

out scientific research activities around specific research plans or research tasks. The emergence of organized research units is fundamentally a response of universities to the needs of external society^[7]. When some studies do not meet the department teachers' research interests or research plans, or the main purpose of the study is to achieve the interests of external sponsors, organized research units came into being. They often have a clear goal, that is, quantifiable actual output results. On the contrary, in the process of research, whether there is a corresponding contribution in the academic field is not very concerning. All the researchers only work for the common research task.

High flexibility: There has been a long-standing dispute between teaching and research in universities. Especially since entering the post-college era, although the university began to gradually maintain contact with the outside world, the boundary of this connection is still controversial. Based on the development needs, some departments are unable to participate in interdisciplinary research at the request of the school level, perhaps because of the interest dispute. Especially in the case of dual tasks of teaching and scientific research, departments have to share limited scientific research funds with interdisciplinary organizations, and departments also need to disperse personnel or equipment to interdisciplinary organizations. In addition, due to the comprehensiveness and intersectionality of the research content of interdisciplinary organizations, some teachers who are transferred from departments will also face problems such as being not interested in research or benefit distribution. The "foundation-application" axis of research is not collinear with the "selflessness-interest" axis, but it is the "selflessness-interest" axis that reveals the reasons for stimulating the expansion of organized research in universities^[8]. The organized research unit is a more flexible organizational model. If the two types of research organizations with pure academic interests are compared to the two ends of the straight line, the organized research unit is the product of the integration of the two ends of the straight line. He combines the interests of both sides, that is, the university and the outside world, which can respond to external needs and meet the needs of knowledge production.

Strong systematicity: Systematicity is a key factor in the successful operation of an organizational system. The more rigorous the systematic strong organization system is, the higher the efficiency is. On the contrary, if an organizational system is weak, its internal will be chaotic and inefficient, which will eventually lead to the collapse of the organization. Organized research units have clear research objectives, diverse scientific research organizations, solid scientific research foundations, and strong scientific research funds. Whether it is from basic application development or scientific research output, there is a relatively clear logical system. "Organized scientific research" pays more attention to the orientation of national strategic objectives, interdisciplinary integration, and the organization and implementation of big science programs^[9].

5. Conclusion

The choice of scientific research organization mode affects the scientific research level of universities, and the scientific research level of universities has a profound impact on the scientific and technological level of the country. The report of the 20th National Congress of the Communist Party of China pointed out that "education, science and technology, and talents are the basic and strategic support for building a modern socialist country in an all-round way"^[10]. At present, colleges and universities in China have made great achievements in the construction of scientific research organizations, but they still face some problems, such as inadequate resource allocation, confusion of power and responsibility between research platforms and departments, shortage of high-end talents, and imperfect evaluation systems and results. In the post-college era, we need to do far more than

just set up relevant scientific research organizations. It is necessary to make more reasonable model selection, set up organized research units, and formulate relevant supporting measures, so as to adapt to today's changing times.

Disclosure statement

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Research on Innovation of Ideological and Political Education Teaching Model in the Advanced French Course Based on Information Technology

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Abstract: The Advanced French course is a core subject for the major of French, and ideological and political education is an important component of its teaching. By restructuring the teaching content according to the educational modules of ideological and political education, we can provide a more comprehensive and systematic educational experience. Empowered by information technology, this approach broadens the dimensions of ideological and political education in the Advanced French course. Meanwhile, the learning outcomes from the “first classroom” can be transformed into the results of the “second classroom” through social platforms such as WeChat public accounts, micro-video competitions, and innovation projects, achieving the effect of spreading Chinese culture and telling Chinese stories. By using diverse evaluation criteria, we continuously improve teaching and learning activities and innovate the teaching model of ideological and political education.

Keywords: Information technology; Advanced French; Ideological and political education

Online publication: February 10, 2025

1. Introduction

The General Secretary pointed out at the National Conference on Ideological and Political Work in Higher Education that “we should utilize new media and new technologies to invigorate our work and push for a high degree of integration between the traditional advantages of ideological and political work and information technology.” He specifically highlighted the new approach of combining information technology with ideological and political education in courses, indicating the direction for the development and reform of ideological and political education in the new era^[1].

The ideological and political education integrated into the curriculum, centered around the fundamental task of fostering virtue and character, has become an indispensable component of foreign language instruction.

Empowered by information technology, this requires continuous innovation in teaching models. Advanced French I is a core course for the major of French, offered in the fifth semester, comprising a total of 96 class hours and worth six credits, making it the most significant course in advanced-level instruction. As students' language proficiency improves, the depth and breadth of their learning also expand, with increasing requirements for practical language skills and capabilities. Solely relying on classroom instruction is no longer sufficient to meet students' thirst for knowledge. Therefore, it is worthwhile to conduct in-depth research on leveraging information technology to innovate the ideological and political education model in the Advanced French course.

2. Current situation and existing issues in teaching ideological and political education in the Advanced French course

According to the specific requirements of our university's French Talent Training Program (2022 edition), the Advanced French I course is a mandatory core professional course offered to third-year undergraduate students majoring in French in the fifth semester. The textbook for this course is "French 4," which employs the French language teaching method organized by thematic units. The teaching content integrates language, literature, translation, and cultural knowledge, promoting the comprehensive application and overall development of listening, speaking, reading, writing, and translation skills through language communication tasks. The language knowledge component includes specialized training in vocabulary, syntax, and discourse while emphasizing systemic integration. The teaching of literature and cultural knowledge highlights the humanitarian characteristics of the discipline, using classic themes to reflect the history and culture of French-speaking countries and addressing contemporary hot topics to showcase the civilization and progress of modern society. The course uses a flipped classroom teaching model to cultivate students' abilities to investigate, analyze, and solve problems. Additionally, the instructional content incorporates the contemporary context and popular issues, integrating ideological and political education throughout the teaching process to enhance students' cultural confidence, national pride, and patriotism.

The Advanced French I course has explicitly set the enhancement of cultural confidence, national pride, and patriotism as essential qualitative goals for ideological and political education, which is reflected in the course evaluation process. However, based on the current teaching situation, there are three major issues.

2.1. Lack of systematic integration of ideological and political content in the curriculum and insufficient training in French output based on Chinese culture

Traditional teaching has neglected the cultivation of intercultural competence in authentic communication contexts, focusing predominantly on introducing French culture while lacking training in French output rooted in Chinese culture. Additionally, it is necessary to reorganize the course content and sequence based on the "educational" module of ideological and political education, to more systematically and comprehensively integrate teaching content and ideological elements.

2.2. Insufficient use of information technology

The teaching of ideological and political education in the course relies heavily on teacher lectures or guiding students in oral responses or written translations, leading to passive acceptance by students and a lack of participation and sense of achievement in ideological and political education.

2.3. Lack of a diverse and dynamic evaluation mechanism for ideological and political education

Currently, the evaluation mechanism is relatively unilateral, focusing mainly on whether students have achieved knowledge and skill objectives, while lacking assessments of qualitative goals. There is an inadequate reflection of ideological and political education in the course evaluation process.

3. Innovative paths for ideological and political education in the Advanced French I course

3.1. Path optimization + “three infiltrations” reading materials: Cultivating cultural confidence and enhancing cross-cultural competence

We integrate and optimize the content of the textbook materials, incorporating ideological and political education while adding perspectives from Chinese culture. Through a “Chinese-French Culture” corpus, the textbook and the reading materials from “Xi Jinping’s Discussions on Governing the Country” will seamlessly embed communicative culture, cross-cultural, and multicultural aspects throughout the teaching process. Activities such as reading logs, situational performances, and thematic presentations will be employed to cultivate students’ flexibility and strategic response to cultural differences between China and France as well as between East and West, thereby enhancing cultural confidence.

