecological dimension refers to the ecological indicators for ecosystem service value assessment in the paper "Ecosystem Service Value Assessment Based on Land Use-Ecosystem Coupling Model - Taking the Northern Agricultural-Military Ecotone in China as an Example", which includes coral coverage, biodiversity index, ecosystem service value, etc. [6] The economic dimension draws on the indicators for ecological economic analysis in the paper, such as fishery output value, tourism revenue, and ecological compensation cost. The social dimension refers to the indicators for social impact assessment in the paper "River Basin Ecological Restoration Zoning and Land Use Simulation Evaluation Based on the Multivariate Coupling Model - Taking the Dianchi River Basin as an Example" [7], which cover the income level of fishermen, employment opportunities in the community, public awareness of ecological protection, etc. Through this indicator system, the ecological benefits, economic benefits and social benefits of the coral reef ecosystem under the policy scenarios are comprehensively evaluated, providing multi-dimensional basis for the scientific decision-making of policies.

4. Empirical Research and Policy Implications

4.1 Simulation design of the case area in our country

Firstly, the ocean, due to its unique abundant resources and climate regulation capabilities, not only nurtures life but also supports the development of human society and economy. China is a major maritime country. The ocean provides the country with rich mineral resources, biological resources, and pharmaceutical and chemical resources, providing a spatial environment for production and life for the people. It is an important foundation and guarantee for the development of the national economy and society, and also a strategic location for high-quality development [8]. Hainan, as a major maritime province, has favorable conditions for developing marine economy, but ecological problems have also emerged in the development of marine resources. Secondly, coral reefs are an important part of the marine ecosystem. The protection of coral reefs in Hainan is influenced by the overall marine ecological environment. Its social-ecological characteristics include the utilization of marine resources, the pressure on the marine ecosystem caused by



population concentration, and the ecological functions of coral reefs themselves. The data basis includes the marine ecological environment data of Hainan over the years (such as water quality, pollution emissions, etc.), the distribution and area of coral reefs, data related to biodiversity, as well as social and economic data such as marine economic development and population distribution. These data can be obtained from the marine ecological environment monitoring reports of Hainan, statistical yearbooks, and relevant policy documents. Secondly, based on the protection policies for coral reefs in Hainan and the changes in the ecological environment, a simulation model was constructed. Parameter calibration was conducted by referring to the policy system for coral reef protection in Hainan (national and local policies, such as the "Regulations on the Protection of Coral Reefs and Conch in Hainan Province" ^[12], etc.), and combining marine ecological environment parameters (water quality, ecosystem indicators, etc.), the parameters affecting the ecological factors of coral reefs (such as pollution emissions, human activity intensity, etc.) were adjusted. The model verification strategy involved comparing the actual data of the ecological status (such as coral reef coverage, biodiversity, etc.) of Hainan's coral reef protection at different stages (such as before and after policy implementation) with the model simulation results to verify the accuracy of the model. At the same time, combined with the assessment of policy implementation effects (such as the effectiveness of ecological restoration projects), it ensured that the model could effectively reflect the actual situation of coral reef protection in Hainan.

4.2 Analysis of Multi-Situation Scenario Simulation Results

From the perspective of the conservation process of coral reefs in Hainan, relevant environmental protection policies were gradually established after the 1990s. In the early stage, the policies were mainly macro-guiding, which had limited effect on improving the ecological status of coral reefs. The coverage rate and biodiversity showed a downward trend. With the implementation of a series of policies since 2000 (such as the "Outline for the Construction of an Ecological Province in Hainan" ^[15] etc.), especially the implementation of specific coral reef protection policies (such as the "Regulations on the Protection of Coral Reefs and Conch in Hainan" ^[12]), strengthened supervision and restoration were carried out, and the ecological status improved. The coverage rate gradually rose and biodiversity increased. Under different scenarios, if the protection policies are strictly implemented and more investment is made in restoration, the trajectory of the ecological status will be more favorable; if the policies are not implemented effectively and human activities cause significant interference, the risk of ecological degradation is high.

In terms of ecosystem service value (ESV), the ESV of the coral reef ecosystem in Hainan changes due to variations in ecological conditions. When policies promote ecological improvement, the total value of services provided by the coral reef ecosystem, such as fishery support and tourism and leisure activities, increases. The service structure also gradually transforms, shifting from a single structure relying on resource development to a diversified service structure including ecological tourism and ecological restoration demonstrations. For



example, the protection of coral reefs in Sanya promotes the development of local ecological tourism, drives the upgrading of related service industries, increases the total ESV value, and raises the proportion of ecological tourism in the service structure, demonstrating the guiding role of policies in responding to the dynamic changes in ESV.

The behaviors of various entities such as the government, enterprises, and the public have adapted to the changes brought about by the policy adjustments for the protection of coral reefs in Hainan. The government has focused more on ecological protection by formulating macro policies, strengthening grassroots law enforcement, and promoting ecological restoration projects. Enterprises, constrained and guided by the policies, have gradually shifted from high-pollution and coral-destroying development activities to eco-friendly development (such as green tourism projects), resulting in changes in their operating costs and income structures. The public's awareness of protecting coral reefs has increased, moving from passive acceptance of supervision to active participation in protection activities (such as volunteer monitoring and publicity). In terms of benefits, due to the improvement of marine ecology, they have enjoyed better marine ecological environments, tourism experiences, etc., and their quality of life has improved.

4.3 Optimization path of protection policies

In the protection of coral reefs in Hainan, a single policy has its limitations. For instance, in the early stage, only macro environmental protection policies were relied upon, without formulating specific regulations for coral reefs. This led to insufficient targeting in coral reef protection and an overflow effect, with some destructive behaviors not being effectively constrained ^[10]. A single policy is also prone to causing value imbalance. Under a policy that emphasizes development over protection, the ecological value of coral reefs is overlooked, while the economic development value is overly exploited, resulting in unsustainable ecological damage and economic development. For example, excessive tourism development impacts the ecological balance of coral reefs, with a mismatch between short-term economic gains and long-term ecological value ^[11].

In the protection of coral reefs in Hainan, the implementation of multiple policies in a coordinated manner has already shown initial results. At the national level, environmental protection policies are coordinated with local policies specifically targeting coral reefs, such as the ecological protection red line policy and the "Regulations on the Protection of Coral Reefs and Conch in Hainan Province" ^[12]. Coral reef protection areas are delineated and supervision is strengthened. At the same time, marine economic development policies are coordinated with ecological restoration policies to promote green industries such as ecotourism, providing funds and impetus for ecological restoration ^[15]. Through the coordination of multiple policies, efficiency has been increased in aspects such as coral reef protection, ecological restoration, and economic development. The effectiveness of the coordination mechanism has been verified, for example, the coordinated development of coral reef protection and ecotourism in Sanya, which protects the ecology while promoting the economy ^[13].



For the protection of coral reefs in Hainan, the design of an adaptive management framework needs to take into account multiple aspects. Establish a dynamic monitoring and evaluation system to keep track of the ecological status of coral reefs and the effectiveness of policy implementation in real time, and adjust policies based on changes ^[14]. Enhance policy flexibility and reserve adjustment space to adapt to new changes in marine ecological environment and social economic development^[9]. Strengthen multi-party collaboration, clarify the responsibilities and participation paths of the government, enterprises, and the public, and form a protection synergy ^[8]. At the same time, in combination with the actual situation of Hainan, integrate elements such as ecological restoration and community participation, such as promoting coastal communities to participate in coral reef protection and restoration, improving compensation mechanisms, so that the management framework better meets the protection needs of Hainan's coral reefs and enhances the protection effectiveness ^[10].

5.Conclusion

This study achieved a breakthrough in the analytical capabilities of the social-ecological complex system by establishing the MAS - ESV coupling mechanism, highlighting the innovative value of the system. Empirical evidence revealed the leverage effect of collaborative policies on the long-term growth of ESV, clarified the core laws of the correlation between policies and ecological value, and provided a key basis for optimizing ecological protection policies. From an application perspective, it promotes the paradigm shift of ecological protection from "post-event assessment" to "pre-event simulation", helping to predict the implementation effects of policies in advance and precisely regulate ecological development. Future research can focus on upgrading the model in detail, enhancing the accuracy of multi-agent behavior simulation and ecological value assessment, developing an integrated decision support system, embedding the research results more directly into the coral reef protection decision-making process, continuously improving the scientific support for the sustainable development of marine ecology, and laying a theoretical and technical foundation for safeguarding marine ecological security and achieving ecological-economic synergy and progress.

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An Analysis of the Exploration and Utilization of Cultural Resources in Zibo from the Perspective of City Branding

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Abstract

Culture is the soul and character of a city. The evolution of urban cultural construction towards urban brand building represents a new development strategy for urban modernization. Zibo's cultural resources are distinctive and rich in historical depth. The city has fully explored its "Qi culture that has endured for a thousand years", "unique Liaozhai culture", "substantial modern industrial culture", "long-standing Shandong merchants culture", and representative cultural symbols of each county. By focusing on "focusing on the core of Qi culture and shaping Zibo's brightest IP", "promoting industrial culture innovation around representative urban industries", "telling the story of the development of Shandong merchants and creating a business-friendly city image", and "carrying out county-level cultural construction and promoting the flourishing of cultural tourism", it has comprehensively implemented measures to shape the city's brand image of "friendly people, beautiful things, and united hearts", making the city more amiable and livable and strengthening the momentum of economic and social development.

Keywords

City branding, Zibo, Cultural resources, Exploration and utilization

Cities are important bases for the creation of material and spiritual wealth by society. Culture is the soul and temperament of a city, and promoting cultural construction is an important direction for urban modernization. With the rise of the Internet era, urban cultural construction is continuously evolving towards the shaping of urban brands, which has become a new urban development strategy and a systematic project to maximize the benefits of urban cultural resources and enhance the comprehensive competitiveness of the city.

1. The positive significance of cultural resources in shaping a city's



brand

A city brand refers to the core concept that a city conveys to the public when promoting its own image based on its own cultural core. It is also the unique characteristics and cultural expression that distinguish one city from others. ^[1]

1.1 Cultural development can enhance a city's competitiveness

Urban cultural resources encompass various aspects such as natural environment culture, historical culture, folk culture, community culture, and commercial culture. Urban cultural resources encompass various aspects such as natural environment culture, historical culture, folk culture, community culture, and commercial culture. Due to the nurturing of the natural environment and the long-term accumulation of social history, as well as differences in geographical location, historical culture, folk customs, and material life, the cultural resources of each city are different, and their cultural characteristics are also diverse. Strengthening cultural construction can promote the cultural identity of urban residents, consolidate collective consciousness, and enhance the overall competitiveness of the city.

1.2 The exploration of cultural resources is conducive to improving the level of cultural heritage protection

The unique cultural characteristics of a city gradually accumulate over time through elements such as historical relics, urban architecture, natural environment, and urban customs, forming valuable urban cultural heritage. Therefore, the exploration and utilization of urban cultural resources is not only the development and utilization of cultural resources, but also a form of protection for urban cultural heritage.

1.3 The utilization of cultural resources can help shape the city's brand

The exploration and utilization of the unique cultural resources of a city are conducive to shaping the city's brand. When people talk about a certain city, they will immediately associate it with its corresponding "symbol", such as the Forbidden City in Beijing, the West Lake in Hangzhou, Confucius in Qufu, the springs in Jinan, and the grottoes in Datong. These historical figures or natural heritages have become the corresponding "cultural symbols" of the city. They significantly enhance the influence of the city's brand and optimize the external environment for the city's development. ^[2]

2. Zibo's cultural resources possess distinct characteristics and a strong historical depth

The cultural resources of Zibo are distinctive and possess a strong historical depth. In the Neolithic era of Zibo region, various cultures such as Haili Culture, Beixin Culture, Dawenkou



Culture and Longshan Culture emerged successively. "Yiyuan Ape Man" was the earliest ancient human in the middle and lower reaches of the Yellow River. Zibo was the capital of the ancient state of Qi during the Pre-Qin period (from 1046 BC to 221 BC), and it established the first official university in China, "Jixia Academy". In modern times, Zibo was one of the three major industrial zones in the country, and its modern industrial development history has exceeded 120 years.

2.1 The "Qi Culture" that has lasted for thousands of years

After Jiang Taigong established the state of Qi, through the reforms and policies implemented by King Huai of Qi, Guan Zhong, and later King Wei of Qi, Qi became one of the seven major powers in the Warring States period and achieved dominance during the Spring and Autumn period. Works related to the Qi culture, such as "Guanzi", "Lian Zǐ Zhōng Qì", "Liutao", "Sun Tzu's Art of War", and "Zi Mi Fa", as well as famous sayings and aphorisms like "Governance succeeds when it conforms to the will of the people, and fails when it goes against it" and "When oranges grow in the south of the Huai River, they are oranges; when they grow in the north of the Huai River, they become tangerines", are still worthy of study and reflection to this day.

During its development, the Qi culture gradually formed its own characteristics. Qi culture expert Ren Chuandou proposed that "Qi culture has developed into an inclusive and innovative culture with the characteristics of respecting talents and valuing achievements, emphasizing industry and commerce, and attaching equal importance to legislation. It can be said to be a maritime and commercial culture." "The way to progress is to keep pace with the times." From the eternal beauty of the "Jixia Academy" where various schools of thought debated to the cultural concept of "adjusting rituals according to local customs and respecting talents and valuing achievements", from the Qi region's cultural vein of respecting the Dao and valuing virtue, integrating and connecting to the traditional handicraft industry's spirit of craftsmanship, the spirit of seeking truth and being pragmatic, being inclusive and embracing diversity, carrying forward and innovating has long been imprinted in the blood of every person in Zibo, becoming an inexhaustible driving force and vitality for the inheritance and development in all fields.^[3]

2.2 Unique Liaozhai culture

Pu Songling's "Strange Tales from a Chinese Studio" elevated the ancient Chinese classical prose fiction to a new level. He incorporated excellent traditional culture into the novels, allowing readers to experience profound humanistic sentiments within the story of foxes, demons and ghosts. Lu Xun once said: "Using the method of legends and focusing on supernatural tales, the scene is as if right before one's eyes." "Strange Tales from a Chinese Studio" is also a collection of historical materials from the Ming and Qing dynasties. The book depicts the political, economic, customs, and legal social scenes of the late Ming and early Qing periods, and many of its elements are still beneficial to the current society.



Liaozhai Vernacular Opera is a local traditional opera and also a classic part of Liaozhai culture. Pu Songling, drawing on his lifetime experiences and integrating the essence of folk operas from the Ming and Qing dynasties, completed the creation of more than ten vernacular operas. During its long-term dissemination and development, Liaozhai Vernacular Opera has become a unique form of popular art in Shandong region, and its distinctive charm of "utilizing the ancient for the present" reflects the artistic value of Liaozhai culture.

2.3 Thickly developed modern industrial culture

Zibo is essentially an industrial city. At the end of the 19th century, the Qing government approved the establishment of the Zhuchuan lead mine and coal mine, and invested in the construction of the Boshan glass company. In 1904, Zhoucun opened as a port, and Germany began to build coal mines and other facilities along the Jiaoji Railway. In September 2004, Zibo City was awarded the title of "China's Ceramic Capital". In 2006, Boshan District of Zibo City was awarded the honorary title of "China's Lusterware Capital". In August 2023, Zhoucun District of Zibo City was awarded the title of "China's Silk Capital". Thus, the three representative types of modern industrial products of Zibo have all received "national-level certification".

In 2025, the documentary "Brief History of Industry in Zibo" produced and broadcast in Zibo City, takes the development of modern industry in Zibo as the main thread, integrating the history of the Communist Party of China, the history of workers' movements, the history of the New Democratic Revolution, the history of socialist development, the history of reform and opening up, the history of scientific and technological progress, and the history of factories and mines. It showcases the glorious journey and achievements of modern industrial development in Zibo. The industrial cultural spirits condensed in the film, such as respecting science, emphasizing division of labor, highlighting efficiency, striving for excellence, and participating in market competition, are of great significance for scientifically planning the current high-quality economic development.

2.4 The long-standing Lu business culture

The prosperity of the silk industry marked the beginning of the opening of Zhoucun in Zibo. By the time of Emperor Kangxi of the Qing Dynasty, Zhoucun had become a "trading hub of the three prefectures" and a "key town of the region". After Zhoucun opened for business in 1904, merchants flocked there, setting up shops and factories, gradually developing into a business name with significant influence within the province and across the country. By the late Qing Dynasty, Zhoucun had become a renowned commercial trade center that extended across Shandong and reached the Yangtze River.

In the process of commercial development in Zhouzhuang, a group of legendary merchants emerged, led by Meng Luochuan. During their business operations, they gradually integrated traditional Qilu culture with orthodox Confucianism, taking benevolence, righteousness, propriety,



wisdom, and trust as the moral standards for their business, forming the "based on virtue, prioritizing righteousness, achieving benefits through righteousness" business philosophy of the Lu merchants and the unique commercial characteristics of "relying on credit, observing etiquette, maintaining fair prices, and treating customers fairly and honestly", which wrote an important chapter in the history of the development of Lu merchant culture.