Based on the primary construction content of ideological and political education, and in conjunction with the themes of the texts in the “Advanced French” textbook, we will reorganize and integrate the readings through five major ideological and political education modules: patriotic education, social responsibility education, scientific and cultural education, moral and ethical education, and legal education. This will clarify the integration paths of ideological and political education for each text and cleverly intertwine these themes with the readings.

3.2. Technological empowerment + model innovation: Connecting “dual classrooms” to enhance higher-order thinking

Taking the lesson “My Child, My Idol” from Advanced French I as an example, we will specifically elaborate on the application of the ideological and political education teaching model in the course. The theme of ideological and political education for this lesson is “Family Theme” (Figure 1) ^[2].

3.3. Course evaluation + expanded evaluation: Constructing a dual classroom evaluation system to increase the level of challenge

3.3.1. Course evaluation

The Advanced French I course employs a combination of formative evaluation (50%) and summative evaluation (50%), covering various cognitive levels ranging from lower-order to higher-order thinking, including remembering, understanding, analyzing, applying, and creating. This evaluation assesses the achievement of knowledge goals, skill goals, and quality goals, with the effectiveness of ideological and political education reflected in the attainment of quality goals.

The pre-class online learning situation is assessed from two dimensions: watching teaching videos and participating in quizzes (10%). The in-class learning situation is divided into classroom participation, group cooperation, and learning outcomes: classroom participation (25%), which is scored based on the student’s enthusiasm and accuracy in offline discussions and speeches, as well as the number and accuracy of online

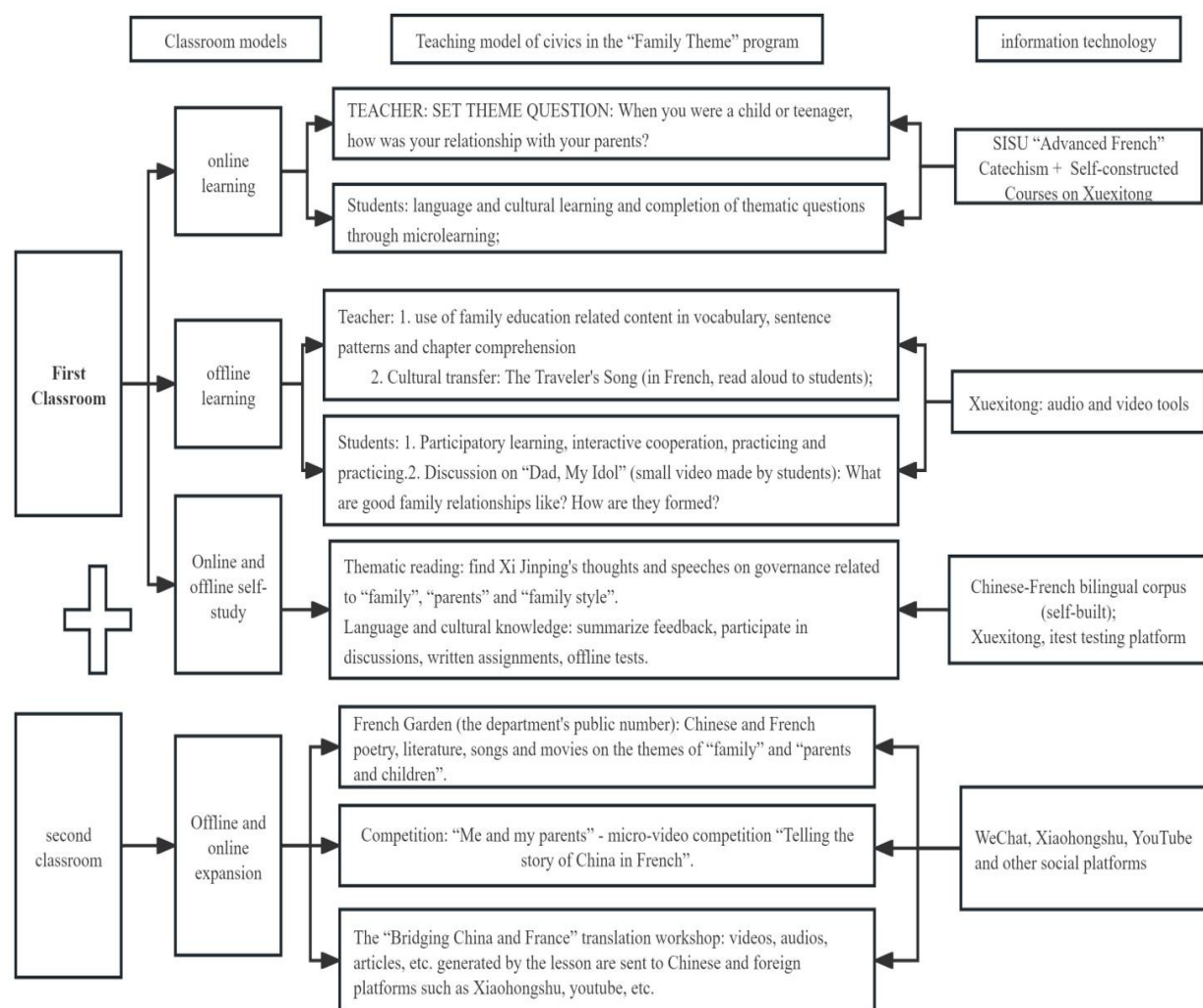


Figure 1. Dual classroom model

participation in voting, questionnaires, quizzes, selection, and discussions; group cooperation (10%) is scored based on the enthusiasm and role played in group cooperation and the final presentation of the group task; learning outcomes (10%) is scored based on classroom tests, in-class exercises, or thematic presentations. The post-class learning situation is divided into learning effectiveness, communication, and extended credits: learning effectiveness (40%) is scored based on the completion and correctness of homework, the humanities reflected, and the midterm test scores; communication (5%) is scored based on the number of times participating in online thematic discussions and the number of post-class communications and discussions with teachers; it is worth mentioning the extended credits, which are an extension of the classroom teaching part, encouraging students to participate in extracurricular activities, transforming classroom teaching results into extracurricular achievements, such as the production of audio-visual or hand-copied reports related to the course, participation in subject competitions, or writing of major innovation projects. Students can voluntarily participate according to their time, expertise, and learning experience, with the additional extended credit set at 5% ^[3].

3.3.2. Expanded evaluation

Students participating in the extended assignments for this course will have their work published on the Learning Platform. Each assignment will be evaluated through three scoring forms: self-assessment (40%), peer evaluation among students (40%), and teacher assessment (20%). Students who score excellently will have their work published on the French Department's WeChat public account or the "Sino-French Bridge Translation Studio" account under the Innovation and Entrepreneurship project. Those who excel in micro-video production may be recommended to participate in the annual "Telling Chinese Stories in French" micro-video competition, which will also allow them to earn credits for extracurricular activities^[4].

"Course evaluation + expanded evaluation" effectively connects the "first classroom" based on Advanced French I with the "second classroom," extending the ideological and political education from the teaching content to the content of students' transferable output, satisfying students' "sense of gain."

4. Conclusion

The Advanced French I course utilizes information technology to broaden the dimensions of ideological and political education in its teaching. By leveraging high-quality online course resources, the Learning Platform, databases, and iTest, the course integrates ideological and political content modules throughout both online and offline teaching and learning processes. Concurrently, information technology enhances student engagement and sense of achievement. The learning outcomes from the "first classroom" are transformed into transfer results in the "second classroom" through social platforms such as WeChat public accounts, micro-video competitions, and the "Sino-French Bridge Translation Studio" under the Innovation and Entrepreneurship project. This approach effectively promotes the dissemination of Chinese culture and storytelling. By employing diverse evaluation standards, the course continually improves teaching and learning activities.

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Disclosure statement

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Constructing a Multi-Dimensional Governance System for the Application of Generative AI in Schools: Policy Analysis and Implications of the “Australian Framework for Generative AI in Schools”

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Abstract: With the rapid development of generative artificial intelligence (AI) technology in the field of education, global educational systems are facing unprecedented opportunities and challenges, urgently requiring the establishment of comprehensive, flexible, and forward-looking governance solutions. The “Australian Framework for Generative AI in Schools” builds a multi-dimensional governance system covering aspects such as teaching and humanistic care, fairness and transparency, and accountability and security. Based on 22 specific principles and six core elements, it emphasizes a human-centered design concept, adopts a principle-based flexible structure, focuses on fairness and transparency, and stresses accountability and security. The framework provides valuable references for the use of generative AI in China’s education system and holds significant importance for promoting educational modernization and cultivating innovative talents adapted to the era of artificial intelligence.

Keywords: Generative AI; Governance system; Educational application

Online publication: February 17, 2025

1. Introduction

The rapid development of generative artificial intelligence (AI) technology is profoundly changing the education field, bringing unprecedented opportunities and challenges to teaching and learning. This transformative technology reshapes traditional education models and learning experiences through its powerful content generation, personalized learning, and intelligent assistance capabilities. However, along with these potential benefits, global education systems face unprecedented governance pressures. This calls for a comprehensive, flexible, and forward-looking governance framework to guide the responsible use of generative AI in education

while maximizing its potential benefits ^[1].

Against this backdrop, the “Australian Framework for Generative AI in Australian Schools” (Framework), released by the Australian Education Department, has important policy implications and demonstrative effects. The development of the Framework reflects the Australian government’s commitment to the responsible adoption of emerging technologies in the education system and its strategic intent to seek leadership in the global governance of AI in education. The core objective of the framework is to provide clear guidance for school systems, teachers, and school administrators to safely and effectively utilize generative AI technologies while supporting better educational outcomes.

2. Analysis of the framework for applying generative AI in Australian schools

2.1. Background and objectives of the framework

The background of the framework’s development is deeply rooted in the dual challenges of technological change and social transformation currently facing the global education sector. In recent years, the rapid growth of generative AI technologies has begun to reshape the education ecosystem, bringing unprecedented opportunities and challenges to teaching methods, learning experiences, and education management. In this context, how to effectively utilize generative AI technologies to enhance educational effectiveness while addressing the ethical, privacy, and security issues that may arise from the application of the technologies has become a major issue for education policymakers. As a pioneer in educational innovation, Australia recognizes the urgency of developing a comprehensive and systematic policy framework to guide the application of generative AI in school education, which has directly led to the introduction of this framework ^[2].

The core objective of the Framework is to provide Australian school systems, teachers, and school administrators with a comprehensive guideline for the safe and effective use of generative AI technologies while ensuring that their application supports and enhances educational outcomes. Specifically, the framework aims to achieve the desired impact in the following ways: first, through clear principles and guidance, it helps educators balance innovation and risk in the application of generative AI, ensuring that technology applications always serve the fundamental goals of education. Second, the framework works to develop students’ AI literacy so that they can critically understand and use AI technologies to prepare for the digital society of the future. Furthermore, by emphasizing core values such as ethics, equity, and privacy, the framework aims to build a responsible AI education ecosystem that prevents technology applications from exacerbating existing educational inequalities or creating new discrimination. Finally, by providing a flexible and comprehensive policy tool, the framework aspires to incentivize continued educational innovation while providing useful references and lessons for other countries to follow when developing similar policies. Thus, the framework is not only a guide for the application of technology but also a strategic document aimed at shaping education in the future ^[3].

2.2. Overview of the structure and content of the framework

The framework adopts a multi-layered and systematic structural design that aims to comprehensively cover all key aspects of generative AI applications in education. The core of the framework consists of six main elements, namely: teaching and learning, human and social well-being, transparency, fairness, accountability, and privacy and security. These six elements reflect not only the fundamental goals and values of education but also key ethical and practical considerations in the application of AI technologies. At the same time, these elements do not exist in isolation from each other but are interrelated and mutually supportive.

Based on the six core elements, the framework is further refined into 22 specific principles that provide more detailed guidance for educators and policymakers. The design of these principles follows a hierarchical progression from macro to micro, from concept to practice. For example, under the core element of human and social well-being, the framework includes the macro-level principle of “respect for human rights” as well as the more operational principle of “promoting diversity of perspectives”; under the core element of “human and social well-being,” the framework includes the principle of “respect for human rights” as well as the more operational principle of “promoting diversity of perspectives.” “Under the “Teaching and Learning” element, the principles cover ensuring that AI positively impacts teaching and learning outcomes, fostering students’ AI literacy, and balancing AI applications with human cognitive development, reflecting policymakers’ comprehensive considerations of the central role and potential risks of AI technologies in education. This design not only provides clear guidance for policy implementers but also leaves room for the interpretation and expansion of new scenarios that may arise in the future. This structural design reflects the comprehensive, systematic, and resilient policy response strategy adopted by Australian policymakers in the face of the complex issue of AI application in education^[4].

2.3. Implementation and evaluation mechanisms of the framework

At the implementation level, the framework provides a series of specific application guidelines designed to ensure that the framework can be effectively implemented in the school system. These guidelines cover the entire process from AI technology selection to specific applications. At the technology selection stage, the framework emphasizes the importance of a comprehensive assessment of AI tools, including their educational effectiveness, ethical implications, data security, and other dimensions. In addition, the framework also places special emphasis on the key role of teacher training, proposing the establishment of a continuous teacher professional development program to enhance educators’ AI literacy and application capabilities. This not only helps to ensure the effective use of AI technology but also enhances the leading role of teachers in AI-assisted teaching, thus upholding the essence and value of education^[5].

In terms of the assessment mechanism, the framework has designed a multi-level and continuous assessment system. This system includes two main components: regular self-evaluation and external evaluation. At the level of self-assessment, the framework requires schools to set up an internal monitoring mechanism to regularly collect and analyze data on AI applications, and assess their impact on teaching quality, student performance, teachers’ workload, and other aspects. This self-assessment mechanism can help schools identify and solve problems promptly and continuously optimize their AI application strategies. At the level of external evaluation, the framework proposes the establishment of an independent expert evaluation committee to conduct a comprehensive review of the effectiveness of the framework’s implementation regularly. This external evaluation not only provides a more objective and comprehensive assessment but also helps to identify common challenges and best practices across schools and districts in the implementation process. It is worth noting that the Framework places special emphasis on the openness, transparency, and wide dissemination of the evaluation results to facilitate experience sharing and mutual learning among schools. Through this dynamic and multifaceted assessment mechanism, the framework aims to establish a cycle of continuous improvement to ensure that the application of AI technologies in education remains optimal and can respond to changes in technological development and educational needs promptly^[6].

3. Conclusion and implications

The Framework demonstrates a comprehensive, systematic, and forward-looking approach to policy. It builds a multi-dimensional governance system for generative AI educational applications through six core elements and 22 specific principles. Its salient features include: a human-centered design concept that emphasizes the essence of education and humanistic values; a flexible structure based on principles that adapts to the rapid development of the technology; a focus on fairness and transparency that builds a trustworthy AI education ecosystem; and an emphasis on accountability and safety that balances innovation and risk. The framework also features a dynamic adjustment mechanism and multi-party participation, reflecting the policymakers' deep understanding of the complexity of AI education applications. This comprehensive and adaptive policy design provides a valuable reference for the governance practices of global education systems in the age of AI^[7].