2.5 Representative cultural symbols of the county-level region

In July 2004, Linzi District of Zibo City was officially recognized as the "Origin of World Football". The Kegou culture has become a shining symbol of Zibo. Since 2006, 14 projects including the Meng Jiangnu Legend, Lao She's Folk Songs, Wuyin Opera, Kegou, the Legend of Niuli and Tianyou, and the Making Skills of Zhoucun Buns have been included in the National List of Representative Projects of Intangible Cultural Heritage. Additionally, exemplary figures such as Party Secretary Jiao Yulu, famous anti-Japanese hero Ma Yaonan, and "People's Model" Zhu Yanfu have become the red glory of Zibo City. At the same time, county-level representative cultural symbols such as Bo Shan Cuisine Culture, Wang Family's "Clean, Prudent and Diligent" Culture in Huantai, and the "Niuli and Tianyou" Love Culture in Yiyuan County have also been continuously developed and promoted, becoming significant symbols for urban brand building and the development of tourism and cultural industries.

3. Explore and utilize cultural resources to create a better brand for the city of Zibo

As early as April 1995, Zibo was named "National Cultural Model City". In 2001 and 2005, Zibo was twice awarded the title of "Excellent Tourist City of China". In 2023, Zibo's "barbecue" craze became widespread, and Zibo began to fully explore its cultural and tourism resources, comprehensively shaping a city brand image of "people are kind, goods are good, and the spirit is united".

3.1 Focus on the core of "Qi Culture" and create the brightest IP of Zibo

"Qi Culture" is the core of Zibo's urban culture, possessing rich historical connotations and cultural value. The 2024 government work report of Zibo City states, "Cultivate and shape the city's cultural brand, adhere to upholding the essence while innovating, inherit and develop, enrich the city's inherent characteristics, and enhance the city's cultural soft power."^[4]

Zibo City has launched the "Qi Culture Inheritance and Innovation Breakthrough Action", aiming to achieve "six breakthroughs" in comprehensive research and interpretation of Qi culture, protection and development of cultural heritage, education dissemination, communication and exchange, integration with industries, and talent cultivation. First, it plans and implements research projects, and successfully organizes a series of activities such as the Jixia Forum and the Qi Culture Festival, to explore and interpret the connotations and significance of Qi culture.



Second, it organizes the "Qi Culture Six-Entry Project" to enter government offices, communities, schools, enterprises, rural areas, and social organizations, establishing a regular publicity and popularization pattern. Third, it promotes the construction of the Qi Great Wall National Cultural Park and the Qi Ruins Archaeological Heritage Park, and conducts archaeological excavations and protection work for the Jixia Academy. Fourth, it uses forms such as Wensao Academy and football experience to explore the manifestation of Qi culture elements in a situational, immersive, and experiential manner, enhancing public participation and cultural identity. Fifth, it progresses the research and publication of Qi culture series classics such as "Biographies of Qi Dynasty Kings", "Guanzi", "Zidian of Duke Yin", "General History of Qi", and "Comprehensive Collection of Qi Culture Idioms and Stories", comprehensively enhancing the popularity and reputation of Qi culture.

3.2 Focusing on the representative industries of the city, promote the innovation of industrial culture

During the modern industrial development of Zibo, a profound industrial cultural accumulation was formed. Numerous old sites of enterprises such as Ziqi Mining Group, Xinhua Pharmaceutical, Shandong Aluminum Industry, Zibo Porcelain Factory, Boshan Electric Machinery, and Shandong Machine Factory have been preserved, forming several industrial heritage clusters in Zhoucun, Zichuan, and Boshan. These industrial heritages are closely connected and distinctive, representing the heights of Shandong's modern industrial civilization in different periods. They are cultural resources for the development of industry in the new era, precious wealth and spiritual sources for urban development. ^[5]

In recent years, Zibo City has carried out collaborative innovation in industrial culture. First, it has made every effort to host the China (Zibo) International Ceramics Expo, fully showcasing the long-standing Zibo ceramic and lacquer culture. Second, it has protected industrial sites, explored the highlights of industrial culture, designed and created cultural gifts such as "Beautiful Zibo" and "Shandong Handicrafts", and provided sincere rewards to tourists. Third, Zibo Vocational and Technical University has explored the core elements of industrial culture such as dedication, professionalism, and diligence, integrated them with modern educational development concepts, and implemented the cultivation of industrial cultural spirit in schools, majors, classrooms, and activities, creating a new paradigm for cultivating industrial culture.

3.3 Tell the story of the development of the Lu Commercial Group and create an environment that is conducive to business.

Zhoucun has long been known as the "dry port" and the "No.1 Village in the World". It is believed to be one of the birthplaces of the Lu merchants. Its business philosophy and cultural spirit have significant theoretical and practical value in today's economic, social and cultural context.



Zibo City focuses on the construction of the cultural carrier of local merchants, guiding society to form an atmosphere of respecting, valuing, supporting and assisting merchants. First, it builds the "Lu Merchant Cultural Museum" to showcase the commercial culture history of Zhoucun, tell vivid stories about the Lu merchants who are honest in politics, respectful towards business, and have a pure folk culture, and inherit and carry forward the spirit of the Lu merchants. Second, it regards the ancient commercial city of Zhoucun as the best carrier of Lu merchant culture and Lu merchant spirit, and strives to promote its construction into a 5A-level national tourist attraction. At the same time, based on the ancient commercial city of Zhoucun, it also builds a national cultural industry demonstration base, a provincial patriotic education base, and a provincial study tour base for primary and secondary school students, to introduce Lu merchant culture to all visitors and promote the publicity of Zibo's city image.

3.4 Strengthening county-level cultural construction and promoting the flourishing of various forms of cultural tourism.

Urban cultural construction and brand building should highlight regional characteristics. Each county in Zibo City, based on its own resource endowment, deeply explores outstanding cultural elements and collaboratively creates the Zibo cultural tourism characteristics of "South Mountain, North Water, East Ancient Culture, West Commerce".

During the "14th Five-Year Plan" period, cultural construction at the county level in Zibo City has flourished and achieved remarkable results. Firstly, comprehensive measures have been taken to promote cultural development around regional celebrities such as Guan Zhong, Wang Yuyang, Zhao Zhixin, Jiao Yulu, and Ma Yaonan, including building venues, exploring their spirits, and promoting them. This has expanded the cultural influence. Secondly, efforts have been made to enhance the publicity and promotion of national intangible cultural heritage, with significant efforts to cultivate inheritors, produce documentaries, and organize performances, exhibitions, and sales activities to increase citizens' awareness and protection consciousness of intangible cultural heritage. Thirdly, cultural construction has been carried out based on people's daily lives, creating brands for Bo Shan cuisine and Zhou Village pastry, and organizing folk activities such as Liaoza Liutu, Wuyin Opera, Cuju, and Zhou Village Shenzi. These activities are popular among the people and have enhanced the vitality and friendliness of the city, making it more livable and attractive.

4. Conclusion

Cultural construction is the inherent driving force for urban modernization, and the shaping of city brands injects more impetus into the city's soft power. During the "14th Five-Year Plan" period, more and more cultural resources in Zibo City have been discovered and brought to the public's attention. A series of shining city cultural cards have been released with "multiplier effect", enhancing the city's recognition and attracting more and more tourists to explore Zibo.



Currently, Zibo City takes the inheritance of "Qi Culture" as the foundation, focuses on quality improvement as the main line, and aims for high-quality development. It actively promotes the deep integration of culture and tourism, explores the rich historical connotations and cultural values, combines culture with urban construction, integrates humanistic landscapes with natural landscapes, and combines revolutionary tradition education with promoting the tourism industry and enhancing the city's brand. The economic and social development momentum of the city has become even stronger, and the city is now radiating unprecedented vitality and charm.

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Research on the Media Translation of Rural Cultural Symbols and the Innovative Path of Local Identity Construction in Shandong Province on Short Video Platforms

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Abstract

This study examines Shandong Provinces rich rural cultural symbol system, focusing on its media-mediated translation processes in short video platform dissemination and the mechanisms shaping local identity. Through case analysis, it reveals three key pathways for effective cultural communication: technological empowerment, narrative reconstruction, and subject activation. Technological empowerment utilizes digital tools like AR and slow-motion analysis to revitalize contemporary expressions of cultural memory. Narrative reconstruction bridges historical and modern contexts by blending traditional elements with modern lifestyles. Subject activation empowers villagers to transition from passive "spectators" to active cultural communicators, achieving localized cultural dissemination. This multidimensional innovation forms a virtuous cycle of "cultural communication-industrial empowerment-emotional resonance," significantly enhancing rural cultural influence. Through industrial transformation, it monetizes cultural value while strengthening cultural identity among both locals and migrants, providing replicable models for rural revitalization in the digital era.

Keywords

Short video; Shandong rural cultural symbols; Media translation; Local identity; Communication mechanism

1.Digital Media Reconstructs the Communication Context of Rural Culture

Under the dual impetus of Digital China and the rural revitalization strategy, short video platforms have restructured the communication ecosystem and identity-building pathways of rural culture through their real-time, visual, and highly interactive media characteristics. According to data from the 51st Statistical Report on Chinas Internet Development released by the China Internet Network Information Center (CNNIC), as of June 2025, Chinas short video user base reached 1.02 billion, accounting for 94.8% of all internet users. Among them, the number of creators in the agriculture, rural areas, and farmers sector increased by 34% year-on-year, with daily views of



rural-themed content exceeding 12 billion.^[1]Behind this data is the profound transformation of rural cultural symbols in the new media environment — Traditional local knowledge, through digital translation, breaks the limitation of time and space, and realizes the cross-regional and intergenerational communication.

Shandong's rich cultural symbol system encompasses both tangible elements like coastal seaweed houses, stone dwellings, and terraced landscapes, and intangible heritage such as Jiaozhou Yangko dance, Lü Opera, and Weifang kites. These elements also embody profound cultural genes including Confucian ethics and the pioneering spirit of the Northeastward Migration. With the amplification of short video platforms, these cultural components have developed distinctive media characteristics. However, this process of media adaptation inherently involves dual tensions between cultural adaptation and meaning reconstruction. The term "media adaptation" specifically refers to the dynamic process where rural cultural symbols undergo reconfiguration in form, content structure, and meaning dimensions to align with short video platforms' technical logic, algorithmic rules, and user consumption patterns. While this transformation injects new vitality into rural culture, it may also lead to the erosion of cultural authenticity and distortion of symbolic significance.

2. Translation Pathways and Innovative Practices

2.1 Technology empowerment: innovative application of digital technology

The Seaweed House AR Postcard Project, jointly developed by Rongcheng Municipal Bureau of Culture and Tourism with technical teams, employs 3D modeling and dynamic rendering technologies to accurately reconstruct the construction process details of traditional seaweed houses. By scanning static images with their smartphones, users can view complete animation animations of the building process on screen, while also enabling multi-angle observation of architectural structures through touchscreen interactions. This technological innovation not only addresses the issue of monotonous presentation formats in traditional architectural symbols but also transforms physical entities into interactive cultural narratives.^[2]According to the statistics of Rongcheng Municipal Bureau of Culture and Tourism, the completion rate of videos related to seagrass houses increased by 42% after the use of AR technology, and the average users' stay time increased by 1.3 minutes, effectively enhancing the immersion and experience of cultural communication.

Jiaozhou Municipal Cultural Center is a provincial intangible cultural heritage jiaozhou yangge.^[3]The digital translation adopted motion capture and slow-motion analysis technology. A professional team used high-speed cameras to record the complete performance process of yangko dancers, decomposed the movement trajectories of the four core actions—"twisting, grinding, stretching, and bending"—through computer vision algorithms, and then produced a series of instructional videos using 240 frames per second slow-motion playback combined with vivid instructions like "spinning silk like casting a net, and taking steady steps." These short videos employ a progressive teaching method, progressing from individual movements to combined routines, significantly lowering the learning threshold. To date, the TikTok platform's #JiaozhouYanggeFitnessRoutine topic has garnered over 38 million views, with users from other provinces accounting for 65% of the total, effectively expanding the reach of this local culture.

2.2 Narrative reconstruction: from one-way communication to interactive narrative

The Panlong Bangzi Troupes micro-series "New Year Haircut" employs a layered narrative structure: On the surface, it presents a modern family ethics story; in the middle layer, it features traditional Lü opera singing; while the deepest layer



embodies contemporary interpretations of filial piety culture. Through the emotional conflict of "whether young couples will return home for the New Year," the work naturally introduces Lü opera segments expressing elders' hopes, then uses flashbacks to showcase past reunion scenes, ultimately concluding with reconciliation and reunion—a complete emotional arc. This narrative strategy retains traditional operas' artistic characteristics while aligning with modern audiences' aesthetic preferences. With over 40 million cumulative views, emotional keywords like "tears in eyes" and "homesick" accounted for 34% of user comments, fully demonstrating the effectiveness of emotionally-driven storytelling.

The "Yimeng Folk Tune" account, created by young creators in Linyi, has established a threefold narrative framework of "personal storytelling-collective memory-regional culture". Through daily vlogs documenting their entrepreneurial journey back to their hometown, interspersing ancestral planting stories while selling peaches live-streaming, and skillfully integrating red landforms with historical footage in video editing, it fosters dialogue between individual experiences and collective memory. This narrative approach transforms the "Yimeng Spirit" from a grand historical concept into tangible daily practices, allowing audiences to grasp cultural essence through emotional resonance. The account has now amassed over 1.2 million followers, with annual agricultural sales exceeding 5 million yuan, achieving dual success in cultural dissemination and economic benefits.

2.3 Subject activation: individual participation in group co-creation

The TikTok account "Guzi Yangge Sun Family Troupe", voluntarily established by villagers from Sunji Town, Shanghe County, adopts a participatory communication model of "recording-sharing-interacting". Villagers not only document daily rehearsals and performances but also engage in live-streamed exchanges with other yangge teams, initiate online competitions, and form an active online community. This authentic recording method vividly showcases the living state of yangge culture, enhancing the appeal and credibility of its dissemination. Among the account's followers, 41% are residents of the town itself, making it an important online space for local cultural interaction.

Taishan Juanjie, a renowned professional guide, has developed a three-tier empowerment model of "professional leadership-skill training-community co-creation". As an expert in tourism, she first established professional authority through high-quality original content. She then conducted short video production training for villagers, teaching practical skills like shooting techniques and content planning. Finally, she organized villagers to form a creative team to jointly plan and execute filming projects. This model not only ensures content quality but also ignites villagers' creative enthusiasm, fostering a sustainable communication ecosystem. Her videos have garnered over 150 million views, boosting accommodation bookings around Taishan by 18%. The trained local video creators have become a vital force in spreading cultural heritage locally.

3. Communication Effectiveness and Optimization Path

The media-oriented translation of short video platforms has demonstrated significant efficacy in promoting the dissemination of rural culture in Shandong and profoundly influenced the construction of local identity. According to data from the "2025 China Short Video Ecosystem Development Report", the total views of the "Shandong Intangible Cultural Heritage" topic on TikTok have reached 8.6 billion, marking a 50% year-on-year increase in 2024. This growth is not only reflected in the breadth of dissemination but also in the expansion of its depth: the average user interaction rate



rose from 3.2% in 2023 to 5.8% in 2025, while the average viewing duration extended from 48 seconds to 72 seconds.

In industrial transformation, media-driven translation has demonstrated significant economic empowerment effects. According to 2025 statistics from Shandong Provincial Department of Culture and Tourism, Rongchengs Seaweed House Scenic Area saw a 32% year-on-year increase in visitors in 2024. Notably, 48% of these visitors were attracted through short video platforms, directly boosting tourism revenue by over 50 million yuan. More strikingly, the synergy between cultural dissemination and industrial development has become increasingly evident: "Jiaodong Flower Buns" achieved a 40% premium rate after showcasing traditional craftsmanship through short videos, with e-commerce platform orders surging 300% weekly. Meanwhile, Weifangs kite industry leveraged short video marketing to surpass 200 million yuan in annual sales, with overseas orders accounting for 35% of total revenue.

The construction process of local identity also presents the characteristics of multi-level and interaction. According to the questionnaire survey conducted by the Cultural Communication Research Center of Shandong University in 2025, the first step is to establish basic identity through emotional arousal mechanism.^[4]Symbolic elements such as local sound, local scenery and local customs trigger the emotional memory and sense of belonging of users, especially those who leave their hometowns.^[5]For instance, in the comments under Jiaozhou Yangko dance instructional videos, emotional expressions like "Remembering how my grandmother taught me" and "This is the taste of my hometown" accounted for 42% of the total. The second factor is deepening cultural identity through interactive mechanisms. Users participate in cultural reproduction by liking, commenting, and creating derivative videos. For example, the #IShowYangko hashtag has seen over 100,000 user-generated imitation videos uploaded voluntarily. Finally, industrial recognition mechanisms reinforce cultural identity. The economic benefits from cultural dissemination allow villagers to tangibly experience cultural value, thereby strengthening their motivation for inheritance. The number of seaweed house restoration craftsmen in Rongcheng City increased from fewer than 20 in 2023 to 86 in 2025, vividly demonstrating this transformation of cultural identity.

However, current practices still face three major challenges. First, content homogenization caused by algorithmic preferences. According to Tsinghua Universitys 2025 Algorithm Research Report, platform recommendation systems tend to favor short-duration, fast-paced, and visually impactful content, leading to repetitive Yangge dance tutorial videos with similar themes and increasing user fatigue by 35%. Second, superficial dissemination of cultural symbols. Some content prioritizes sensational "spectacle" effects for traffic, overemphasizing the "size" of cultural symbols like "bao" (a traditional Chinese pastry) while neglecting their cultural significance, resulting in simplified symbolic meanings. Third, regional development imbalance. The 2025 Regional Development Report from Shandong Provincial Department of Culture and Tourism shows coastal areas and culturally rich regions outperform inland remote areas in short video dissemination effectiveness. For instance, cultural account density in Jiaodong region is 3.2 times higher than that in Luxi region.

To address these challenges, a systematic optimization framework needs to be established. At the platform level, it is recommended to create a "Rural Cultural Excellence Pool" that prioritizes traffic allocation and weighted recommendations for content demonstrating cultural depth and educational value. Regarding content



creation, creators should be encouraged to explore documentary-style vlogs that delve into historical contexts, craftsmanship details, and humanistic narratives behind cultural heritage. In talent development, governments should prioritize supporting creators from underdeveloped regions through digital skills training programs – Shandong Province has already trained 12,000 rural cultural short video creators since 2024. For operational models, establishing a closed-loop system combining "online content + offline experiences" is crucial, such as developing "short video check-ins + on-site study tours" travel routes.

Through these initiatives, Shandong is cultivating a healthy and sustainable ecosystem for rural cultural dissemination. This framework prioritizes not only the growth of cultural data but also the depth and breadth of heritage preservation. While pursuing economic benefits, it places greater emphasis on building and enhancing cultural identity. This comprehensive, multi-tiered development model provides a replicable approach for cultural preservation in rural revitalization, offering valuable references for similar practices elsewhere. The ultimate goal is to strike a balance between cultural conservation and innovative development, breathing new life into rural culture through the digital era.

4. Conclusion

This study demonstrates through Shandong's case analysis that short video platforms have achieved creative transformation and innovative development of rural cultural symbols via three pathways: technological empowerment, narrative reconstruction, and subject activation. Case studies like the Rongcheng Seaweed House AR project and Jiaozhou Yangge digital education prove this translation model not only enhances cultural dissemination efficiency but also strengthens local identity while driving industrial growth, forming a virtuous cycle between cultural inheritance and rural revitalization. Future efforts should focus on optimizing algorithm mechanisms, deepening content creation, promoting balanced regional development, and shifting rural cultural digitalization from quantitative expansion to qualitative improvement, thereby injecting sustained momentum into rural revitalization and cultural preservation in the digital era.

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Challenges and Solutions in the Management of Research Funds in Universities

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Abstract

Effective management of research funding in universities is crucial for supporting academic innovation and resource optimization. However, issues with funding allocation, expenditure accounting, and internal control hinder the efficient use of research funds. This article explores common issues in the management of research funding in universities and proposes targeted improvement strategies, emphasizing the importance of a sound expenditure accounting system and strengthening internal control mechanisms. These programs aim to improve the transparency, accountability, and efficiency of research funding management, and promote the rational use of research funding in higher education institutions.

Keywords

Research funding; Expenditure accounting; Internal control; Financial Management

In recent years, research funding has played an increasingly important role in the development of universities, providing support for projects that promote academic discovery and innovation. With the diversification of research funding sources - from government funding to corporate partnerships - universities face greater challenges in managing these funds. The problems in expenditure tracking, fund allocation, and internal control pose a risk of financial inefficiency and even misuse of funds for universities. Given these challenges, establishing a transparent and efficient research funding management system is crucial for higher education institutions.

1.Common Problems in the Management of Research Funds in Universities

1.1 The complexity of funding sources and allocation

University research funding comes from a wide range of sources, including central and local government financial appropriations, cross project cooperation between enterprises, non-profit organization cooperation funding, and other funds. Diversified funding sources bring management complexity: different funding sources have differences in budget preparation, scope of fund use, and reimbursement standards, requiring financial personnel and research teams to have a high degree of compliance awareness and flexible allocation ability. The allocation of funds often relies on short-term research projects, which can lead to a disconnect between budget



preparation and actual needs, resulting in funding accumulation or structural shortages. In addition, issues such as insufficient cross departmental coordination and poor information sharing have exacerbated the low efficiency of fund utilization and potential compliance risks.

1.2 Shortcomings in the expenditure accounting system

The current accounting of research funding in universities generally suffers from extensive recording and inconsistent standards, making it difficult to accurately track the details of the use of funds in specific research activities. Due to the lack of an integrated and fine-grained accounting system, budget expenditures often cannot be accurately collected and analyzed by project phase or cost type. This lack of transparency not only affects the evaluation of resource utilization efficiency, but also easily leads to deviations or even errors in financial reports, thereby damaging the credibility and accountability effectiveness of scientific research management.

1.3 Weakness of internal control mechanisms

Effective internal control is key to ensuring the compliant use of research funding, preventing abuse, and ensuring financial transparency. However, the internal control mechanisms of many universities are still weak, characterized by unclear separation of responsibilities, weak supervision mechanisms, and insufficient dynamic monitoring of the use of research funds. Such defects lead to blind spots in fund management, which can easily cause operational errors, non-standard reimbursement, and even false expenditures, and are difficult to detect and correct in a timely manner. In addition, due to inadequate accountability mechanisms and insufficient prevention of conflicts of interest, the effectiveness of internal controls and the credibility of institutions have been further weakened, which not only affects the efficiency of fund utilization but also significantly increases audit risks and the possibility of violations.

2.Solution for Improving the Management of Research Funds in Universities

2.1 Establish clear funding allocation and tracking mechanisms

To address the management challenges posed by diverse funding sources, universities should establish a centralized and standardized mechanism for allocating and tracking research funding. The system should be able to classify, disburse, and monitor the entire process of funding according to the source of funds, project type, and specific requirements of the sponsor, ensuring that the use of each fund complies with corresponding financial regulations and performance goals. By achieving real-time visualization and dynamic management of funding data, not only can the transparency and response efficiency of fund allocation be improved, but it also helps to strengthen internal control, reduce redundancy and deviation. In addition, clear interfaces and permission management should be provided to researchers to enable them to monitor budget execution and constraints in real time, thereby enhancing the efficiency of fund utilization and research autonomy.

2.2 Improve the expenditure accounting system

To enhance the precision level of scientific research fund management, universities should establish a sound expenditure accounting system, relying on information accounting platforms to achieve multi category and full chain expenditure tracking by personnel, equipment, materials, and indirect expenses. The system should support standardized accounting processes and be able to automatically collect and generate detailed reports by project and stage, helping management personnel accurately identify expenditure anomalies and resource mismatches, thereby optimizing



subsequent fund allocation. At the same time, a regular reconciliation and expenditure review mechanism should be established to dynamically compare actual expenditures with budgets, ensuring that the use of funds always aligns with scientific research goals, and enhancing compliance and transparency of funding efficiency.

2.3 Strengthen internal control through policies and supervision

Strengthening internal controls is crucial for preventing misuse of funds and ensuring compliance. Universities should establish a sound internal control framework, including separation of responsibilities, regular financial audits, and clear accountability structures for fund management. A dedicated research funding supervision committee can be established to monitor high-risk expenditures and handle potential conflicts of interest. In addition, electronic systems are used to record approvals and financial transactions to improve transparency and reduce the risk of human error, thereby enhancing the fairness of research funding management.

2.4 Provide training for scientific research and administrative personnel

Staff involved in scientific research funding management need to master professional funding management procedures and regulatory requirements. Universities should regularly conduct training to explain their funding management policies, expenditure reporting requirements, and internal control standards to researchers and administrative staff. Training programs can enhance employees' understanding of financial risks, compliance obligations, and best practices, foster a culture of accountability, and reduce errors in budget management. In addition, continuous learning opportunities help employees understand the constantly changing regulations, especially the specific requirements that may be imposed on government funded projects.

2.5 Implement regular audits and performance evaluations

Regular audits of research funding expenditures help ensure budget compliance and detect potential non compliances. Internal and external audits provide important oversight to verify whether funds are being used as intended and in compliance with funding agreements. In addition, performance evaluation based on scientific research achievements and financial efficiency can provide a basis for future funding allocation decisions. Combining research performance with funding accountability can optimize resource allocation, promote the rational use of research funds, and strengthen efficiency and accountability culture.

3. Case Study: Solution to the Management of Research Funds in

Universities——A Case Study of a Certain University

3.1 Building an integrated fund allocation and tracking platform

The school has developed and implemented a centralized management information system for scientific research funds, which integrates funds from different sources such as government grants, corporate cooperation, and international projects into a unified platform for management. The system automatically matches fund usage rules based on project type, fund attributes, and contract requirements, achieving electronic tracking of the entire process from budget preparation, execution to final settlement. Every allocation and expenditure of funds is visible in real-time, and researchers can submit applications online, view available quotas and progress. Financial personnel and project leaders can also dynamically grasp the flow of funds, significantly improving the transparency and execution efficiency of fund allocation.

3.2 Promote refined accounting and dynamic monitoring mechanism

In response to the problem of unclear expenditure classification and difficulty in



accurately collecting costs in the past, the school has added a special accounting module for scientific research expenditures in the accounting system, refining expenditure categories (such as equipment costs, personnel costs, indirect expenses, etc.), and achieving three-level linkage management of projects, subjects, and departments. The system supports automatic comparison between budget and actual expenditure, and provides real-time alerts for abnormal and over budget behaviors. At the same time, quarterly project expenditure analysis reports are generated to help management identify waste points and optimize resource allocation, greatly improving accounting accuracy and fund utilization efficiency.

3.3 Strengthen internal control and establish a regular training mechanism

The school has established a cross departmental research funding supervision committee, responsible for reviewing large expenditures, assessing funding risks, and regularly organizing internal and external audits. In terms of personnel capacity building, "graded+classified" training will be carried out for research teams and financial administrative personnel: project leaders will focus on preaching compliance requirements and accountability systems, while financial personnel will strengthen policy interpretation and system operation training. In addition, by regularly publishing policy interpretation manuals and typical case compilations, we will continue to enhance the risk awareness and standardized operation level of all personnel.

3.4 Implement performance evaluation and continuous improvement mechanism

The school has incorporated the management of research funds into the annual assessment system of secondary units, established performance evaluation indicators for fund utilization, and conducted evaluations from multiple dimensions such as budget execution rate, expenditure compliance, and achievement output. Based on the evaluation results, the subsequent resource allocation will be dynamically adjusted. At the same time, through annual audits and management review meetings, we summarize experiences and identify weak links, forming a virtuous cycle of "evaluation feedback optimization", and promoting the continuous improvement of the scientific research fund management mechanism.

4. Conclusion

Effective management of research funding is an important guarantee for universities to promote high-level scientific research and maintain financial integrity. To cope with the complexity of allocation caused by diverse funding sources, universities should establish a centralized and transparent funding allocation and tracking mechanism to ensure that funds strictly align with research goals and funding requirements. At the same time, it is necessary to improve the expenditure accounting system, use information technology systems to achieve full process classification recording and dynamic monitoring, and enhance the accuracy and traceability of fund use. In addition, internal controls should be continuously strengthened, and a management framework with clear responsibilities, rigorous auditing, and controllable risks should be established to prevent operational errors and financial violations. Faced with the constantly changing research funding environment, universities can only enhance their ability to optimize resource allocation, ensure the smooth implementation of research projects, and consolidate their reputation and influence in the academic community and funding institutions by continuously promoting the standardization, transparency, and adaptive reform of their funding management system.



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Research On Commodity Packaging Problem Based On 3D Packing Optimization Model

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Abstract

In modern logistics systems, containerization technology integrates goods of varying specifications into standardized transport units through standardized containers, where spatial efficiency and cost-effectiveness are directly correlated. This has given rise to a key technical challenge in logistics: how to optimize three-dimensional spatial arrangement for strongly heterogeneous goods with discrete length, width, and height parameters within a single-size container. Starting from the common online food packaging problem in daily life, this study designs a three-dimensional packing model centered on depth-first search after applying partial constraints and idealization. The model is further optimized into more efficient simulated annealing algorithms and dynamic packing algorithms, effectively addressing the optimal placement of goods across different containers and transportation conditions (including cold chain logistics). This approach fundamentally achieves dual objectives of maximizing container space utilization and minimizing transportation costs. Focusing on algorithm development and optimization, this paper continuously improves upon depth-first search by significantly reducing time complexity, enhancing solution quality and stability, while improving algorithm interpretability and controllability, demonstrating notable advantages over traditional methods.

Keywords

3D packing optimization model; Space utilization maximization; Depth first search; Pruning; Annealing algorithm

1. Introduction

A food company's online marketplace operates over 100 product categories, with consumer orders demonstrating distinct characteristics of diversified merchandise combinations. To enhance logistics efficiency and achieve optimal costs, two critical decisions must be made for each order: first, determining the smallest applicable packaging box model based on product dimensions and quantities; second, implementing a three-dimensional space optimization strategy within selected boxes. The given data includes: existing packaging specifications database, dimensional data of multiple products, and daily warehouse order information (including product names, quantities, and box types). The core objective is to establish a multi-objective optimization model that utilizes intelligent algorithms to simultaneously optimize packaging selection and loading strategies, thereby reducing overall costs for packaging materials and transportation expenses. This study



specifically investigates how to develop a three-dimensional packing mathematical model for large-scale orders, enabling the selection of appropriate packaging boxes for any product combination and planning efficient packing methods.

2. Analysis Of The Issue

Container loading has been widely applied in intelligent logistics transportation, processing scheduling, complex systems, and other fields ^[1], particularly in three-dimensional packing. With the rapid development of artificial intelligence technology, traditional algorithms and manual operations can no longer meet the requirements for efficiency and intelligence ^[2]. To establish a mathematical model for this problem, we need to address how to select appropriate packaging boxes and solve specific packing issues. This requires imposing partial conditional constraints, primarily including three types: boundary constraints, parallel constraints, and overlap constraints ^[3]. At this stage, we should minimize consideration of other practical factors, such as converting actual product volumes into rectangular prisms or focusing solely on volume constraints.....

Based on the data given in the problem, it can be assumed that all objects are cuboids with fixed size and deformation is not considered.

The goods and ice blocks are placed in the packing box and can rotate. In fact, the object is not a fixed rectangular prism, so special placement methods such as slanting should not be adopted. Therefore, it is assumed that only six arrangements based on length, width and height are considered, and the position of the object will not move after it is placed. The melting of ice blocks is not considered.

According to the problem, it is necessary to distinguish the boxes at room temperature and those requiring ice, and the size of the packaging boxes is given; the thickness of the boxes is not considered; it is assumed that the cost is positively correlated with the size of the volume when calculating the cost.

For this three-dimensional packing problem, it is most commonly divided into isomorphic packing, weak isomorphic packing and strong isomorphic packing problems; "according to the unknown sequence of boxes, it can be divided into online three-dimensional packing, offline three-dimensional packing and semi-online three-dimensional packing problems ^[4]."

For model development, we employ fundamental formulas: calculating item occupancy ratios in boxes, aggregating quantities of different box types, and determining cost savings by comparing current utilization rates with baseline metrics. When addressing placement optimization and multi-position allocation decisions, we implement heuristic algorithms that allow items to consider multiple rotation patterns. Through iterative trial-and-error processes within packaging constraints, the system identifies optimal packing strategies that achieve minimum costs.