Drawing on Australia's experience, China can advance policymaking for AI education applications in the following ways:

First, building a systematic policy framework. China should establish a multi-level and multi-dimensional policy system for AI education application, covering the national, provincial, and local levels. At the national level, core elements similar to the Australian framework can be established, such as pedagogical innovation, ethical norms, data governance, equity and transparency, and safety and accountability. At the provincial level, implementation rules can be set up according to local characteristics, such as focusing on the application of cutting-edge technologies in economically developed regions and paying more attention to infrastructure construction and educational equity in less developed regions. The local level can then focus on specific implementation strategies and pilot programs. This layered design ensures policy uniformity while accommodating local differences.

Second, adopting a flexible policy design based on principles. Considering China's vast size and uneven regional development, policy design should be flexible enough. A series of core principles, such as "technology serves the essence of education," "safeguarding educational equity," and "maintaining data security," can be formulated, drawing on the practice of Australia. Under these principles, each region can formulate specific implementation strategies according to its conditions. For example, in terms of AI curriculum, schools can be given a certain degree of autonomy, allowing them to design curriculum content and teaching methods according to the needs of students and teacher conditions.

Third, strengthening the ethical norms of AI education application. It is recommended that a national-level AI education ethics committee be established with provincial and local branches. The responsibilities of this committee include: formulating ethical guidelines for AI educational applications, assessing the ethical impact of new technology applications, handling ethical disputes, and organizing related research. At the same time, AI ethics should be incorporated into the curriculum system of compulsory education and higher education, and ethical education teaching materials should be developed to suit different school years. In terms of teacher training, a mandatory course on "AI ethics in education" can be established to ensure that educators have the necessary ethical awareness and judgment ability^[8].

Fourth, establishing a dynamic evaluation and adjustment mechanism. A national AI education application assessment center should be set up to collect and analyze national application data regularly. Assessment indicators should cover multiple dimensions such as teaching effectiveness, learning outcomes, educational equity, technical reliability, and ethical implications. Based on the assessment results, a report on the development of AI education applications will be released annually to provide a basis for policy adjustments. At the same time, a rapid response mechanism should be established to make timely policy interventions in

response to problems identified in the assessment.

Fifth, promoting multi-party participation in the policy formulation and implementation process. A standing advisory body is established, composed of education departments, science and technology departments, ethical experts, educators, technologists, student representatives, parent representatives, and so on. Before the policy is formulated, extensive public consultations should be organized; during the policy implementation process, regular hearings should be held to collect feedback from all parties.

In addition, “AI education innovation experimental zones” can be set up to encourage cooperation among local governments, schools, enterprises, and research institutions to explore innovative models and provide a practical basis for the development of national policies.

Finally, the monitoring and accountability mechanism for policy implementation should be strengthened. An inter-departmental supervision working group is established to regularly check the implementation of the policy. Reporting and complaint channels are set up to identify and deal with problems in policy implementation promptly. Policy and financial support are provided to districts and organizations that excel in the application of AI in education; accountability measures are taken for those with serious problems.

Through these multidimensional and targeted policy measures, China can build a governance system for AI education applications that meets national conditions and is rich in characteristics. This will not only promote the process of education modernization, but also lay a solid foundation for the cultivation of innovative talents adapted to the era of AI, and thus enhance China’s comprehensive strength in the global AI competition.

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Disclosure statement

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A Study on Integrative and Instrumental Motivations and Learning Strategies of PhD Dissertation

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Abstract: The research topic of the author's PhD dissertation is "The Impact of Motivation Cultivation on English Autonomous Learning among University Students in Hunan, China—A Mediating Role of Learning Strategy." Within this topic, three key variables are identified: the dependent variable (DV), the independent variable (IV), and the mediating variable (MV). Specifically, the DV refers to English autonomous learning, the IV refers to motivation, and the MV refers to learning strategy. The research establishes that the MV (learning strategy) is an integral component of information processing theory (IPT). Consequently, the dissertation incorporates integrative and instrumental motivation theories alongside IPT as its foundational theoretical framework. This paper aims to explore the theoretical framework of the PhD dissertation in detail, focusing on the interplay of these three theories.

Keywords: English autonomous learning; Motivation; Learning strategy; Integrative motivation theory; Instrumental motivation theory; Information processing theory

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1. Introduction

The research topic of the author's PhD dissertation is "The Impact of Motivation Cultivation on English Autonomous Learning among University Students in Hunan, China—A Mediating Role of Learning Strategy." Regarding the variables in this research, there are three in total: one dependent variable (DV), one Independent variable (IV), and one mediating variable (MV). After thorough analysis, the DV refers to "English autonomous learning," the IV is "motivation," and the MV is "learning strategy." A detailed examination reveals that the MV, "learning strategy," is closely related to information processing theory (IPT). Consequently, this PhD dissertation integrates theories of integrative motivation and instrumental motivation, as well as IPT, to guide the research direction. The following sections of this paper will elaborate on the theoretical framework,

exploring the three aforementioned theories in detail.

2. Integrative motivation and instrumental motivation theories

This dissertation will adopt the theories of integrative motivation and instrumental motivation. Agustin *et al.* ^[1] revealed that while some people naturally grasp language more easily than others due to their aptitude, having a strong desire to learn can push anyone to achieve great things regardless of their starting point. This idea was echoed by Barnett ^[2], who emphasized that the most significant factor in becoming fluent in English is not just intelligence or access to resources but rather the learner's drive and enthusiasm. When students are motivated, they dive into learning with passion and curiosity, making even the toughest challenges feel manageable.

Moreover, while intellectual capabilities, educational tools, and family support play important roles in learning, they are not always enough to guarantee success. Motivation acts as a catalyst that brings all these elements together. Consider two students: one has exceptional language skills and access to top-notch facilities but lacks interest, while the other struggles with natural ability yet possesses immense motivation. More often than not, it is the motivated student who thrives because their determination helps them overcome obstacles. Therefore, fostering a love for learning and intrinsic motivation among students could lead to better outcomes in education, ultimately empowering them to realize their full potential. It is clear that nurturing motivation should be at the forefront of educational strategies, as it truly holds the key to unlocking achievement in any field of study. Two primary types of motivation influence learners: integrative motivation and instrumental motivation ^[1]. For example, when someone learns a new language to connect with friends, explore different cultures, or feel included within a group, integrative motivation is at play. This type of motivation taps into our emotions and social needs, making the learning experience not just about gaining knowledge but also about building relationships and understanding the world around us. On the other hand, instrumental motivation is more focused on practical benefits and personal goals. When learners study hard to get good grades, land a job, or earn a promotion, they are driven by instrumental motivation. This form of motivation emphasizes tangible rewards—things that can directly impact one's future success. Understanding these motivations helps us recognize why we pursue certain paths and how our goals can shape our educational journeys. Whether through forming connections or achieving specific objectives, motivation remains a powerful force that guides us toward growth and fulfillment. As noted by Amoah and Yeboah ^[3], motivation is not merely about wanting something; it involves deep feelings and reactions within us that drive us forward. For instance, consider the excitement of preparing for a significant event, such as a big game or an important exam. That surge of energy represents motivation in action—an inner engine fueling the will to act and overcome challenges. Without this inner spark, many of us might struggle to muster the energy to tackle daily tasks, complete homework, or engage in practice sessions.