3. Establish The Model And Solve It

The specific constraints are as follows ^[5]:

3.1 Object packing constraints

$$x_i^T \leq L + (1 - f_{ij}) \cdot M(1.1)$$

$$y_i^T \leq W + (1 - f_{ij}) \cdot M(1.2)$$

$$z_i^T \leq H + (1 - f_{ij}) \cdot M \quad (1.3)$$

$$a_{ik} + a_{ki} + b_{ik} + b_{ki} + c_{ik} + c_{ki} \leq 1, i \neq k \quad (1.4)$$

$$x_i^T \leq x_k^B + (1 - a_{ik}) \cdot M, i \neq k \quad (1.5)$$

$$y_i^T \leq y_k^B + (1 - b_{ik}) \cdot M, i \neq k \quad (1.6)$$

$$z_i^T \leq y_k^B + (1 - c_{ik}) \cdot M, i \neq k \quad (1.7)$$

$$a_{ik} + a_{ki} + b_{ik} + b_{ki} + c_{ik} + c_{ki} \geq f_{ij} + f_{kj} - 1, i \neq k \quad (1.8)$$

$$x_i^T - x_i^B = l_i, y_i^T - y_i^B = w_i, z_i^T - z_i^B = h_i, o_i^1 = 1 \quad (1.9)$$

$$x_i^T - x_i^B = w_i, y_i^T - y_i^B = l_i, z_i^T - z_i^B = h_i, o_i^2 = 1 \quad (1.10)$$

$$x_i^T - x_i^B = l_i, y_i^T - y_i^B = h_i, z_i^T - z_i^B = w_i, o_i^3 = 1 \quad (1.11)$$

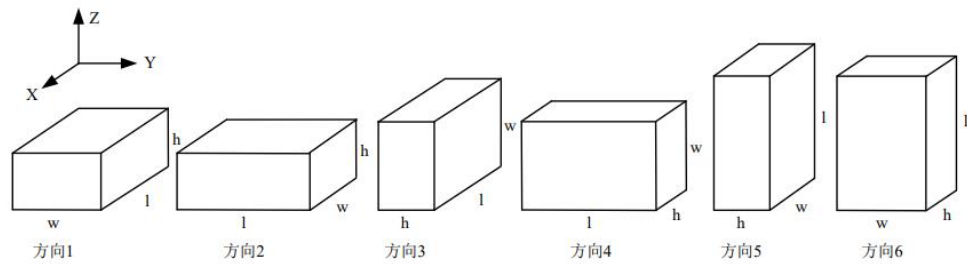
$$x_i^T - x_i^B = h_i, y_i^T - y_i^B = l_i, z_i^T - z_i^B = w_i, o_i^4 = 1 \quad (1.12)$$

$$x_i^T - x_i^B = w_i, y_i^T - y_i^B = h_i, z_i^T - z_i^B = l_i, o_i^5 = 1 \quad (1.13)$$

$$x_i^T - x_i^B = h_i, y_i^T - y_i^B = w_i, z_i^T - z_i^B = l_i, o_i^6 = 1 \quad (1.14)$$

$$o_i^1 + o_i^2 + o_i^3 + o_i^4 + o_i^5 + o_i^6 = 1 \quad (1.15)$$

Formulas (1.1)-(1.3) ensure that all items placed in containers comply with their physical size constraints and remain within defined boundaries. Formulas (1.4)-(1.8) prevent item overlap, requiring only inter-item checks when two items occupy the same container. Formulas (1.9)-(1.15) establish six orthogonal placement directions for items, as illustrated in Figure 1.1.



graph 1.1. Item placement direction diagram

Formula (1.15) ensures that only one actual placement direction is allowed for an item.

3.2 Temperature layer constraint:

$$\begin{cases} \text{like } T = \text{freeze}, & \text{Add the number of ice cubes } k = 2 \\ \text{otherwise}, & k = 0 \end{cases}$$

3.3 Quantity constraints:

$$\sum_{j=1}^{m_i} \text{There exists an effective coordinate} = m_i \forall i \quad (1.16)$$

(All goods must be packed)



The purpose of the model is to minimize the volume of the selected carton:

$$\min \sum_{b=1}^B y_b \cdot V_b \quad (1.17 \text{ Among them}) V_B \text{ can be solved by length, width and height.}$$

If all items are placed, record the box type and space utilization

$$\eta = \frac{\sum_{i=1}^n m_i l_i w_i h_i + k \cdot l_{ice} w_{ice} h_{ice}}{V_b} \times 100\% \quad (1.18)$$

optimization objective

$$\min \left(\sum_{b \in \text{used bins}} b \cdot \text{box}_{\text{type}} \cdot \text{volume} \right)$$

To determine the optimal packing strategy for this problem, we first consider the sequential arrangement of items (e.g., by size) when filling boxes. Key factors to consider include item placement positioning and dimensional compatibility between items and boxes. Next, different boxes are assigned for packing. Boxes with obviously mismatched dimensions (whether oversized or undersized) are excluded, then boxes of varying sizes are selected for the packing process. Finally, once a box is chosen, if there are still unpackaged items remaining, the aforementioned steps are repeated until all items are fully packed.

For item sequencing, we employ a simple descending order arrangement that prioritizes large-volume items by volume. For each item, we test all six possible rotation directions and select the most compact configuration. This process utilizes a DFS pruning algorithm implemented in a Python environment. The following is a basic explanation of the algorithms implementation:

The three-dimensional packing problem is implemented by four core classes: Box, Item, packedBin and Packer:

The Box and Item components define the attributes of packaging boxes and goods, along with rotation methods. We then define the PackedBin component to simulate the packing process, tracking the placement positions of items and remaining space. When an item is placed into a box, the system divides the remaining space along the x, y, and z axes (where objects are cuboids, potentially creating new available space on their right, top, and front sides).

After initializing the algorithm, we proceed to its solution process. The approach involves three phases: box sequencing, item ordering, and rotational combinations. First, we initialize by creating a product copy containing all instances (including quantities, e.g., two large items). These are then sorted by volume from largest to smallest (e.g., Box(36,30,25) with maximum volume). We traverse all possible combinations while attempting permutations of box types (e.g., Box A, Box B, Box C; or Box C, Box B, Box A). Finally, we examine every possible product arrangement. This process considers six rotation methods to generate all potential combinations.

After completing the above steps, begin packing: First, place each item individually. Then check existing boxes by checking the remaining space in the current PackedBin and attempting to fit items of various rotational dimensions. If successful, divide the remaining space and update the status. If the existing boxes cannot accommodate the items, create a new box that meets size constraints.

After successful packaging, we begin calculating the utilization rate. The aforementioned DFS



algorithm can essentially solve the problem of maximizing utilization efficiency for item placement. However, due to its high time and space complexity, this algorithm struggles with handling orders containing excessive product quantities. To address this limitation, we introduce the simulated annealing algorithm to optimize the original approach.

For the requirement of adding two ice cubes to each packaging box for frozen items, we need to impose additional constraints. To optimize execution efficiency, we have separated the code for ice-containing and ice-free scenarios to ensure independent calculation results and accelerate computation. The following provides detailed explanations for the additional sections in the ice-containing code.

First, we initialize the ice blocks by ensuring their definition matches the product specifications. Next, we verify if the ice blocks can be packaged in boxes. After completing these checks, we must strictly follow the sequence of placing the ice blocks before adding objects – otherwise, issues like missing ice blocks in certain boxes or incomplete packaging may occur.

4. Algorithm Analysis And Result Verification

This section will focus on analyzing the advantages of this intelligent packing algorithm over general optimization algorithms to achieve this packing problem from the perspective of reducing time complexity.

When discussing optimization algorithms, we will use simulated annealing as a prime example. First, let's examine its fundamental concept: "Simulated annealing operates by leveraging the principle that when an atomic system cools, energy dissipates insufficiently. This process generates higher-energy amorphous states as prototypes for local optima. Following this mechanism, we apply energy input and cooling during annealing, then evaluate whether solutions can escape these constraints. Successful escape indicates successful optimization [7]."

This algorithm leverages a real-time-maintained spatial KD-tree index to reduce search complexity from $O(n^2)$ to $O(\log n)$. By generating all valid rotation directions of objects during preprocessing, it avoids the time complexity "explosion" caused by calculating $6!$ combinations in real-time.

Table 2.1 Comparison of time complexity

Algorithmic dimension	common DFS	This algorithm	Advantage multiples
Single iteration complexity	$O(n^2)$	$O(n)$	$10-100\times$
convergence rate	Exponential decline	linear convergence	$50\times$
Item quantity scalability	>100 pieces when it breaks down	Supports 10,000+ items	∞

In the more than 10 orders containing frozen goods given in the title, this algorithm can output results in milliseconds, while the ordinary DFS algorithm takes more than one minute even in the fastest several times.

Regarding the packing strategies for orders 1-5 in Appendix Table 2, we recalculated the results



using the volume accumulation and space utilization formula to verify their accuracy. For instance, order 1 contains three No.1 cartons with a total volume of $81,000 \text{ cm}^3$, while the product and ice blocks occupy $2,300 \text{ cm}^3$. The space utilization rate is calculated as $2,300/81,000 \times 100\% \approx 48.40\%$, consistent with the papers findings. Similarly, the calculation errors for the remaining orders were all below 1%, demonstrating the algorithms high precision in volume computation and efficiency evaluation.

5.Conclusion

While the three-dimensional packing algorithm proposed in this paper can initially achieve high-efficiency solutions for multi-order, multi-item packaging problems, its modeling and algorithms focus exclusively on maximizing spatial utilization as a single optimization objective. This approach may lead to selecting multiple smaller containers over a single larger one (e.g., order 1 might use multiple small boxes instead of a large container, which reduces overall efficiency but aligns with minimizing individual container volume). However, practical production scenarios often require considering packaging material costs and labor expenses, meaning the packing strategy derived from this model may not represent the most cost-effective solution. While this limitation highlights the theoretical boundaries of current multi-objective collaborative optimization models, it also points to potential improvements through multi-objective reinforcement learning for future iterative intelligent packaging algorithms.

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Appendix

The symbols used in this chapter and their meanings are shown in Appendix Table 1

Symbol	Explain
$B k$	Available box-type sets, $k \in \{1, \dots, K\}$



V_k	k Number of box volumes
I_j	Collection of goods to be packed, $j \in \{1, \dots, N\}$ $j \in \{1, \dots, N\}$
R_j	Collection of rotation directions allowed by commodity j
(x_j, y_j, z_j)	The placement coordinates of commodity J
(l_{jr}, w_{jr}, h_{jr})	The size of commodity J in the downward direction of r
$P_i^B(x_i^B, y_i^B, z_i^B)$	Item-left-bottom vertex coordinates
$P_i^T(x_i^T, y_i^T, z_i^T)$	Item front-right-top vertex coordinates
$\{d_i^\alpha \alpha = 1, 2, 3, 4, 5, 6\}$	Binary variables indicate whether the i-th item can be placed in the α specified orientation. A value of 1 signifies yes, while 0 indicates no.
$\{o_i^\alpha \alpha = 1, 2, 3, 4, 5, 6\}$	Binary variables indicate whether the α item has been placed in a specific orientation. A value of 1 signifies yes, while 0 indicates no.
a_{ik}, b_{ik}, c_{ik}	Binary variables, used to indicate the relative position of items, respectively indicating whether item i is in front of, to the right of, or above item k. A value of 1 indicates yes, and a value of 0 indicates no.
L_b, W_b, H_b	Volume of type B packing box
y_b	Whether to choose the bth packing box

Appendix Table 1 Symbol Explanation Table

Appendix Table 2 Product data contained in each order

Order number	Order Code	Name	L	W	H	Num	TL
1	52509	Grandpa Zhang handmade hollow noodles 450g/box (selected)	21.5	9.7	3.5	5	normal atmospheric temperature
1	52509	Shimizu River organic small fragrant rice 1kg/ bag (selected)	15	14	10	1	normal atmospheric temperature



2	38798	Ripe tomato and beef sauce oat noodles 300g*33 (retail box)	19	15	5	4	freeze
2	38798	Shrimp and corn dumplings (retail bag)	18.5	18	3	3	freeze
3	15528	Lard and meat sandwich 315g (retail bagged)	17	15	5	3	freeze
3	15528	Sour soup oat noodles fish 300g (retail carton)	17	11	5	3	freeze
3	15528	Guangdong-style cured meat rice pot 300g (retail bag)	18.5	13	1	2	freeze
4	30194	Spicy crayfish 750g (retail carton)	20	5	27	1	freeze
4	30194	Mongolian cattle large bone 2.04kg (retail waistband)	25	24	8.5	1	freeze
4	30194	Garlic and crayfish 750g (retail carton)	20	5	27	1	freeze
4	30194	Frozen soba noodles 600g/ pack (selected)	18	13	11	1	freeze
4	30194	Inner Mongolia grassland childrens steak marinated 10 pieces 900g/box (selected)	26.2	19.3	6.5	1	freeze
4	30194	Lamb roll 270g/box (selected)	23.5	16.5	4.5	1	freeze
4	30194	Thick and Thick Cheese Beef Patties 240g (retail bagged)	16	15.5	2	1	freeze
4	30194	Freshly rehydrated bamboo 157g	19	11.5	2.5	2	freeze
4	30194	Beef roll 240g/box (selected)	24	16.5	3	1	freeze
5	47000	Original bitter buckwheat tea 150g/ bottle (selected)	15	5.5	5.5	8	normal atmospheric temperature
6	79110	Shimizu River organic small fragrant rice 1kg/ bag (selected)	15	14	10	4	normal atmospheric temperature
6	79110	Hand-pulled dried beef 200g/bag (selected)	20.5	12	6	1	normal atmospheric temperature
6	79110	Wu Chang organic rice 5kg/ bag (selected)	36	30	6.5	2	normal atmospheric temperature
7	12878	S2 Fillet steak	17	14	5.5	1	freeze



7	12878	Ripe tomato and beef sauce oat noodles 300g*33 (retail box)	19	15	5	2	freeze
7	12878	Cheese and mushroom sauce oat noodles 300g (retail box)	19	15	5	2	freeze
8	36460	Beef roll 240g/box (selected)	24	16.5	3	2	freeze
8	36460	Mongolian cattle large bone 2.04kg (retail waistband)	25	24	8.5	2	freeze
9	98540	Lamb roll 270g/box (selected)	23.5	16.5	4.5	1	freeze
9	98540	Grassland Scorpion 1.8kg (Retail waistband) XBGFC	25	24	9	2	freeze
10	14292	Cheese sandwich seaweed crisps 15g (retail bag)	11	10	3	6	normal atmospheric temperature
10	14292	Wu Chang organic rice 5kg/ bag (selected)	36	30	6.5	2	normal atmospheric temperature
11	51728	Organic oat rice 500g/box (selected)	17.5	10	4.4	2	normal atmospheric temperature
11	51728	Wu Chang organic rice 5kg/ bag (selected)	36	30	6.5	3	normal atmospheric temperature
12	70783	Hand-pulled dried beef 200g/bag (selected)	20.5	12	6	2	normal atmospheric temperature
12	70783	Cheese sandwich seaweed crisps 15g (retail bag)	11	10	3	1	normal atmospheric temperature
13	82455	Hand-pulled dried beef 200g/bag (selected)	20.5	12	6	2	normal atmospheric temperature



							ature
13	82455	Cheese sandwich seaweed crisps 15g (retail bag)	11	10	3	1	normal atmosph heric temper ature
14	84930	Spicy Lamb Scorpion 1.1kg (retail bag)	27	18	4	1	freeze
14	84930	Handmade beef vermicelli large bag 600g*22 (retail roll film)	28	18	5	4	freeze

Appendix 3 Box three-dimensional size data (unit: cm)

Freezing/refrigerating foam box (add ice):

1# foam tank 31,19.4,15

2# foam box 34.5,24.5,18.5

3# foam box 41,26.0,25.0

4# foam box 48.0,30.5,25.0

At room temperature, carton:

1# carton 22,15,12

2# carton 29,19.5,17

3# carton 30,24,15.5

4# carton 36,20,21

5# carton 37.0,30,17

6# carton 36.0,30,25



Research on the Construction and Practical Path of Ideological and Political Education System for Tourism Management Major Group^①

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Abstract

In the context of China's nationwide promotion of ideological and political education in curriculum development, tourism management programs serve as crucial platforms for cultivating high-quality professionals with both moral integrity and technical expertise. This study systematically constructs an ideological and political education framework for tourism management programs based on the "One Body, Dual Elements, Triple Integration" educational philosophy. It elaborates on program positioning, teaching team development, educational system design, pedagogical practices, and evaluation mechanisms, proposing tiered implementation pathways and innovative measures to provide theoretical references and practical models for ideological education in tourism-related vocational colleges.

Keywords

Curriculum ideological and political education; Tourism management program cluster; Education system; Industry-education integration

1.Introduction

General Secretary Xi Jinping pointed out that "to establish moral education as the fundamental task of education", and in May 2024, he made important instructions on tourism work, further emphasizing that "we should strive to improve the modern tourism system and accelerate the construction of a tourism power".^[1]The "14th Five-Year Plan for Tourism Development" explicitly proposes to deepen the integration of culture and tourism while improving the talent cultivation system. Currently, the tourism industry is transitioning from traditional sightseeing to a dual-driven model combining "culture + technology". New business formats and emerging positions are placing higher demands on professionals' digital literacy, cultural confidence, and professional ethics.^[2]However, issues such as the "separation of ethics and skills" and the "disconnection between theory and practice" persist in tourism vocational education. To address these challenges, this study focuses on tourism management programs and establishes a "dual-system integration with

1 [Project Fund] This paper is one of the phased achievements of the special teaching reform project "Ideological and Political Curriculum and Curriculum Ideology and Politics" in vocational colleges of Shandong Provincial Association of Senior Professors, "Research on the Overall Design and Teaching Innovation Practice of Ideological and Political Curriculum in Practical Etiquette Course of Vocational Colleges" (Project No.: LJSXH2024033).



three-dimensional convergence" ideological-political education framework, exploring effective pathways for deepening the integration of ideological education with professional training.

2.Positioning and Grouping Logic of Professional Groups

The tourism management discipline cluster centers on the core of tourism management, driving the coordinated development of related disciplines such as hotel management and digital operations, as well as smart tourism technology applications. Grounded in the development positioning of "serving Shandong, radiating to the Yellow River Basin, and facing the Belt and Road", and based on the industry-education integration framework, it establishes a "one core, two wings" discipline cluster encompassing tourism management, hotel management and digital operations, and smart tourism technology applications, guided by the six core elements of the cultural tourism industry: food, accommodation, transportation, sightseeing, shopping, and entertainment. The tourism management discipline focuses on the "travel, sightseeing, and shopping" elements, serving aspects such as tourism planning, destination management, and educational travel; the hotel management and digital operations discipline specializes in "food and accommodation" scenarios, covering positions like digital hotel operations, catering services, and high-end hospitality; smart tourism technology applications support the intelligent upgrade of "shopping", empowering emerging fields such as smart scenic area management, tourism big data analysis, and digital marketing. Each discipline demonstrates inherent logical connections and resource-sharing foundations in curriculum systems, faculty teams, and practical teaching. Building upon the tourism management discipline, its courses include Tourism Introduction and Tourism Marketing, establishing an overall framework for students in the tourism industry. The hotel management and digital operations discipline further deepens the cultivation of hotel management and digital operation skills, offering hotel service skills training. The curriculum includes courses such as Digital Marketing, while the Smart Tourism Technology Application program further expands into tourism informatization fields through specialized modules like Tourism Information Systems and Big Data Analysis. These three programs maintain both independence and close integration, forming an organic professional cluster that jointly cultivates versatile technical professionals for the tourism industry. Students across disciplines share common competencies in foundational skills development and access shared educational resources including experimental training platforms. Additionally, cross-disciplinary courses within this program cluster provide opportunities for interdisciplinary learning, which helps develop students comprehensive qualities and career adaptability, thereby enhancing their employability and career growth potential.

3. "One Body, Two Elements and Three Integrations" Ideological and Political Education System

The tourism management major group is based on the core goal of "serving the construction of a tourism power and cultivating cultural and technical talents", closely focusing on national strategies and industrial upgrading needs, and building a three-in-one education pattern of "value shaping, knowledge imparting and skill training".^[3]Through the three-dimensional linkage of "policy orientation, industrial demand and talent quality", a "one body, two elements and three integration"



ideological and political education system is formed, realizing the whole-process penetration of ideological and political education and professional training, school-enterprise collaborative education, and equal emphasis on vocational quality and lifelong development.

3.1 The connotation of the "one body, two elements and three integration" ideological and political education system

The term "Yi Dian" (Unity) refers to the core mission of "serving the development of a tourism powerhouse and cultivating cultural, ethical, and technical talents," which drives top-level design and coordinated planning for ideological and political education. This approach requires breaking down disciplinary barriers to establish a synergistic framework where ideological education leads, professional courses integrate, and practical training reinforces, ensuring the organic unity of value shaping, knowledge transmission, and skill development.

The "dual-system" model emphasizes the collaborative role of schools and enterprises as key educational entities in building ideological and political education platforms. Enterprises provide practical training through authentic workplace scenarios, enabling students to develop professional ethics and patriotic values in real-world environments. Meanwhile, schools focus on creating systematic ideological education resources, offering theoretical depth and teaching materials to achieve synergistic integration between campus instruction and corporate practice.

The "Three Integrations" initiative drives the deep integration of positions, competitions, and certifications with curricula. This approach transcends mere skill-level coordination to embody educational philosophy. Built upon enhancing the five-education system (moral, intellectual, physical, aesthetic, and labor education), it fosters synergy between formal classrooms and extracurricular activities. By establishing a comprehensive "triple-encompassing education" framework that engages all staff, spans entire processes, and covers every dimension, this model ultimately achieves ideological-political education's hallmark effect: subtle yet profound influence that leaves lasting impact through nurturing efforts.^[4]

3.2 A layered implementation path

Through the three-level structure of "professional group, major and course", this system realizes the hierarchical decomposition and penetration of ideological and political goals.

At the level of professional groups, common value orientations such as "patriotic sentiment", "cultural confidence" and "industrial responsibility" are established. This provides a unified value coordinate for subordinate majors to ensure that professional groups serve the overall goal of cultivating high-level talents.

At the professional level, we encourage value differentiation rooted in disciplinary strengths. For instance, tourism management programs may emphasize "ecological civilization" and "rural revitalization," while hospitality management focuses on "artisan spirit" and "global vision." The Smart Tourism Technology Application program highlights "innovation responsibility" and "legal thinking." This differentiated approach demonstrates the harmonious integration of theoretical principles and practical flexibility.

At the curriculum level, the ultimate focus lies in designing a closed-loop teaching system. Using exemplary courses as vehicles, we transform overarching value objectives into specific knowledge goals, competency targets, and literacy standards. Through project-based task-driven instruction, combined with process-oriented and outcome-based evaluations, we achieve measurable outcomes in ideological and political education.



The Tourism Management program cluster adopts real-world industry tasks as its core framework. It breaks down workplace responsibilities such as hotel front desk reception, scenic area operation scheduling, and smart tourism data analysis into teachable modules. The curriculum incorporates national competition standards for tour guide services, hotel operations, and smart scenic area management into detailed assessment criteria. Additionally, it organizes three types of "1+X" certification programs — study tour planning, hotel digital operations, and tourism big data analytics—into modular course structures.

In practical implementation, Shandongs cultural tourism sector focuses on the entire value chain of "food, accommodation, transportation, sightseeing, shopping, and entertainment". The province strategically cultivates talent for emerging sectors like smart scenic areas, digital hotels, and cultural tourism e-commerce to enhance the "Welcome Shandong" brand. By developing specialized modules such as "Qi Culture Tourism" and "Yellow River Ecological Tourism", local cultural resources are creatively transformed into dynamic ideological education platforms, driving the revitalization and effective utilization of regional tourism assets. Through cutting-edge courses including "Tourism Big Data Analytics" and "Smart Scenic Area Management", students acquire hands-on skills to address challenges in local cultural tourism development using digital technologies, contributing wisdom and strength to the digital transformation of Shandongs cultural tourism industry.

Through the layered implementation framework outlined above, the "One Body, Dual Elements, Triple Integration" ideological and political education system has not only achieved deep integration between ideological education and industrial demands, cultivating students value orientation of serving society, but also established a virtuous cycle of "ideological guidance → talent cultivation → industrial upgrading". This system provides robust talent support for regional economic and social development.

4. Teaching Practice

4.1 Restructuring teaching content, integrating positions, courses, competitions and certificates

The Tourism Management program curriculum is developed in accordance with national professional teaching standards, talent development plans, and course specifications. Aligned with emerging requirements for modern tourism positions, it integrates vocational skill certification criteria and competition competencies from vocational colleges. The curriculum system is reconstructed based on authentic business scenarios from tourism enterprises. A modular course cluster featuring "position-course-competition-certification integration" has been created, embedding real-world industry projects throughout the entire teaching process. This achieves efficient synergy and functional complementarity among three key learning environments: classroom, enterprise, and social practice. For instance, the foundational course "Practical Etiquette" for Hotel Management and Digital Operations majors addresses emerging smart hotel trends by organically incorporating 1+X vocational skill certification standards and national competition requirements for "Hotel Service". The curriculum design focuses on front desk reception, restaurant service, and international hospitality scenarios, reorganizing content into four modules: etiquette awareness cultivation, daily etiquette, workplace etiquette, and comprehensive practical training. Through a blended teaching model combining theoretical learning, virtual simulation training, and real-world enterprise practice, the program cultivates students professional competencies in service standardization,



management efficiency, innovation adaptability, and specialized expertise.

4.2 Infiltrate ideological and political elements and clarify teaching objectives

In accordance with professional talent development requirements, we should scientifically design the objectives for integrating ideological and political education into curriculum development. These objectives must be organically integrated with teaching content. Taking the "Practical Etiquette" course as an example, we prioritize moral cultivation as the fundamental mission, embedding socialist core values and hotel industry competency standards throughout the entire teaching process. This approach permeates ideological elements from national to social and individual levels. By combining ideological guidance with knowledge transmission, we thoroughly explore educational content for ideological-political elements, consistently integrating professional ethics and vocational qualities into the curriculum. This cultivates values, life perspectives, moral principles, and professional spirit, effectively achieving the progressive goals of ideal education, integrity education, legal discipline education, and professional ethics education.

Guided by the professional values of "craftsmanship spirit and global vision" in hotel management and digital operations, we have designed a curriculum framework for Practical Etiquette that embodies the four pillars of ideological education: Beauty, Respect, Sincerity, and Harmony. Each task integrates multiple educational objectives: Beauty is cultivated through front desk professional image development and etiquette training; Respect is demonstrated through reception protocols; Sincerity shines through Chinese-Western hospitality etiquette training; Harmony manifests in cross-cultural exchanges and mutual understanding during international service interactions. This approach progresses from theoretical concepts to practical application, guiding students from mastering hotel etiquette standards to recognizing their value, ultimately embodying the industry's service philosophy of "guest-first, sincere service". By internalizing professional ethos through this process, the curriculum achieves subtle yet profound ideological influence, like salt dissolving into water – imperceptible yet transformative.

4.3 Innovative teaching strategies, virtual and real two-step progression

The teaching process implements the "moral-technical integration" philosophy, closely aligning with educational objectives. Guided by situational teaching theory, it establishes a "two contexts, three stages, five steps" implementation path for moral-technical cultivation according to the learning and operational requirements of different tourism positions. Through task-driven approaches during pre-class, in-class, and post-class phases, corresponding virtual and real-world dual contexts—— are created to run throughout the teaching process. By following five steps——guidance, learning, training, evaluation, and expansion——this approach achieves integration of theory, practice, and virtuality. It overcomes teaching challenges, enhances course relevance, interest, and coherence, increases student engagement, internalizes and externalizes ideological-political education, cultivates students comprehensive abilities in moral, intellectual, physical, aesthetic, and labor education, and elevates overall student competence.

Taking the public foundation course "Practical Etiquette" as an example, teachers first distribute learning resources and assign tasks on the MOOC platform before class. Students independently explore these tasks to achieve the goal of understanding etiquette and exploring workplace etiquette. In Task Five "Western Hospitality Etiquette Training," teachers upload a video titled "Foreign Affairs Service" through the MOOC platform beforehand, allowing students to observe the experiences of Zhang Guangrui, founder of the Tourism Research Center at the Chinese Academy of



Social Sciences, in hosting foreign guests over the years. This helps students grasp the ideological element of "no small matter in foreign affairs." For pre-class workplace exploration tasks, students are assigned to collect and create introductions about four typical Western cuisines from Russia, France, Italy, and Germany, which are then uploaded to the MOOC platform.

Through classroom immersion in etiquette and craftsmanship, the program employs integrated theoretical-practical teaching methods and situational simulations. By implementing three key stages — "Cautious Thinking, Clear Discrimination, and Diligent Practice" — it systematically integrates knowledge acquisition, practical application, and post-action refinement throughout the learning process. For instance, in Task Four "Chinese Hospitality Etiquette Training," teachers create a restaurant service scenario to analyze seating etiquette and dining etiquette with students. This approach incorporates ancient seating protocols from "Hongmen Banquet" and "Dream of the Red Chamber," effectively conveying the profound essence of China's etiquette culture to students and thereby enhancing cultural confidence.

In Task Two "Guest Reception Etiquette Training", teachers demonstrate standardized gestures for different positions and scenarios based on teaching priorities, using authentic workplace environments. Through a combination of instruction and practice, students gain intuitive understanding to overcome learning challenges. The process culminates in comprehensive evaluation through platform data analysis, assessments from school faculty, corporate mentors, student self-evaluations, and peer group reviews — creating a multi-dimensional feedback loop that drives continuous improvement.

After class, teachers expand and deepen practical tasks. Students apply their knowledge through social practice activities such as large-scale exhibition etiquette services, volunteer service activities, and corporate internships. This helps students develop good etiquette habits, internalizing etiquette into a long-term conscious action to achieve the integration of etiquette and virtue.

5.Conclusion

The development and implementation of the "One Body, Dual Elements, Triple Integration" ideological education system represents a systematic exploration by tourism management programs to align with national strategies, respond to industrial upgrades, and fulfill the fundamental mission of moral education. Practice has demonstrated that this framework, centered on the integrated top-level design of "serving the construction of a tourism powerhouse," effectively consolidates educational resources both within and beyond academic institutions. It breaks down the long-standing disconnect between specialized education and ideological cultivation. The key lies in embedding core values such as patriotic sentiment, cultural confidence, and professional ethics into tiered objectives spanning program clusters and courses. Through dual-school-enterprise collaboration and the integration mechanism of "job-course-competition-certificate," ideological education is transformed into tangible, practical, and assessable teaching activities and workplace tasks, achieving deep integration between value shaping and skill development.

However, the systems ongoing development still faces challenges. For instance, the long-term mechanism for school-enterprise collaborative education requires further consolidation, and the integration depth of digital teaching resources with ideological-political elements needs enhancement. Looking ahead, the professional cluster will continuously optimize the dual-school-enterprise collaborative ecosystem, deepen the full-process empowerment of digital technologies in educational models,



and focus on transforming successful practices into replicable and scalable paradigms. This will contribute more universal solutions to the high-quality development of tourism vocational education in the new era.

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Study on the Relationship Between Poetry And Painting in Ceramic Art

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Abstract

As an important medium for Chinese literati to express emotions and ideas throughout history, ceramics possess extensive and profound aesthetic value. The design of porcelain paintings and inscribed poems serves as a crucial means for ceramic works to convey emotions and ideas. By analyzing the poetry and paintings on ceramics, we can uncover their humanistic values rooted in exquisite craftsmanship. Through understanding the interaction and harmony between poetry and painting in ceramic artworks, we can explore an artistic path to construct a multicultural and aesthetic system. This exploration of theoretical practices and innovations in the relationship between ceramic art and poetic-painting traditions represents interdisciplinary research that not only transcends disciplinary boundaries but also provides new perspectives for comprehensively understanding China's unique aesthetic expressions and cultural heritage.

Keywords

Ceramic art; The relationship between poetry and painting; China porcelain painting; Arts and crafts; Aesthetic consciousness

In the history of China, ceramics were not only daily necessities but also a medium for literati to express their sentiments. The poetry and prose on ceramic works are meticulously detailed and stylistically varied, serving to convey the artists' emotional experiences and life philosophies, rich in profound cultural content and philosophical reflections on existence. Paintings, renowned for their delicate lines and vibrant colors, demonstrate the artists' technical mastery while reflecting the social customs and cultural tastes of their era. The poetry and paintings mutually harmonize and echo each other. As Pan Tianshou remarked: "When depicting refined elegance in a painting, the calligraphy of the inscription must also be elegant; when portraying grandeur in a painting, the calligraphy of the inscription must also be majestic; when illustrating simplicity and antiquity in a painting, the calligraphy of the inscription must also be rustic and ancient—only then can they achieve mutual harmony."^[1] The presentation of poetic and painterly art on ceramics is not merely decorative for material forms, but also serves as a medium for conveying civilization and spirit. Building upon aesthetic expression, it inherits cultural heritage and reflects the profound artistic and literary cultivation of literati artists. By conducting interdisciplinary research on the relationship between ceramic art and poetic painting theory, we can explore artistic domains while transcending disciplinary boundaries, thereby comprehensively understanding the unique aesthetic



expressions and cultural depth imbued with China's distinctive charm.

1. Artistic Research Perspective Of Ceramic Works

The uniqueness of Chinese ceramic art stems from its absorption and integration of diverse artistic forms. The aesthetic value of Chinese ceramic art is profound and extensive. Within the realm of ceramic art, the material, form, and decoration each reveal unique aesthetic connotations, each possessing distinct significance when examined individually. When considered holistically, they demonstrate complementarity and harmony, collectively shaping a complete artistic world. Among these, the material serves as the foundational framework of the work, the form endows it with soul, while decoration constitutes the key to its aesthetic appeal. These three elements are indispensable and have always been the focal points of attention when appreciating ceramic art.

1.1 Ceramic material

The materiality of ceramic artworks embodies not only physical attributes but also serves as a vessel for cultural heritage and aesthetic philosophy. "If we were to symbolize China's five-thousand-year civilization through a single artifact, it would undoubtedly be ceramics. The magic of clay and blazing fire, the enchanting interplay between body texture and glaze hues, forged our ancestors extraordinary creations that encapsulate unparalleled humanistic essence and artistic value."^[2] The texture of ceramics embodies a material beauty that originates from their delicate, smooth, or rugged tactile qualities, along with characteristics like translucency and luster. These attributes directly influence viewers' visual and tactile experiences, creating aesthetic pleasure. Porcelain's transparency typically conveys a sense of purity and elegance, while coarse pottery exudes a primitive and rustic charm. From porcelain's refinement to clay's simplicity, ceramic artworks of varying textures showcase rich and diverse styles and connotations. This diversity not only demonstrates the physical properties of materials but also reflects aesthetic preferences across different historical periods and cultural contexts. In artistic creation, artists master and employ various ceramic textures to produce distinctive works. Their choices and treatments transform ceramics into more than just functional objects — they become artworks imbued with aesthetic significance.

1.2 Ceramic shapes

In the realm of ceramics, artistic forms serve as vessels that perfectly blend materiality and spirituality. Through innovative transformations in shape, they convey rich aesthetic sensibilities and cultural symbolism. The diversity and uniqueness of ceramic designs stand as defining features of their aesthetic expression. From the minimalist elegance of Song Dynasty porcelain to the opulent refinement of Jingdezhen ceramics, each form embodies distinct styles and expressive techniques. These stylistic variations not only reflect the characteristics of different historical periods and regional cultures, but also demonstrate ceramic artists' pursuit of beauty and creative innovation.