On another level, understanding what motivates us can lead to personal growth and improvement. Our motives are often tied to our emotions and experiences. For instance, if we set a goal based on things we love—like learning a new instrument or helping others—we tap into a deeper source of energy that makes reaching those goals much more rewarding. The journey becomes less about just completing tasks and more about discovering who we truly are and what brings us joy. Recognizing how motivation influences our behavior helps us make better choices every day. When we identify what drives us, we not only boost our chances of success but also enrich our lives with purpose and meaning. Anggarista and Wahyudin ^[4] stated that motivation does not only influence what we do but also shapes how we set our goals and stick to them. For example, if one's

goal is to converse with friends who speak another language, that desire propels them to practice consistently. Even on days when studying feels burdensome, their motivation reminds them of the end goal: connecting with others and experiencing their culture through language. This persistence is key because every learner will face challenges along the way. Overall, motivation acts as both a guide and a shield in the journey of learning a second language, helping us overcome difficulties while enriching our experiences. Learning English can be a tough journey for many students. They often feel overwhelmed when trying to speak, write, or even understand the language. This struggle is understandable; after all, English has its unique quirks and complexities that can confuse anyone. Even when students put in countless hours of studying with the hope of scoring well on tests, they sometimes find themselves disappointed by low grades. It is frustrating to work hard yet not see the results they desire. However, it is important to remember that effort alone may not be enough. Just like athletes need a game plan to win, students also require effective learning strategies to truly excel in English.

The key lies in finding personalized methods that resonate with each student. Not every technique will work for everyone; some might benefit from visual aids while others learn better through conversation or writing exercises. For instance, engaging with fun resources—like games, songs, or interactive apps—can make learning more enjoyable and less stressful. By experimenting with different approaches, students can discover what helps them grasp new vocabulary or improve their grammar skills. In doing so, they not only enhance their understanding of the language but also build confidence in their abilities. With the right strategy tailored to their own learning style, students can turn their challenges into triumphs, making strides toward mastering English one step at a time. Azar and Tanggaraju ^[5] remind us that students who recognize their own learning strategies can truly transform this journey into something enjoyable and fulfilling. When learners identify how they best understand new information—whether through visual aids, hands-on activities, or even discussions with friends—they become empowered to navigate challenges more easily. It is not just about enduring lessons; it is about making them enjoyable. Imagine tackling complex math problems or reading challenging texts with confidence, simply because one knows what works for them. This sense of ownership transforms education from a tedious obligation into an exciting quest for knowledge.

Moreover, embracing personalized learning strategies leads to greater self-confidence and effectiveness in adapting to different situations. When individuals discover what learning methods work best for them, they also unlock tools to navigate future challenges with ease. This means students are better prepared for exams, group projects, or even unexpected questions in class. With each step taken using their unique approach, they build not only skills but also resilience. The joy comes not just from understanding facts, but from realizing that they have the ability to overcome hurdles on their educational path. In essence, knowing one's learning strategy creates a roadmap filled with opportunities and successes, paving the way for a brighter academic future. According to Bureau *et al.* ^[6], these strategies help everyone involved reach their learning goals more effectively. When teachers incorporate specific methods into their lessons, they guide students toward understanding new concepts better. At the same time, students have the opportunity to take charge of their own learning by choosing different approaches that work for them. For example, a student might decide to create flashcards for vocabulary words or form study groups with classmates to discuss important topics. This active participation not only makes learning more enjoyable but also helps students feel more confident in what they are studying.

In language learning, having good strategies is especially crucial because it allows learners to engage directly with the material. Language is all about communication, so using various techniques can build a person's ability to express themselves clearly. Strategies such as practicing speaking with friends, listening to music in another language, or reading books can deepen one's understanding and fluency. These activities

encourage self-directed involvement, which means that students are taking responsibility for their progress instead of waiting for someone else to teach them everything ^[7]. By doing this, they develop communicative competence—an essential skill that goes beyond just knowing grammar rules; it involves being able to understand and connect with others through language. Overall, embracing learning strategies empowers students and prepares them for real-world interactions where clear communication matters most.

3. Learning strategy as a part of information processing theory

Information processing theory provides a framework for understanding how information is processed by the human mind, and learning strategies are practical applications of this theoretical framework ^[8]. In essence, learning strategies are specific techniques that learners use to facilitate the processes described by IPT: encoding, storage, and retrieval of information.

IPT compares human cognition to the operations of a computer, focusing on how information is: (1) Encoding: The process of transforming sensory input into a form that can be processed by the brain. (2) Storage: The process of retaining encoded information over time in short-term or long-term memory. (3) Retrieval: The process of accessing stored information when it is needed.

Learning strategies are the tools and techniques that individuals use to optimize the stages of information processing. They enhance the efficiency and effectiveness of encoding, storage, and retrieval. Here's how learning strategies fit into each stage of IPT: (1) Encoding and cognitive strategies: (i) Rehearsal: Repetition of information to keep it active in short-term memory and facilitate its transfer to long-term memory. (ii) Elaboration: Making connections between new information and existing knowledge to create a deeper understanding and stronger memory traces. (iii) Organization: Structuring information into categories, hierarchies, or other logical arrangements to facilitate encoding and later retrieval. (2) Storage and metacognitive strategies: (i) Planning: Setting goals and choosing appropriate strategies before engaging in learning tasks to ensure effective encoding and storage. (ii) Monitoring: Continuously checking one's understanding and progress during learning activities to make adjustments as needed. (iii) Evaluating: Reflecting on the learning process and outcomes to assess the effectiveness of strategies and make improvements for future learning. (3) Retrieval and resource management strategies: (i) Time management: Allocating appropriate time for studying and reviewing to ensure information is adequately encoded and retained. (ii) Environmental structuring: Creating a conducive learning environment that minimizes distractions and supports focused study sessions. (iii) Seeking help: Utilizing external resources, such as peers, tutors, or digital tools, to aid in understanding and remembering information.

The following are examples of learning strategies within IPT: (1) Elaboration strategies: (i) Self-explanation: Explaining the material to oneself in one's own words to deepen understanding and strengthen memory connections. (ii) Question generation: Creating questions about the material to actively engage with the content and anticipate possible exam questions. (2) Organizational strategies: (i) Mind mapping: Creating visual diagrams that represent relationships between concepts to aid in understanding and memory. (ii) Outlining: Writing structured summaries of information to highlight main points and supporting details. (3) Metacognitive strategies: (i) Goal setting: Defining specific, measurable, and achievable learning objectives before starting a study session. (ii) Self-monitoring: Regularly checking one's comprehension and progress, such as through practice tests or quizzes. (4) Resource management strategies: (i) Effective note-taking: Using methods like the Cornell Note-Taking System to organize and review notes systematically. (ii) Study schedules: Planning study

sessions and breaks to maximize focus and retention ^[9].

Practical applications in education are as follows: (1) Curriculum design: Incorporating activities that promote the use of cognitive, metacognitive, and resource management strategies into lesson plans. Designing assessments that require students to use and demonstrate their learning strategies. (2) Instructional techniques: Teaching students how to use different learning strategies effectively. Providing opportunities for students to practice and refine their strategies through guided practice and feedback ^[10]. (3) Personalized learning: Tailoring instruction to individual students' preferred learning strategies and cognitive strengths. Using adaptive learning technologies that provide personalized feedback and support. (4) Teacher training: Equipping educators with knowledge and skills to teach and reinforce effective learning strategies. Encouraging teachers to model and scaffold the use of these strategies in their instruction.

By integrating learning strategies within the framework of IPT, educators can enhance students' ability to process, understand, and retain information, leading to improved academic outcomes and lifelong learning skills ^[11].

4. Conclusion

In conclusion, we can summarize that there are mainly two kinds of motivation that influence learners: integrative motivation and instrumental motivation ^[12]. Specifically, when someone learns a new language to make friends, experience different cultures, or feel integrated into a group, integrative motivation is at play. This type of motivation blends into our feelings and needs of incorporating into social surroundings, thus making the learning experience not only about acquiring knowledge but also about fostering meaningful relationships and gaining a deeper understanding of the world around us.

On the other hand, instrumental motivation is focused on practical benefits and personal goals. When learners strive to achieve high grades, secure a job offer, or earn a promotion, they are driven by instrumental motivation. This form of motivation stresses tangible rewards—things that can directly influence one's future success and achievements. Understanding these two types of motivation helps us uncover both the surface-level and deeper reasons behind our pursuits, while also revealing how our goals shape our educational journeys.