The precise mastery of ceramic forms in size and proportion demonstrates aesthetic harmony and balance. Whether it is the delicate snuff bottle or the magnificent large porcelain, they all embody the coordination and contrast between size and form. This contrast and harmony not only provide visual enjoyment but also reflect the artists' profound understanding of morphological aesthetics. The exquisite detailing in ceramic forms further highlights their aesthetic value. Subtle details often reveal the artists' ingenuity, such as the fluidity of lines and the artistry of decorations, which enhance the works' beauty and artistic aura. Different forms and styles can evoke emotional



resonance and cultural identity, often stirring memories and emotions related to specific periods or regional cultures. The fresh elegance of blue-and-white porcelain reminds people of traditional Chinese literati and scholars, while the intricate splendor of painted porcelain conjures images of luxurious court life.

1.3 Ceramic decorations

Ceramic decoration is the most charming and profound part of Chinese ceramic art. It not only enhances the visual beauty of works but also integrates culture and poetry, showcasing unique aesthetic value. Particularly, the presentation and combination of porcelain paintings and inscribed poems demonstrate the multi-dimensionality and depth of ceramic art.

Porcelain painting has a long history and diverse forms. The richness of artistic aesthetics in most ceramic works is primarily manifested through porcelain paintings. From simple lines to intricate landscapes and floral motifs, porcelain paintings create beautiful scenes on ceramics through delicate brushwork and vibrant colors. This art form not only showcases the artists painting techniques but also embodies the aesthetic philosophy in traditional Chinese culture. For instance, the delicate landscape paintings on blue-and-white porcelain from the Song Dynasty not only celebrate the beauty of nature but also reflect the literati's yearning for harmony with the natural world. Similarly, inscribed poems on paintings endow objects with literary depth while imbuing each work with unique stories and emotions. These verses often carry philosophical insights, conveying the artists' sentiments and ideas through a beautiful dialogue with the material form of porcelain. During the Ming and Qing dynasties, the widespread use of inscribed poems on official kiln porcelains transformed these works from everyday vessels into mediums for transmitting historical culture and personal emotions.

2. The Artistic Method Of "Poetry And Painting As One" Is Widely Used In Ceramic Decoration

2.1 The aesthetic basis of "poetry and painting as one"

Western poetry and painting have always emphasized the boundary between poetry and painting. Paul Cezanne, a famous French post-impressionist painter in the 19th century, set a rule for modern painting: "The artist should guard against his tendency to literary things, which often makes the painter leave the root of the true road."^[3] Artists should guard themselves against leaning towards literary elements. This perspective clearly delineates the boundaries between painting and literature, which stands in stark contrast to the traditional Chinese artistic views on painting and literature. In China's cultural tradition, the integration of poetry and painting is a common artistic form. It is not merely a creative technique but profoundly embodies the philosophical thinking and aesthetic sensibilities of Chinese culture. As seen in Qu Yuan's "Heavenly Questions", the combination of poetry and painting has existed since ancient times. Such integration is not only a blend of visual and textual elements but also a fusion of emotion and philosophical contemplation.

With the development of Chinese art, particularly after the rise of literati painting, the creative approach combining poetry and painting further evolved. For instance, Wang Wei not only possessed profound mastery in painting but also demonstrated exceptional talent in literary creation. He integrated poetry and prose with his paintings, sparking a wave of such creative works. By the Song Dynasty, this art form reached its peak. The social and cultural context of the



Song era provided fertile ground for the development of painting art. With support from institutions like the Hanlin Academy, painting not only increased in quantity but also achieved significant improvements in artistic depth and breadth. Against this backdrop, the creation of inscribed poems on paintings became more sophisticated and diverse. Works such as Emperor Huizongs "Hibiscus and Pheasant" (Figure 1) not only reached a high level of technical excellence but also presented unique aesthetic value through the integration of poetry and painting.



Figure 1. Zhao Ji of the Northern Song Dynasty, Lotus and Pheasant

The unique charm of painting poetry lies in its ability to supplement the deep emotions and thoughts that cannot be expressed through paintings with poetic texts, while the delicate feelings that are difficult to depict in poetry can be manifested through paintings. The beauty of this art form resides in the mutual reflection and integration of poetry and painting, creating an aesthetic experience that transcends language and imagery. This fusion not only enriches China's artistic expression techniques but also highlights the unique charm and profound connotations of Chinese culture.

2.2 The aesthetic value of "poetry and painting as one"

In the rich context of traditional Chinese culture, the artistic form of poetry and painting as a unified entity presents an extraordinary creative philosophy. In this art form, the integration of poetry and painting is not merely limited to superficial fusion, but rather represents a profound interplay and interaction between cultural and emotional dimensions. This artistic expression primarily follows two approaches: one is the transformation of poetic essence into visual language through painting (poetry infused into painting), converting the inherent meaning and emotions of existing poems into pictorial expressions; the other is embedding poetic inscriptions within paintings to enhance their layered artistic conception. Both techniques reflect artists' deep exploration of personal subjective emotions, demonstrating profound insight and conscious awareness regarding the concept of inseparability and unity between poetry and painting.

2.2.1 The artistic mission of connecting emotions to things

"The meaning of responding to things with feelings may be applied to poetry, painting, or both. The poets' poetic feelings or artistic ideas can be expressed in poetry or painting."^[4] Throughout history, countless poets and painters have emerged as exceptional representatives of their artistic



fields through extraordinary talent and profound emotions. Take Su Shi, the literary giant and painter of the Northern Song Dynasty, as an example. His works reached new heights in both poetry and painting. Su Shi's masterpieces showcase his extraordinary skill in seamlessly integrating poetic essence into artworks, transforming paintings into not just visual spectacles but also conveyors of emotional depth and philosophical contemplation. Equally noteworthy is Emperor Huizong Zhao Ji, who excelled not only as a ruler but also as a distinguished poet and painter. The perfect fusion of poetry and imagery in Zhao Ji's creations vividly demonstrates the unique charm of poetic-painting integration. His works feature mutually reinforcing visual compositions and poetic verses, collectively forming an artistic realm rich in profound meaning and cultural depth.

2.2.2 "Shangyi" emotional expression

Chinese traditional poetry and painting art possess a unique mode of emotional expression, reflecting the profound connotations and aesthetic characteristics of Chinese culture. Both poetry and paintings emphasize emotional expression, stressing subtlety and restraint while focusing on the creation of artistic conception. They do not directly reveal emotions but instead metaphorize and suggest through scenery, color, and lines. By depicting landscapes and reciting poems, they convey emotions and philosophies that transcend concrete imagery. In the creative process, calligraphy and painting are equally valued as complementary elements. The lines and structures of calligraphy, along with the colors and inkwork of paintings, reflect the artists' emotional state and temperament. The content often takes natural scenery as its theme, embodying the concept of harmonious coexistence between humans and nature. Artists integrate their emotions with the depicted landscapes, achieving a fusion of sentiment and scenery. Through elements like mountains, waters, flowers, and birds, they express their feelings and understanding of the world. Pursuing lofty and ethereal artistic conceptions has also become the core of Chinese poetry and painting.

In the eyes of artists, poetry and painting share no essential difference. Both serve as effective mediums for expressing emotions and aspirations, achieving the artistic purpose of connecting with nature through these two mediums. During the creative process, the mutual penetration and influence between poetic techniques and painting methods create an inseparable holistic aesthetic. Artists flexibly employ the integration of poetry and painting based on the thematic intent and emotional atmosphere of their works — either presenting them as pure poetic compositions or skillfully incorporating poetic essence into paintings. Therefore, the unity of poetry and painting is not only a unique phenomenon in traditional Chinese culture but also a profound exploration of human emotions, thoughts, and modes of artistic expression, characterized by a strong "intentional emphasis" feature. It transcends the limitations of singular art forms, creating a distinctive artistic realm through the combination of poetry and painting. Artists in this field not only demonstrate profound understanding of art but also convey rich cultural connotations and abundant emotional expressions through their works.

2.3 The artistic practice of "poetry and painting as one"

Every ceramic artwork, from its form and color to decorative patterns, embodies the artists' inner world. Each era's ceramic art practice carries distinct characteristics. "The construction, collision, dissolution, and reconstruction of a nation's political, economic, and cultural systems are all reflected in the evolution of artifacts. It can be said that objects serve as tangible manifestations of social and cultural transformations across time and space."^[5] Despite the evolving influence of



time on ceramic art styles, calligraphy and painting remain the primary artistic mediums in ceramic decoration. Artists continue to tell stories, express emotions, and convey ideas through ceramics. The poetry and imagery depicted on ceramic works not only enhance their artistic value but also deepen their cultural significance and symbolic meaning.

Throughout the history of Chinese ceramics, the important peaks of artistic development occurred during the Tang and Song dynasties. During this period, significant changes could be observed in the integration of poetry, painting as decorative arts with ceramic works.

Among the ceramic works created by Tang Dynasty literati that embodied poetic and pictorial artistry, the most representative were the Changsha Kiln porcelains. Characterized by polychrome porcelain and inscribed poems, this practice of writing poetic inscriptions on ceramics was unprecedented in the history of Chinese ceramics. These inscriptions included landscape poems depicting natural scenery, lyrical verses expressing personal emotions, and philosophical poems conveying life's wisdom. The timeless love poem "You Were Born Before I Was" (Figure 2) is widely celebrated for appearing on Tang Dynasty Changsha Kiln porcelains. These poems, whether fresh and natural, profound in imagery, or rich in symbolism, harmonized with the painted patterns on the ceramics to create poetic scenes. However, at this time, ceramic works featuring both poetry and painting as decorative elements were not yet mainstream. Most ceramic inscriptions or polychrome ceramics existed independently, yet they laid the artistic foundation for the later integrated poetic-pictorial ceramic decoration style.



Figure 2. Tang Dynasty celadon brown color pot with poem "You were born before I was born"

Song dynasty porcelain was profoundly influenced by the Changsha Kiln of the Tang Dynasty, evolving through innovative adaptations. Particularly in decorative design, Song ceramics showcased rich ceramic paintings with diverse techniques, where patterns were meticulously crafted according to vessel types and purposes, achieving perfect harmony between artistry and form. The Song literati's passion for poetry and prose often inspired their ceramic artworks, which frequently incorporated classical lyrics. This poetic integration enhanced visual appeal, creating a timeless artistic aesthetic. The poetic-painting fusion was particularly evident on porcelain pillows—functional objects that simultaneously possessed practical value and exceptional aesthetic merit. A prime example is the Cizhou Kilns pierced-patterned porcelain pillow (Fig. 3), adorned with



intricate surface designs containing concise yet poignant verses expressing young women's longing for their beloved. Beyond pillows, this poetic-visual synthesis also manifested in vases, water vessels, and food plates. By the Tang era, ceramic works seamlessly blending literary decoration had become a widespread artistic practice.



Figure 3 Porcelain pillow with cut flower lyrics and music of Cizhou Kiln in the Song Dynasty

3.The Relationship Between Porcelain Painting And Inscribed Poetry

In Ceramic Art

3.1 Poetry by painting

In ceramic art, the most common artistic expression of porcelain paintings and inscribed poems is "conveying poetry through painting," which combines visual art with poetic language. This approach communicates the poetic atmosphere and emotions through imagery, emphasizing the painting over the poem itself—sometimes even achieving emotional resonance without explicit poetic elements. When porcelain paintings exist independently as ceramic artworks, they utilize the materials unique properties in conjunction with painting techniques and aesthetic concepts to create distinctive pieces. Independent porcelain paintings employ diverse expressive forms, ranging from depictions of objective subjects to expressions of inner feelings. Adding poetic verses to porcelain paintings represents a perfect fusion of painting and poetry. Inscribed poems interpret the artworks essence, conveying its artistic conception and emotional depth through written words, allowing viewers to gain deeper understanding of the piece.

Taking the Qing Dynasty Kangxi-era blue-and-white polychrome twelve-flower cup as an example (Figure 4), a set of twelve pieces features one flower on each side of the cup. One side of the body wall is painted, while the other bears inscribed poems from Tang poetry. Each cup depicts a seasonal flower representing a renowned historical woman, accompanied by corresponding verses. The exquisite form of the vessel combines painting, poetry, calligraphy, and seal engraving, undoubtedly elevating the porcelain's artistic merit. The flowers on the cups are exquisitely vivid, creating a strong aesthetic appeal. The inscribed poems further enhance the artistic conception through this "painting to express poetry" technique, which not only showcases the artists painting skills and aesthetic philosophy but also conveys the emotions and artistic vision behind the imagery. This unique art form holds significant importance in traditional Chinese art and has infused new vitality into the development of ceramic art.



Figure 4 Qing Kangxi blue and white five-color twelve flowers cup (one)

3.2 Words on the Art of Painting

In addition to porcelain painting, another manifestation of the integration of poetry and painting in Chinese ceramic art is the emphasis on inscribed poems on paintings, which means highlighting the use of verses to guide, supplement, or enhance the artistic conception and theme of the artwork. In this artistic form, poetry and painting do not exist in isolation but complement each other, jointly forming a richer and more profound artistic expression. In traditional Chinese ceramic art, this "expressing meaning through imagery" combination embodies the philosophy of literati painting. Literati painting emphasizes the expression of artistic conception and emotions, pursuing not only formal resemblance but also focusing on conveying the artists feelings and ideas through artworks. Under this philosophy, poetry becomes an essential means to deepen the artistic conception of the painting. "The content of inscribed poems on ceramic artworks is extremely rich, with broad themes that can be created freely according to the painting, unrestricted by spatial or temporal constraints, and can also narrate events and praise beauty."^[6]In any landscape porcelain painting, the artist might sketch the mountains and rivers with just a few strokes, leaving vast blank spaces. This is where poetic verses — depicting the beauty of nature and expressing admiration for the natural world—come to life. As viewers savor these verses, they naturally fill in the missing details, allowing them to deeply appreciate the emotional depth and artistic vision the artwork aims to convey.

In recent auction records, Kangxi-era blue-and-white porcelain bowls depicting the "Ode to Red Cliff" (Figure 5) have become highly sought-after collectibles. These works showcase a harmonious blend of calligraphic and artistic elements: delicate plum blossoms adorn the blue-and-white ground, while the bowls interior features landscapes with trees and pavilions, complemented by an exterior panel illustrating Su Shis timeless poem "Ode to Red Cliff". The vivid depictions of mountains and figures, executed with meticulous brushwork and soft hues, create a meticulously composed composition that seamlessly integrates calligraphy and painting. The poems essence enhances the landscapes natural beauty through poetic resonance. This unique fusion of literary and visual artistry not only elevates the pieces expressive power but also grants it exceptional artistic value in both visual aesthetics and literary significance.





Figure 5 Qing Kangxi blue and white bowl with Red Cliff Ode

3.3 Poetry and painting

In traditional Chinese culture, poetry, calligraphy, and painting are regarded as important means for literati to express their emotions. Extending to ceramic art, artists convey their feelings through the integration of poetry and painting, an artistic expression method that is both deeply rooted in cultural heritage and possesses unique aesthetic value. Han Qingyu once mentioned in his article "On the Relationship Between Poetry and Painting by Zong Baihua from the Perspective of Literary Iconography": "For China, the concept of calligraphy and painting sharing the same origin and principles is deeply entrenched. Given the shared medium and similar techniques between calligraphy and painting, their artistic realms tend to align, which is precisely what Zong Baihua referred to as the spiritual space."^[7] When artists paint and inscribe verses on ceramics, it transcends mere decoration. This practice emphasizes expressing personal emotions and inner states through poetic imagery, serving as a medium to convey their reflections on life, nature, society, and philosophical insights. In this context, poetry and painting are not merely tools for aesthetic expression, but transformative mediums that bridge emotional resonance with profound contemplation.

During the Song Dynasty, when tea culture flourished, tea bowls were often adorned with landscapes and floral-bird motifs accompanied by poetic verses. These designs not only enhanced the artistic appeal of the vessels but also reflected the inner world of their users. By the Ming and Qing periods, porcelain pieces became common features of the Four Gentlemen (Plum, Orchid, Bamboo, and Chrysanthemum) – elegant plants symbolizing noble virtues – paired with verses praising such qualities. The Qing Yongzheng blue-and-white underglaze vase with pine, bamboo, and plum motifs (Figure 6) in the Palace Museum collection exemplifies this tradition. The vase bears a five-character poem: "Bamboo stands tall as heavens pillar, Tea pine endures frosts cold, Plum blossoms crown all flowers, Three branches delight through seasons." This poetic inclusion creates a mysterious visual effect while emphasizing the decorative theme. The poems symbolic meaning vividly presents the personified virtues of these plants – the evergreen pine embodies timeless resilience, bamboo represents noble character, and plum blossoms defy frost and snow. Ancient literati often compared themselves to these three symbols of purity and strength.