Whether through building strong connections or achieving specific objectives, motivation remains a powerful force that drives growth and fulfillment. Aligned with the findings of this PhD dissertation, we can logically conclude that the cultivation of motivation has a profoundly positive and optimistic impact on English autonomous learning among university students in Hunan, China.

Through incorporating learning strategies within the framework of IPT, teachers can better promote students' ability to process, understand, and retain information well, thus leading to improved academic accomplishments and boosted lifelong learning skills. Therefore, as this dissertation highlights, in the context of cultivating motivation's impact on English autonomous learning among university students in Hunan, China, learning strategies consistently play a pivotal mediating role.

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Research on the Innovative Path of Ideological and Political Practical Education Model in Colleges and Universities in the New Era

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Abstract: With the development of the country and society, higher requirements for college students' professional quality and moral cultivation have been put forward. The purpose of teaching ideological and political courses in universities is to guide college students to solidly grasp ideological and political theoretical knowledge, continuously improve moral literacy, and become qualified successors of socialism. Practical teaching of ideological and political courses plays an essential role in educating and nurturing students. It can transform abstract theoretical knowledge into practical experiences that students can intuitively feel and understand. Through practical teaching, students can not only better understand and digest theoretical knowledge, but also apply this knowledge in real or simulated social environments, thereby gaining a deeper understanding of social phenomena and problems. Based on this, this article focuses on the analysis of the ideological and political practical education model and innovative path in universities in the new era.

Keywords: New era; Ideological and political education; Practical education model; Innovative path

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1. Introduction

With the country's increasing attention to the quality of higher education and society's changing demand for talent cultivation, ideological and political courses no longer aim to impart knowledge, but also act as a key link carrying the noble mission of cultivating morality and nurturing people. The enhancement of their strategic position is not only reflected in the country's emphasis on the setting of ideological and political courses, but also in their crucial role in cultivating new-era talents with firm ideals, beliefs, noble moral sentiments, and solid professional knowledge. Strengthening the mission of cultivating virtue and nurturing people has also endowed ideological and political education with richer connotations and higher requirements. In the context of the new era, ideological and political education should not only focus on imparting knowledge but also on cultivating and shaping students' ideological and moral qualities^[1]. This requires ideological and political teachers to pay

attention to students' knowledge mastery and practical abilities in the teaching process. Based on this, this article focuses on the analysis of the ideological and political practical education model and innovative path in universities in the new era.

2. Significance of implementing the ideological and political practical education model in universities in the new era

2.1. Enhancing college students' ideological and political literacy

The ideological and political practical education model in universities in the new era adheres to the people-oriented concept, emphasizing the need for ideological and moral education as well as scientific and cultural education in the process of promoting the basic goals of education and achieving coordinated progress in the quality and health of college students. In the continuous development of ideological and political education concepts in universities, it is necessary to further enhance college students' ideological awareness through ideological and political practical activities, improving their ideological and political quality on the basis of comprehensive development, strengthening their sense of social responsibility, and cultivating their self-discipline in practice. The form and connotation of ideological and political education are innovated to further enhance college students' self-practice ability ^[2].

2.2. Cultivating college students' humanistic literacy

The new era of ideological and political practice in universities has further enhanced college students' humanistic qualities, including personality cultivation and moral qualities. Especially in terms of national pride and cultural confidence among college students, it fully reflects the advantages of cultural confidence in the process of national development, and further enhances college students' humanistic literacy in combination with reality. By utilizing knowledge structure, personal taste, humanistic cultivation, etc., we can further enhance college students' aesthetic concepts, aesthetic cognition, and psychological qualities, improve their innovation ability, reflect their ideological height and cultural connotation in practical teaching, and further enhance their spiritual aesthetic and practical innovation abilities.

3. Issues in ideological and political practical education in universities in the new era

3.1. Disconnection between teaching content and the development of the times

With the rapid development of society, new social phenomena, technological advancements, and values continue to emerge. However, the teaching content of some ideological and political courses has not been promptly updated, resulting in students having difficulty accessing knowledge and information closely related to real life in the classroom. The inertia of the education system results in the retention of some traditional and outdated teaching content, while lacking the introduction and updating of new knowledge. The knowledge structure and cognitive limitations of teachers themselves may also become obstacles to the disconnect between teaching content and the development of the times. This disconnection not only affects the teaching effectiveness of ideological and political courses but may also have a negative impact on students' ideological growth and value shaping. In today's information and globalization era, students are exposed to increasingly rich and diverse information, and they crave content that is in sync with the times and has practical significance in the classroom. When the teaching content fails to meet this demand, students may feel disappointed and

resistant, thereby affecting their sense of identity and participation in ideological and political courses.

3.2. Monotonous teaching methods of ideological and political education

The traditional lecture-based teaching model still dominates. Although this approach characterized by teacher lecturing and students listening can systematically impart knowledge, it often lacks interactivity and inspiration, making it difficult to stimulate students' interest in learning and active thinking. With the rapid development of information technology, emerging teaching methods and tools such as online teaching, flipped classrooms, and case analyses have sprung up like mushrooms after rain. However, the application of these new methods in the teaching practice of ideological and political courses is relatively lagging and has not been fully explored and practiced. In the context of knowledge and information explosion, students' demands for learning methods and content are becoming increasingly diverse and personalized^[3]. They crave to experience more innovation and change in the classroom. Monotonous teaching methods lead to students feeling bored and resistant to course content, which can affect learning effectiveness. As an important public compulsory course in the higher education system, the innovation of teaching methods and means is of great significance for enhancing the status and influence of the discipline. However, due to outdated and conservative teaching methods, ideological and political courses have fallen into the dilemma of being stagnant and unable to make new breakthroughs and progress in academia^[4].

3.3. Formalization of ideological and political education in universities

Ideological and political education plays a guiding role in students' ideological and political development, promoting the formation of positive ideological and political beliefs among college students. However, from the perspective of social development background, as the main force of internet use, college students are influenced by the social environment and online public opinion, leading to their ideological consciousness being more diversified. However, the ideological and political education in universities is relatively traditional and cannot meet students' diverse ideological and political learning needs. Some students' ideological consciousness cannot be guided, which also affects the effectiveness of ideological and political education in universities. In ideological and political education, some teachers fail to understand this concept and still teach using traditional teaching concepts, which presents a problem of personification of ideological and political education and is not conducive to the quality of ideological and political education in universities.

4. Innovative paths of ideological and political practical education model in higher education institutions in the new era

4.1. Utilizing artificial intelligence technology to precisely customize educational content

Precision ideological and political education is a precise educational activity based on cutting-edge technologies such as big data and artificial intelligence, guided by precise thinking and concepts, to achieve ideological and political education. Transformative technologies, including big data and artificial intelligence, have laid a solid foundation for the precise implementation of ideological and political education in universities. The prerequisite for precise ideological and political education is to recognize that different individuals or groups have varying levels of ideological development and psychological conditions, thus we should adhere to the principle of "one key unlocks one lock" and overcome the phenomenon of simple generalization and uniformity. Therefore, the prerequisite and foundation for implementing precise ideological and political education include achieving precise identification of the personality traits, ideological dynamics, behavioral status, and other aspects of the

educational target, accurately grasping individual differences and special demands. Accurate customization of educational content is an important support for precise ideological and political education. It is necessary to clearly grasp the knowledge and skills required by college students in their learning, use appropriate educational methods and carriers, produce and allocate educational content according to students' needs, and accurately supply educational content that meets the development needs of educational objects ^[5]. Scholars point out that the mismatch between supply and demand is the main contradiction in ideological and political education in universities, mainly manifested as insufficient content fit, inadequate supply of high-quality resources, and excessive supply of standardization and homogenization, which makes it difficult to meet the educational requirements of the new era. Precise customization requires tailoring personalized teaching plans around college students' multidimensional and multi-level ideological development needs, achieving a dynamic balance between content supply and demand ^[6]. For example, in order to meet personalized needs, the course "Chinese Marxism and Contemporary" is divided into modules such as contemporary science and technology, contemporary capitalism, contemporary socialism, etc. The modules are taught by teachers from different fields, with a focus on "content is king" for precise identification of educational objects, a clear grasp of what students need for development, and an accurate supply of educational content that meets the development needs of educational objects ^[7].

4.2. Innovating the carrier of practical education and promoting the development of practical education

College ideological and political practical teaching promotes the promotion and dissemination of the spirit of volunteer service, which helps to enhance the value of ideological and political practical teaching. The education reform emphasizes the importance of ideological and political education for college students. It is necessary to use ideological and political education to cultivate youth with the courage to undertake social responsibilities and the mission of the times, provide macro decisions for ideological and political practice education in universities, and point out a firm development direction. Volunteer service activities embody the excellent spiritual character of the Chinese nation, which is a spirit of mutual assistance without seeking anything in return. The concept of unity and service is applied to the construction of a better society, and volunteers are promoted to carry out various volunteer service activities with the noble spirit of volunteer service ^[8]. There is no distinction in age, education, status, etc. Volunteers treat everyone equally, starting from small things and others' needs, and helping those in need without compensation, making this society full of warmth and friendship.

Due to the increasing emphasis on ideological and political practical education in universities by the government, most universities have established stable practical teaching bases and continuously increased investment, providing hardware facilities for these bases and laying the foundation for the development of ideological and political practical teaching for college students. Due to the uncertainty of time and location, it is difficult to maximize the teaching effect of practical education in college student volunteer service activities. Therefore, universities should provide assistance and guidance when carrying out volunteer service activities, arrange for college student volunteer service activities to be carried out in practical bases, and achieve educational resource sharing. For example, when college students engage in volunteer service activities such as community service, environmental protection and public welfare, cultural inheritance and promotion, schools should organize activities in practical teaching bases for students ^[9]. Students should apply their theoretical knowledge to practical projects and enhance their professional abilities, and students who perform well in

practice are rewarded to ensure the positive development of the concept of practical education. Universities can also build virtual social practice platforms to break the constraints of time and space, allowing students to simulate social practice activities through the Internet and provide ideological guidance and moral education. When implementing virtual social practice activities, we should take students' comprehensive development as the core, adhere to the goal of ideological and political practice education, fully leverage the advantages of information technology, and effectively promote the integration of college students' volunteer service activities with ideological and political practical teaching.

4.3. Establishing scientific top-level design for ideological and political practice education

In the new era of university ideological and political practical education, it is essential to establish a robust top-level design that includes a strong support system and effective cooperation mechanisms. This involves increasing emphasis on building “big ideological and political courses,” enhancing the awareness and ability to leverage various social resources, thoroughly exploring and transforming regional educational resources, and actively promoting the multidimensional integration of practical methods into ideological and political course teaching practices^[10].

First, establishing a leadership and management cooperation mechanism. Under the unified leadership of the Party committee, a specialized leadership group should be responsible for organizing and coordinating the integration of regional ideological and political resources. This group would develop strategic plans, mobilize the enthusiasm of all educational stakeholders, and provide clear guidance for ideological and political practice education. For instance, Hongqiao Middle School in Wuhan has established a leadership group for its educational community, involving relevant institutions and units in surrounding areas. The school has set up “Education Practice and Study Bases” in parks, museums, communities, and hospitals, signing cooperation agreements to create a long-term mechanism for practical study cooperation. These efforts provide critical support for teachers and students to conduct study and practice activities conveniently and effectively.

Second, improving incentive and guarantee mechanisms. It is crucial to develop mechanisms for team building, teaching management, student management, and assessment and evaluation in ideological and political practical education. Measures such as job promotion opportunities, financial security, and organizational safety should be implemented to encourage the active participation of ideological and political teachers. Recognizing their contributions and addressing their practical concerns will foster a supportive environment for ideological and political practice education in universities.

4.4. Enriching the content of practical courses and enhancing the effectiveness of practical teaching

In the context of the new era, the supply of ideological and political practical courses in universities is relatively single, which currently relies mainly on channels such as “Red Dream Building Journey,” community lectures, and volunteer services. Due to limited funding and a shortage of ideological and political teachers, these colleges appear relatively single in the supply of practical course content, and the topics selected by students in practical activities often lack depth, creating a sense of superficial engagement. Therefore, expanding practical teaching resources is particularly important. Private universities need to enhance their internal and external collaboration, actively establish close cooperative relationships with communities, enterprises, and red education bases, and provide students with more diverse practical opportunities and platforms. At the same time, to ensure the effective implementation of the integration of ideological and political education in primary,

secondary, and tertiary schools, it is possible to strengthen the linkage between schools and jointly promote the in-depth development of ideological and political education. In addition to actively utilizing external resources, universities should further tap into internal resources, encourage students to start from their own interests, and pay attention to new problems that arise in socialist construction, particularly the practical issues that young students are concerned about, such as employment issues, wealth inequality issues, and elderly care and medical issues. Students can present and report in class based on the selected topic, be guided to analyze and think deeply about these issues through heuristic education, and naturally draw conclusions through continuous inspiration.

5. Conclusion

In summary, the ideological and political practical education model and innovative path in universities in the new era guide the formation and development of college students' thoughts. With the development of online information, college students are in an information age with rich social trends and diverse ideologies. Their learning and living environment is constantly impacted by various ideas, which also poses significant challenges to ideological and political education and teaching in universities. College ideological and political course teachers should keep up with the development of the times, innovate ideological and political practical teaching methods, and improve college students' core ideological and political literacy. Only in this way can the sustainable development of the ideological and political practical education model be effectively promoted, thus contributing to the growth and progress of students.

Disclosure statement

The author declares no conflict of interest.

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The Limitations of Social Reproduction Theory in Explaining Social Unpaid Work in the Global South

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Abstract: This paper defines and explores the concept of social reproduction work, highlighting its significance and the fact that women are its primary contributors. It identifies key social issues faced by social reproduction workers, including marginalization, neglect, and unequal access to resources. Additionally, the study examines the primary challenges encountered by these workers: the lack of direct economic benefits, difficulty in balancing work and family responsibilities, and the significant physical and mental strain associated with unpaid labor. Using the theoretical framework of the capitalist economic system, the paper delves into the root causes of the caregiving crisis. Furthermore, it critiques the applicability of reproduction work theories in explaining unpaid care work in the Global South. Three key limitations are outlined: the neglect of informal economic systems in the Global South, persistent gender inequality, and the dynamic nature of global economic migration.

Keywords: Sociology; Social reproduction; Care work

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1. Introduction

Research on unpaid work is particularly significant in the Global South, where economic systems are predominantly informal. Since the majority of individuals engaged in unpaid work are women, studying this phenomenon can uncover the root causes of their exploitation and highlight gender inequalities. Moreover, it provides valuable insights into the mechanisms and principles that sustain capitalist dominance. This understanding can help deconstruct unpaid care work and contribute to advancing gender justice in the Global South. This form of labor, which supports economic sustainability, is referred to as social reproduction work. Social reproduction work serves as the foundation of capitalism. While unpaid workers do not directly generate economic value, they play an essential role by continually supplying resources to the labor market and providing logistical support, such as cooking and childcare^[1]. Cooking addresses the fundamental need for human survival, enabling families to engage in direct economic activities, while raising children ensures a steady

supply of labor for the market. However, despite its critical contribution to sustaining the capitalist system, the value of unpaid labor remains significantly underestimated, which perpetuates the marginalization of women^[2]. Although social reproduction theory highlights the limitations of the capitalist economic system, it fails to fully account for the complexity of unpaid labor in the Global South. This paper argues that while social reproduction theory explains certain aspects of unpaid labor in the Global South, its heavy focus on wage labor within capitalist frameworks neglects the region's unique economic and social dynamics, rendering it insufficient for a comprehensive understanding of unpaid labor in this context.