Figure 6 Qing Yongzheng blue and white glaze inside red pine bamboo plum pattern bottle

5. Conclusion



In summary, the integration of ceramic art with poetry and painting has a long history. In their creations, literati sought to combine poetic and pictorial elements, enabling ceramic works to achieve cultural and artistic inheritance beyond their functional roles in daily life. Ceramic artists, by drawing on painting techniques such as composition, color, and line expression, have not only achieved visually rich and diverse effects but also reached deeper emotional dimensions in artistic expression. Meanwhile, the incorporation of poetry not only enhances the literary value of ceramic works but also imbues them with richer historical, philosophical, and cultural connotations, transforming an object into a true convergence point of emotion, philosophy, and aesthetics. Systematic research on the relationship between ceramic art and poetry/painting will further promote the innovation and development of traditional culture, encouraging us to deeply understand and inherit the unique charm of Chinese culture. Over the past century, with the evolution of the image era and transformations in information media, the study of "poetry-painting relationships" has gradually become more systematic under the scholarly inheritance of aestheticians like Zong Baihua and Zhao Xianzhang. Works such as Zong Baihuas "Aesthetic Strolls" and Zhao Xianzhangs "The Possibility and Impossibility of Literary Iconology " elucidate the intertextual nature between poetry and painting, positioning "poetry-painting relationship" studies as a crucial component of their aesthetic philosophies. This Western academic approach...The iconographic theory of the guide is built upon the foundation of Chinas traditional art history. The relationship between Chinese literature and images has initiated a new logical dialogue model, while attempting to integrate research with other art forms. This study also aims to provide new perspectives and possibilities for the development of ceramic art and the theoretical relationship between literary images.

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The Cultural Connotations and Contemporary Value of Chinese Calligraphy Art

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Abstract

Chinese calligraphy art has a long history and is a precious treasure of Chinese national culture, integrating practicality and artistry. It uses Chinese characters as its medium, presenting unique artistic charm through ink and brush lines, and contains rich philosophical thoughts, aesthetic concepts and cultural spirit. The author will deeply explore the cultural connotations of Chinese calligraphy art, analyzing it from aspects such as historical evolution, philosophical thoughts, and aesthetic value, and elaborating on its value in contemporary society, including cultural inheritance, artistic appreciation, educational function, and its role in international cultural exchanges. The aim is to reveal the profound depth and significance of Chinese calligraphy art, and provide theoretical support for its inheritance and development.

Keywords

Chinese calligraphy art, Cultural connotation, Contemporary value

1.Introduction

Chinese calligraphy art, as a unique artistic form of the Chinese nation, has developed over thousands of years, carrying the wisdom, emotions and values of the Chinese nation. From the ancient oracle bones to various modern calligraphic styles, calligraphy is not only a form of writing characters, but also a cultural expression and spiritual sustenance. In today's globalized world, in-depth study of the cultural connotations and contemporary value of Chinese calligraphy art is of great significance for inheriting and promoting the excellent traditional Chinese culture and enhancing national cultural confidence.

2.The Historical Evolution of Chinese Calligraphy Art

2.1The Pre-Qin period: The emergence of calligraphy

The origin of Chinese calligraphy can be traced back to the Pre-Qin period. Oracle bone script is the earliest known mature Chinese characters and is the rudimentary form of calligraphy art. It



was inscribed on turtle shells and animal bones, with simple strokes and an ancient appearance, mainly used for divination records. The depiction of its lines reflects the initial exploration of text shape and writing aesthetics by early humans. Bronze inscriptions are the characters cast on bronze vessels, compared with oracle bone script, they have thicker strokes, more regular structures, and possess certain decorative features, reflecting the etiquette and culture of the society at that time.

2.2The Qin and Han dynasties: the development of calligraphy

After unifying the six states in the Qin Dynasty, the policy of "uniform writing" was implemented, and Small Seal Script became the official standard font. The strokes of Small Seal Script were round and smooth, and the structure was symmetrical and balanced, possessing high standardization and artistic qualities. Representative works such as "Yi Mountain Stele" demonstrated the rigor and beauty of Small Seal Script. The emergence of Cursive Script in the Han Dynasty was an important transformation in the history of calligraphy. Cursive Script simplified the structure of Seal Script, making writing more convenient, while adding strokes with cursive variations, which was full of rhythm and dynamic beauty. There were numerous Han Dynasty stele inscriptions of Cursive Script, with diverse styles, such as the elegant and graceful "Cao Quan Stele" and the ancient and substantial "Zhang Qian Stele", reflecting the prosperity and development of Cursive Script in the Han Dynasty.

2.3The Wei and Jin dynasties: The maturity of calligraphy

During the Wei and Jin Dynasties, Chinese calligraphy reached its peak. Various styles such as regular script, cursive script, and running script gradually matured. During this period, the art of calligraphy by literati emerged, and calligraphy became an important means for literati to express emotions and showcase their individuality. The calligraphers represented by Wang Xizhi and his son Wang Xianzhi elevated the art of calligraphy to a new level. Wang Xizhi's "Lan Ting Sequence" is hailed as "the greatest cursive script in the world", with its exquisite brushwork and vivid atmosphere, embodying the elegance and detachment of the Wei and Jin style, and exerting a profound influence on calligraphy in later generations.

2.4The Tang and Song dynasties: The flourishing of calligraphy

During the Tang Dynasty, calligraphy placed great emphasis on rules and norms, and the regular script reached an extremely high level. Calligraphers such as Ouyang Xiu, Yan Zhenqing, and Liu Gongquan produced works of regular script with precise structure and standardized brushstrokes, serving as exemplary models for future generations to learn from. Yan Zhenqing's regular script, with its powerful and majestic style, showcased the grandeur of the Tang Dynasty's prosperity. In the Song Dynasty, calligraphy pursued charm and emphasized the expressiveness and individuality of the art. Calligraphers like Su Shi, Huang Tingjian, and Mi Fu each had their own unique styles. Su Shi's calligraphy was rich and undulating, Huang Tingjian's was bold and strange, and Mi Fu's was vigorous and unrestrained. Their works embodied the talent and aesthetic pursuits of the Song Dynasty's scholars.



2.5 The Yuan, Ming and Qing dynasties: the transmission and transformation of calligraphy

During the Yuan, Ming and Qing dynasties, calligraphy continued to develop on the basis of inheriting the traditions of previous generations. In the Yuan Dynasty, Zhao Mengfu advocated returning to the past, and his calligraphy was based on the styles of the Jin and Tang dynasties, with a round and elegant, peaceful style. During the Ming and Qing dynasties, calligraphy showed a diversified development trend. On one hand, the style-oriented calligraphy continued to be passed down; on the other hand, with the rise of the study of inscriptions, the calligraphy school of inscriptions gradually grew stronger. In the late Ming Dynasty, a group of calligraphers who pursued individual liberation emerged, such as Xu Wei and Zhang Ruitu. Their calligraphy works broke free from traditional constraints and had a strong personal style. In the Qing Dynasty, the calligraphy school of inscriptions flourished. Calligraphers like Deng Shiru and He Shaogji drew nourishment from inscriptions and created a bold and ancient calligraphy style.

3. The Cultural Connotations of Chinese Calligraphy Art

3.1 The manifestation of philosophical thought

Chinese calligraphy art is rich in philosophical thoughts and is deeply influenced by the three major schools of thought - Confucianism, Buddhism, and Taoism. The principle of moderation in Confucianism and the concept of natural non-action in Taoism are all profoundly reflected in calligraphy art. Through the free movement of the brush and ink, calligraphers integrate their own cultivation, emotions, and insights into life into the works, making each piece a reflection of the artist's spiritual world. ^[1] Confucianism emphasizes the principle of moderation and harmony, while calligraphy's stroke structure emphasizes balance, symmetry, and coordination, embodying the aesthetic concepts of Confucianism. For example, the regular and precise strokes of regular script reflect a sense of order and regulation. Taoism pursues nature, non-action, and freedom, and the cursive script in calligraphy expresses Taoism's pursuit of the spirit of freedom through its free-flowing lines and dynamic, changeable forms. For instance, the cursive script of Huai Su, with its continuous and winding strokes, seems to be the natural flow. The emptiness and tranquility of Buddhist thought are also reflected in calligraphy. Some calligraphers practice calligraphy to seek inner peace and detachment, and their works exhibit a serene and ethereal atmosphere.

3.2 Expression of aesthetic concepts

The aesthetic concepts of calligraphy include line beauty, structural beauty and artistic conception beauty. Lines are the basic elements of calligraphy. Calligraphers use techniques such as lifting and pressing, lightness and heaviness, and speed and slowness to make the lines rich in variation and rhythm. For example, the lines of seal script are round and smooth, the lines of clerical script are clearly articulated with strokes, and the lines of cursive script are undulating and fluctuating, all presenting different line beauties. Structural beauty refers to the framework structure of Chinese characters. Calligraphers arrange and combine strokes to make the center of gravity of the



characters stable, the proportion harmonious, and at the same time, full of variations. For instance, the regular script written by Ouyang Xun is compact and rigorous, with proper density, giving a dignified and stable aesthetic impression. Artistic conception beauty is the highest realm of calligraphy. Calligraphers express their emotions, temperament and aesthetic ideals through ink and brush, making the works have unique artistic appeal. For example, Wang Xizhi's "Lan Ting Yu" contains elegant sentiments and insights of literati and scholars in the beautiful ink strokes, creating a fresh and elegant artistic atmosphere.

3.3 The carrier of cultural spirit

Chinese calligraphy art embodies the cultural spirit of the Chinese nation and is a symbol of the Chinese national spirit. It reflects the Chinese people's respect and inheritance of traditional culture, as well as their persistent pursuit of art. Calligraphy works often contain elements such as poetry and literature, combining the meaning of the words with the artistic form of calligraphy, thus showcasing the profoundness of Chinese traditional culture. At the same time, calligraphy art emphasizes "the character of the work reflects the person", and the moral character, cultivation and temperament of the calligrapher will be expressed through the calligraphy works, reflecting the concept in Chinese traditional culture that attaches importance to the inner qualities of people. For example, the calligraphy of Yan Zhenqing not only has superb artistic skills, but also embodies his noble moral character of uprightness, loyalty and patriotism.

4.The Contemporary Value of Chinese Calligraphy Art

4.1An important carrier of cultural inheritance

Chinese calligraphy art is an important part of the excellent traditional culture of China. It records the history and culture of the Chinese nation and serves as an important carrier for cultural inheritance. By studying and appreciating calligraphy works, people can learn about the evolution of ancient characters, literary art, social life and other aspects, and experience the charm of traditional culture. In contemporary society, the inheritance and promotion of calligraphy art help to enhance national cultural confidence and enable the excellent traditional Chinese culture to continue and develop.

4.2The unique value of artistic aesthetics

Traditional calligraphy serves as an important means and medium for the specific presentation of the charm of Chinese culture. It holds an extremely significant position and role in Chinese culture, with a long history of development and high artistic aesthetic value. ^[2] Artistic beauty has unique aesthetic value, which can bring people a sense of beauty and spiritual pleasure. In the fast-paced modern life, people are faced with various pressures. Appreciating calligraphy works can help people calm down, feel the charm of art, relieve stress, and cultivate their sentiments. At the same time, the aesthetic education function of calligraphy art cannot be ignored. It can cultivate people's aesthetic ability, creativity and imagination, and improve their artistic literacy.

4.3Full realization of the educational function



Calligraphy education plays a significant role in contemporary education. Learning calligraphy can cultivate students' patience, meticulousness and concentration, and enhance their writing skills and aesthetic level. At the same time, calligraphy education can also inherit and promote the excellent traditional Chinese culture, and cultivate students' national pride and cultural identity. In school education, offering calligraphy courses and activities, allowing students to come into contact with and learn calligraphy art, has positive significance for the all-round development of students.

4.4 Bridge of international cultural exchange

With the development of globalization, Chinese calligraphy art has gradually spread to the world and has become an important bridge for international cultural exchanges. Calligraphy art, with its unique charm, has attracted the attention and affection of many international friends. By holding calligraphy exhibitions and exchange activities, it can showcase the profoundness of Chinese traditional culture to the world, enhance cultural exchanges and understanding among different countries and ethnic groups, and enhance the international influence of Chinese culture. [3]

5. Conclusion

Chinese calligraphy art, as a cultural treasure of the Chinese nation, possesses profound cultural connotations and significant contemporary value. It has evolved over thousands of years, carrying rich philosophical thoughts, aesthetic concepts and cultural spirits, and is a symbol of the Chinese national spirit. In contemporary society, the inheritance and promotion of Chinese calligraphy art play an irreplaceable role in cultural inheritance, artistic appreciation, educational development, and international cultural exchanges. We should attach importance to the protection and development of calligraphy art, allowing this ancient art form to regain new vitality and vigor in the new era, and contribute to promoting the creative transformation and innovative development of excellent traditional Chinese culture.

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The Coupling of the Persistence of Chinese Cultural Confidence and the Dual Attributes of Science and Technology —Taking *Dead to Rights* as the Research focus

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Abstract

This paper takes *Dead to Rights*(*Nanjing Photo Studio*) and the history of the Nanjing Massacre as an entry point, and combines historical facts such as Luo Jin's risk of preserving photos of the atrocities of the Japanese army and Zhang Chunru's writing of *The Nanjing Massacre* to systematically analyze the concrete path of Chinese cultural confidence in the national disaster—which is manifested as both the individual's protection of historical truth and the spiritual metaphor carried by the character. It is also reflected in the people's daily practice of the virtues of "benevolence, righteousness, propriety, wisdom and faith." At the same time, with camera technology as the core case study, deconstruct the nature of the "double-edged sword" of science and technology: it can be a tool for the Japanese army to whitewash aggression and commit atrocities, and it can also be a weapon for the Chinese people to document the truth and defend justice. This demonstrates that the value of technology hinges on the cultural stance and moral choices of its users. Research shows that the virtues of "benevolence, righteousness, propriety, wisdom and faith" are the spiritual foundation for the Chinese nation to uphold justice in its darkest moments, and Chinese cultural confidence is a critical moral anchor for guiding science and technology towards goodness. Contemporary people need to learn from history and provide theoretical support and practical references for the proposition of the coordinated development of culture and technology in the context of national rejuvenation.

Keywords

Dead to Rights, Cultural confidence in Chinese culture, Science and technology, Technical ethics, Historical memory



1. Introduction

The Nanjing Massacre in 1937 is an indelible and painful memory in the history of the Chinese nation. *Dead to Rights* created to commemorate the 80th anniversary of the victory of the Chinese People's War of Resistance against Japanese Aggression and the World Anti-Fascist War, uses the Jixiang Photo Studio as the narrative hub to recreate historical fragments of ordinary people risking their lives to preserve evidence of Japanese atrocities. In the film, the camera, as a technical tool, shows a distinct duality: it is both a propaganda device for the Japanese to whitewash their aggression and as a righteous instrument for the Chinese people to record the truth of history; The struggle stories of characters such as Su Liuchang, Jin Chengzong, Lin Yuxiu and Song Cunyi also imply the spiritual code of the Chinese culture passed down from generation to generation. Drawing on the film and related historical facts, this article focuses on two core themes: the persistence of Chinese cultural confidence and the dual attributes of science and technology,^[1] providing theoretical support for historical education of "never forget national humiliation, we strive to be strong", while responding to the important proposition of the coordinated development of culture and science and technology in the process of national rejuvenation.

2. Cultural Confidence in China in the Context of Individual Practice and Spiritual Continuity from the Perspective of National Calamity

Chinese cultural confidence is not an abstract conceptual symbol, but a survival gene embodied through individual choices, spiritual symbols and cultural practices when the nation is in peril. The film *Dead to Rights* and the historical facts it is based on provide triple evidence for the persistence of this confidence.^[2]

2.1 Guarding the Truth: Physical Evidence of Cultural Confidence

The core of cultural confidence lies in the reverence for national history and the commitment to fairness and justice, and the documentation and preservation of the truth is the most direct manifestation of this adherence. In real history and literary works, the two key behaviors jointly constitute the physical closed loop of cultural confidence.

2.1.1 Luo Jin: Preserving the Memory of Violence with Film. In 1938, at the age of 15, Luo Jin, an apprentice at the East China Photo Studio in Nanjing, risked his life to develop more than 30 photos of evidence while developing film for Japanese officers, witnessing the atrocities recorded by the Japanese army that massacred and insulted civilians. To avoid being searched by the Japanese, he hid the photo album in a wall hole in a corner of the toilet at Pilu Temple in Nanjing. In 1946, the photos were submitted by his peer Wu Xuan to the Military Tribunal for War Criminals in Nanjing as the "Exhibit No. 1 of Nanjing" evidence for determining war crimes, and



16 of them became the core materials for the Nanjing Massacre archives to be included in the *Memory of the World Register*. This fact was adapted into the 1987 film *Massacre in Nanjing* and the 2025 film *Dead to Rights*. Luo Jin's brave act stemmed from the cultural awareness that preserving history is preserving the roots of the nation, and his 120,000-character autobiography, *The Narrative of History*, written before his death at the age of 82, further perpetuates the cultural confidence of proving history through physical evidence.^[3]

2.1.2 Iris Chang: Awakening the World's awareness through words. In 1994, Iris Chang, the Chinese-American female writer, was shocked by the historical photos of the Nanjing Massacre. She then traveled all the way from the United States to Nanjing and visited more than 100 survivors to collect their firsthand accounts and evidence. Over the course of three years, she gathered an extensive trove of primary source materials—laying the groundwork for her work. In 1997, she published her landmark English book, *The Rape of Nanjing: The Forgotten Holocaust of World War II*.^[4] The book broke the Western world's long disregard for this history with concrete figures such as "the International Military Tribunal for the Far East(IMTFE) estimated 260,000 to 350,000 non-combatants killed" and "the victims could hold hands for about 322 kilometers from Nanjing to Hangzhou". Plagued by constant death threats from Japanese right-wing forces, Iris Chang, at the age of 36, was crushed by overwhelming mental stress and took her own life by gunshot. Yet her belief that "forgetting is no different from a second massacre" is essentially an extension of the Chinese spirit of "establishing the mind of heaven and earth and the life of the people", highlighting the just power of cultural confidence in a cross-cultural context.^[5]

2.2 Character Metaphor: The Spiritual Projection of Chinese Cultural Confidence

The film *Dead to Rights* deeply integrates Chinese cultural confidence into the characters' destinies through the symbolic meanings of their names and the metaphorical design of their behavioral choices, constructing a clear cultural code within its depictions of the wartime populace.^[6]

2.2.1 Su Liuchang: The salvager of cultural memory. Su Liuchang was originally a postman in Nanjing. When the city fell to the Japanese invaders, he persisted in delivering mail despite the hail of bullets and even risked his life to help an elderly couple search for their daughter's letter, eventually missing the fleeing mail van. After being mistaken for a photo studio assistant, he was forced to impersonate Atai to assist the Japanese photographer Ito and learn photo printing under the guidance of Old Jin. At first, though he witnessed the atrocities of the Japanese army in the photos, he chose to self-deception out of fear; As the Japanese army's atrocities grew more rampant, his national consciousness gradually awakened, and he began to secretly collect negatives of evidence, and made a pact with Old Jin that "Whoever survives and gets out will send these negatives to the outside world." To protect Old Jin and Lin Yuxiu, he voluntarily gave up his pass and was eventually pierced in the chest by Ito with a bayonet in the fight against the Japanese.



On his deathbed, he shouted, "We are not friends," which became a firm declaration of cultural awakening. In the name metaphor, the character "Tai" implies stability and peace, echoing the perilous situation of Nanjing City; "Su" refers to Jiangsu Province, "Liu" symbolizes vitality, and "Chang" implies that millions of young people will follow one after another to defend national dignity and reveal historical truth.

2.2.2 Jin Chengzong: The guardian of cultural heritage. As the owner of the Jixiang Photo Studio, the character's surname "Jin" echoes "Jinling" —the ancient name of Nanjing. Additionally, given Luo Jin's background as a member of the Manchu Zhenghong Banner, this shared "Jin" surname carries profound significance: it symbolizes the unity of all ethnic groups in China in resisting Japanese aggression. The word "Chengzong" points directly to the mission of carrying forward the spirit of resistance of the Chinese nation. The arc of Old Jin's role is clearly visible: from a photographer who records the life of the streets in peacetime, to a forbearing who is forced to develop photos of his fellow countrymen 'death in wartime, and finally to the Japanese with a camera as if holding a gun - this transformation from numbness to awakening is a vivid embodiment of the Chinese cultural integrity of "rather be broken like jade than intact like clay", and it is in line with the spiritual core that cultural confidence needs to be defended with life.

2.2.3 Lin Yuxiu: The Transmitter of the cultural torch. "Yuxiu" originally referred to beautiful mountains and rivers and talented people. Lin Yuxiu's character was bit-part actress in the opera, claiming to be a minor role but always taking Mu Guiying and Liang Hongyu in the opera as spiritual coordinates. At first, she attached herself to the traitor Wang Guanghai and was despised by the wife of the boss Jin; After witnessing the cruelty of the massacre, she came to her senses: "I learned to play as Mu Guiying and Liang Hongyu, I understand—if I had become Qin Hui's wife, wouldn't I die an even more miserable death than I would now?" In the end, she not only risked her life to present the negatives of the evidence to international friends, but also took on the responsibility of raising the son of Old Jin, breaking the stereotype of the weakness of intellectuals. Notably, the phonetic overlap between their surnames "Jin" (Jin Chengzong) and "Lin" (Lin Yuxiu) echoes the ancient name of Nanjing, "Jinling", symbolizing the intergenerational transmission of Chinese culture among individuals and confirming the core essence of cultural confidence that transcends identity and emphasizes persistence.

2.2.4 Song Cunyi: A practitioner of cultural ethics. The Chinese character "Song" is a metaphor for the historical lesson of the fall of the Song Dynasty, warning that forgetting war leads to danger; "Preserving righteousness" points directly to the core ethics of Chinese culture: benevolence, righteousness, propriety, wisdom and faith. As a police squad leader, Song Cunyi was once afraid of death and wanted to survive, but he showed responsibility at the critical moment: to protect Lin Yuxiu from being humiliated by the Japanese, he risked his life to pull the power switch of the theater; When he learned that his only brother had been killed by the Japanese, he beat up and scolded Su Liuchang as a traitor and a lackey. When he became aware that the Japanese photographer was threatening the safety of the people in the studio and that they had



been protecting him in silence, he followed and killed them without hesitation. His actions contrasted sharply with the Japanese who talked about righteousness but acted tyrannically, highlighting that cultural confidence was not just verbal morality but just action; The scene of the Japanese prying away the bricks of the Nanjing city gate, only to be killed by Song Cunyi with the same brick, further alludes to the historical law that those who destroy our country will inevitably face the wrath of justice.

2.3 Ethical Practice: The Daily Manifestation of Cultural Confidence

Chinese cultural confidence is not only present in the high moments of heroic narratives, but also in the simple practice of "benevolence, righteousness, propriety, wisdom and faith" by ordinary people, a feature that is profoundly reflected in both historical facts and film plots.

2.3.1 The spirit of unity in sacrificing one's life for justice. In the film, postman Su Liuchang—whose number is 1213, a meaningful reference to the Nanjing Massacre Memorial Day—missed the escape vehicle arranged by the bureau chief because he was helping ordinary people retrieve their letters; yet this kind act unexpectedly saved his own life. To protect both himself and Su Liuchang, Lao Jin tacitly allowed Su to pose as an apprentice at the photo studio and even taught him film developing skills, which formed a silent mutual aid bond between them. To ensure Lao Jin's wife and daughter could escape first, Su Liuchang and Lin Yuxiu took the initiative to give up their exit permits, prioritizing others' lives over their own. Similarly, to shield everyone at the photo studio from harm, Song Cunyi did not hesitate to sacrifice his life to kill the Japanese photographer. These choices, characterized by selflessness and the determination to sacrifice for justice, are consistent with the collective consciousness of "uniting as one like a fortress" (zhong zhi cheng cheng) in Chinese culture. They represent the natural expression of cultural confidence when individuals face life-or-death choices.

2.3.2 The sense of dignity in upholding integrity. In reality, Luo Jin faced repeated searches by the Japanese military but never handed over the photos that documented their atrocities, holding fast to the evidence of their crimes. In the film, though Su Liuchang and Lin Yuxiu had the chance to escape first, they decided to stay—remaining to guard the photo studio and the crucial evidence of Japanese crimes stored there. Though their bodies and personal dignity were forced to endure humiliation, their spirits and actions stayed unyielding even in the face of death. This steadfast commitment is the popular expression of the Chinese cultural tenet "A scholar prefers death to humiliation" (Shi ke sha, bu ke ru)—a classic ethical principle that values dignity above mere existence. Such examples prove that the genes of cultural confidence have been deeply rooted in the bloodline of the Chinese nation.

3. Cameras and Atrocities in History: An Analysis of the "Double-edged sword" Nature of Science and Technology

The film *Dead to Rights* uses the camera as its core prop, and through its distinct uses in the hands of the Japanese and the Chinese, it visually presents the neutral nature and value differentiation of



science and technology—technology itself has no distinction of good or evil, and its ultimate attribute is determined entirely by the position, cultural background and moral choice of the user, which is the core connotation of the "double-edged sword" attribute of science and technology.

3.1 The Origin of Tools: The Neutral Nature of Technology

In the film, the old-fashioned camera, developer, tripod and other equipment in the studio are the civilized stopover of modern China's contact with Western technology, and these tools themselves have no value orientation. During peacetime, the camera functions as a memory vessel: the frames hanging on the walls of Jixiang Photo Studio, which record the prosperity of the early years of the Republic of China and the warm group photos of families before the war, have become the carrier of collective memory of Nanjing City; In wartime, however, the camera's use underwent a complete divergence based on the user's stance—the Japanese military employed it as a propaganda tool to whitewash aggression, while the Chinese people utilized it as a weapon of justice to document evidence of crimes. This trait of changing use with position clearly confirms the neutral nature of technology: the value of technology does not depend on its own attributes, but on how people use it.

3.2 Aggressive Enablement: The negative manifestation of technology

The Japanese military's act of perverting camera technology into a tool to whitewash atrocities and inflict mental torment on the Chinese people fully lays bare the negative attributes of technology, which manifests itself primarily in two aspects:

3.2.1 A tool for false propaganda. The Japanese military forced the military photographer Ito to take pictures of false scenes of "friendship between China and Japan", such as group photos of Chinese civilians forced to smile under bayonet coercion, in an attempt to use fake images to prove that the Japanese occupation brought peace to the Chinese, in order to cover up the truth of the massacre they carried out in Nanjing. This act of using technology to fabricate lies is a typical case of technology serving aggressive ambitions; But the camera lens cannot hide the fear and anger in the eyes of the Chinese, and the whitewashed lies will eventually be shattered.

3.2.2 An Accomplice in Whitewashing Atrocities. Ito was born into the Japanese noble class, but in the unjust war, he regarded photographing in the name of the empire's honor as his duty and mission. From his initial discomfort with the atrocities, he gradually became addicted to photographing the Japanese massacres and plundering, and tried to cover up the evidence of their evil deeds by controlling the printing technology. By this time, camera technology had become a complete accomplice to the atrocities - this case shows that when technology serves militarism and anti-human ideology, its destructive power is magnified infinitely, and the roots of Japanese behavior lie not only in the disregard for the Chinese culture of "benevolence, righteousness, propriety, wisdom and faith", but also in the aggressive nature of its own militarist culture.

3.3 Justice's Instrument: The Positive Empowerment of Technology

The Chinese people's utilization of camera technology has turned it into a tool to document the truth and uphold justice, fully demonstrating the positive value of technology, which can be



verified from both historical facts and films:

3.3.1 Preservation of evidence in historical facts. Luo Jin risked his life to add photos of the atrocities committed by the Japanese army and hid them in the wall holes of Pilu Temple; In 1946, these photographs became key evidence in the military tribunal for the trial of war criminals in Nanjing, directly leading to the verdict of war criminals such as Gu Shoufu, and 16 of them were included in the *Memory of the World Register*—camera technology became a cross-temporal and cross-spatial carrier of truth, confirming the historical axiom that truth may be delayed, but it will never be absent.

3.3.2 The spiritual symbol in the film. In the film, Boss Jin hides the photos of the evidence in the cellar of the darkroom and eventually sews them into the front of everyone's clothes; The red light in the darkroom symbolizes not only the dangerous situation of those who hold the truth, but also the belief of those who stand firm in the darkness in light and justice. This plot design of guarding the truth through technology allows camera technology to transcend its mere instrumental nature, emerging as a spiritual symbol of the nation's resistance.

3.4 Ethical Extension: The Value Logic from the Camera to Contemporary Technology

Just as cameras can be used to create false information or to prove the truth of things, various contemporary technologies also have different value situations: Internet technology can spread positive energy, but it can also be used to spread rumors; Artificial intelligence can drive technological breakthroughs, but it may also trigger ethical risks such as privacy leaks and algorithmic discrimination—its core logic is identical to that of camera technology, namely that technological innovation must serve justice. [7]

The Japanese military, for lacking the guidance of a humanistic spirit, eventually fell into moral bankruptcy even though it had absolute military-technological superiority; in contemporary China, the advancement of science and technology has always been oriented toward bringing happiness to the people and rejuvenating the nation: during the fight against the pandemic, telemedicine technology overcame spatial barriers, and vaccine research and development technology safeguarded public health; in rural revitalization, smart agriculture technology boosts productivity, and traceability technology ensures safety—these practices are contemporary responses to the "double-edged sword" nature of technology, and also offer China's own solutions in the field of technology for the greater good.

4. The Historical Mirror of Cultural Confidence and the Contemporary Responsibility of Technology for Good

Dead to Rights and the history behind it not only present the independent connotations of cultural confidence and technological attributes, but also reveal the deep connection between the two: Chinese cultural confidence is the spiritual anchor guiding technology towards goodness, while the proper development of technology is the material support for cultural confidence. This



connection offers three important implications for contemporary society.

4.1 Calibrating the Course of Science and Technology with Cultural Confidence to Prevent Technological Deviation

The sharp contrast between the Japanese abuse of technology (photo faking, military technology violence) and the Chinese use of technology (fabricating photos, wielding military technology for violence) in the film is essentially that cultural stance determines the direction of technology. The Japanese invaders saw technology as a means of conquest and eventually fell into the ruins of morality; The Chinese, rooted in Chinese culture, see technology as a means to safeguard justice and make it an aid to the nation's struggle.

The implications for the contemporary era are that when promoting technological development, cultural confidence should be used as an ethical coordinate. For example, the development of artificial intelligence should incorporate people-centered ideas and avoid algorithmic discrimination; Internet dissemination should adhere to the principle of integrity and resist the spread of rumors; Biotechnology research must adhere to bioethics and reject experiments that go against humanity - if it only pursues technological hegemony and departs from the human spirit, it will eventually lose the recognition and support of the international community.

4.2 Build up cultural confidence through technological innovation and achieve the vision of self-strengthening

The tragedy of the Nanjing Massacre was fundamentally attributed to China's national strength has been relatively weak and it has neglected the construction of national defense in modern times, which left the country unable to effectively resist foreign aggression.^[8] After the founding of the People's Republic of China, breakthroughs in science and technology such as the "Two Bombs and One Satellite", the launch of aircraft carriers, and quantum communication fully demonstrated that strong science and technology are the material guarantee of cultural confidence, which is precisely the core point for us to achieve self-strengthening.

On the one hand, cultural confidence needs to be supported by science and technology: without Luo Jin's use of camera technology to preserve evidence, the truth of the Nanjing Massacre might not have been known to the world; Without the restoration and storage of historical documents through contemporary digital technology, the national memory could be at risk of being lost. On the other hand, technological innovation needs to be driven by culture:^[9] the spirit of self-improvement in Chinese culture encourages researchers to overcome challenges in laboratories and empower rural revitalization with technology — this virtuous cycle, where culture drives technology and technology feeds back to culture, is the key to national rejuvenation.^[10]

4.3 Fulfill the mission with the memory of history and shoulder the dual responsibilities

As descendants of the Chinese nation, we must keep in mind the profound meaning of "never forget national humiliation, we strive to be strong" and turn it into the dual responsibility of



inheriting cultural confidence and guiding science and technology toward goodness.

At the cultural level, we must actively spread true history such as the Nanjing Massacre and resolutely oppose historical nihilism, such as consciously resisting the Japanese right wing's downplaying of atrocities and tampering with textbooks, so that the genes of upholding justice and unity and self-improvement in Chinese culture can be passed down from generation to generation. In terms of science and technology, the concept of technology serving the people should be actively practiced in the workplace: medical workers on the front lines of the fight against the epidemic use medical technology to save lives and heal the wounded; Party members and cadres in rural revitalization use science and technology to help lift people out of poverty; workers in the field of scientific research use innovation to break through "bottleneck" problems—making science and technology truly a tool for promoting the well-being of the people.

5. Conclusion

The camera in the film *Dead to Rights* records the brutal atrocities of the Japanese military, while preserving the perseverance and resistance of the Chinese people. The writings of Zhang Chunru and the photos kept by Luo Jin, on one hand, bear witness to the nation's suffering, and on the other hand, reflect the resilience and strength of Chinese culture. These pieces of evidence together prove two truths: first, Chinese cultural confidence served as the nation's spiritual beacon during its darkest hour; second, given that science and technology is a "double-edged sword," culture is essential to act as its "guiding rudder."

Looking back at history, remembering national humiliation is not for prolong hatred, but for keeping in mind the truth that as long as culture is not lost, the nation will not perish. Standing in the present, our self-improvement requires rooted in confidence in Chinese culture, ensuring that science and technology always serves justice and the people. This is not only a comfort to the victims of the Nanjing Massacre, but also a commitment to the countless revolutionary martyrs, and more importantly, the core responsibility of contemporary Chinese people to uphold the future of the Chinese nation. As the final scene of the film metaphorically shows—where the deceased characters look at later generations—the gaze of history is always fixed on the present. Only by upholding cultural confidence and guiding science and technology toward goodness can we truly move toward the bright future of national rejuvenation.

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