2. Literature review

Regarding social reproduction in the Global north, Fraser^[2] critiqued capitalism for commercializing care work. This development aligns with the essence of capitalism, which commodifies most social behaviors, transforming care from an unpaid familial responsibility into a service available through market mechanisms. For instance, consider a family consisting of a couple and a child. The father works to earn an income, while the mother engages in social reproduction work, such as cooking and caring for the child. When the child matures and enters the labor market, the mother's labor indirectly contributes to the economy. If the mother finds her caregiving responsibilities manageable, she might consider having another child, thereby increasing the labor supply for the capitalist system. However, under capitalism, women engaged in unpaid care work often face rising financial pressures, compelling them to seek employment that directly generates economic value. Balancing paid work with unpaid caregiving becomes an immense challenge for these women.

Here, the commodification of unpaid care work within the capitalist system becomes evident. As care work must still be performed, market solutions such as hiring nannies and housekeepers, and utilizing daycare services emerge. While this outsourcing alleviates some burdens, it also heightens unpaid workers' reliance on external care services, exacerbating their physical and mental stress^[2]. Fraser acknowledged that social reproduction is integral to the continuous accumulation of capital. However, capitalism's insatiable drive to monetize social reproduction undermines the very processes that sustain its existence. By commercializing care work, capitalism creates a dependency on paid caregiving services while simultaneously neglecting the structural support required for unpaid laborers. This imbalance leads to a care deficit, threatening the continuation of the capitalist system itself. Fraser's insights effectively illuminate the dynamics of social reproduction, particularly its dual role as both a cornerstone of capitalism and a source of its inherent contradictions. Her analysis highlights how capitalism's exploitation of care work ultimately jeopardizes the system's long-term stability by fostering a care crisis.

3. Discussion

Social reproduction theory provides an explanation of how unpaid care work sustains the process of social reproduction while simultaneously challenging the capitalist economic system. However, this explanation largely applies to the Global North and fails to adequately address the issue of unpaid care work in the Global South. The commodification of social reproduction work, a defining feature in the Global North, does not exist in the Global South, where no mature care work labor market system is present. Instead, care work in the Global South is predominantly carried out by family members rather than market labor, such as nannies. Consequently, social reproduction labor in the Global South remains largely unmarketized. This oversight in Fraser's view is a significant limitation, as it fails to account for the unique social and economic dynamics of the Global South.

While care work in the capitalist economies of the Global North has been commodified, this is not mirrored in the Global South, where informal economic systems prevail. Unpaid care work remains a heavy burden on local women, and Fraser's analysis does not fully capture this reality. This constitutes the first limitation of applying social reproduction theory to the Global South: the theory's inability to address the fundamentally different economic systems in the region. Clearly, the theoretical framework of the capitalist system is insufficient to explain the realities of unpaid labor in the Global South.

The second limitation of social reproduction theory lies in its neglect of the serious gender issues prevalent in the Global South. Laslett and Brenner introduced the "male breadwinner" model, which describes middle-class families where only men participate in wage labor to support the household, while working-class families see both men and women participating in market labor ^[1]. For working-class women, this dual role—balancing both domestic labor and waged labor—results in significant pressure. Feminists have criticized social reproduction theory for its Marxist-like emphasis on economic factors while ignoring the critical role of gender in social reproduction. They argue that gender inequality is central to understanding the dynamics of unpaid care work, as women disproportionately shoulder the burden of social reproduction, which is inherently unfair. In the Global South, women face additional challenges due to inadequate social protections, pushing many into informal workplaces and further exacerbating gender inequality ^[3]. In some countries, women are still restricted from pursuing certain occupations, such as those in manufacturing, construction, and transportation ^[4]. A stereotype has emerged that frames women as being inherently suited to family responsibilities, perpetuating the notion that they are less capable of handling complex tasks. This stereotype often hinders women's career advancement, as higher positions typically demand significant time and energy, adding to the burden of family responsibilities. Women, therefore, face "double pressure" as they juggle professional and domestic roles.

Despite these challenges, more women are participating in paid labor. For instance, the proportion of women in the U.S. labor force increased from 30% in 1950 to 59% in 2011 ^[3]. However, the care crisis, exacerbated by financial capitalism, has intensified the demand for labor without providing adequate support for care tasks like parenting and household management ^[2]. This mismatch between economic demand and people's capacity to meet it has increased the pressure on women who must balance both work and social reproduction responsibilities. In summary, unpaid labor in the Global South remains largely outside the commercial domain, with social reproduction work predominantly undertaken within families. This amplifies the severity of gender inequality in the region. Social reproduction theory, however, focuses primarily on economic principles and processes, neglecting the critical role of gender. As a result, it falls short of fully explaining the essence of social reproduction, particularly in the Global South.

The third limitation of social reproduction theory is its narrow focus on local contexts, which overlooks the dynamic phenomenon of global labor migration. Many migrant women take on low-wage care jobs abroad, particularly as women from the Global South migrate to the Global North, shifting social reproduction work into the commercial sphere. This shift creates significant care gaps ^[5], intensifying the strain on unpaid care work in the Global South and making it increasingly challenging to sustain social activities. However, social reproduction theory fails to account for this global dynamic, particularly the complexities introduced by global migration, which exacerbate the challenges of social reproduction in the Global South. Moreover, the theory emphasizes the regulatory role of governments in the reproduction process, noting their recognition of the "care deficit" ^[2] and their attempts to intervene. However, such intervention is predominantly observed in the Global North and remains largely absent in the Global South.

4. Conclusion

In conclusion, while social reproduction theory provides insights into unpaid work in the Global South, it fails to fully address its complexities. The theory has notable limitations, including its disregard for the informal economic systems in the Global South, persistent gender inequalities, and the dynamics of global economic migration. Thus, although social reproduction theory sheds light on certain aspects of unpaid work in the Global South, relying on a single theoretical framework to explain economic phenomena across fundamentally different economic systems is inadequate.

Disclosure statement

The author declares no conflict of interest.

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Integrating Digital Humanities into Senior High School Literary Criticism: Opportunities and Challenges

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Abstract: In the present day, digital methods aid in the investigation and reflection of language and literary studies. It continues to develop through the use of digital tools, providing fresh perspectives on text analysis, language comprehension, and cultural significance of literary works. The growing field of digital humanities has completely changed how academics study and comprehend language and literature. The goal of digital humanism is to investigate how technology and humanistic research might be combined in the field of language and literary studies. It demonstrates how technology improves our understanding of stories, genre classification, authorship characteristics, and language evolution. Furthermore, using these digital tools goes beyond simple analysis, embracing fresh approaches to interpretation and providing new perspectives on the production, distribution, and reception of literary works and linguistic materials. It provides opportunities for interdisciplinary study by fusing computational techniques with humanities studies to investigate language and literature in fresh and perceptive ways. In the literary field, the digital humanities offer cutting-edge techniques and resources that enhance study, instruction, and interpretation. In addition to advancing conventional approaches, the function of digital humanities is to promote innovative approaches to engage with and understand cultural artifacts in a technologically mediated world.

Keywords: Digital humanities; Literary criticism; Pedagogy; Technology; Technological advancement

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1. Introduction

Transformation in the field of education is prominent as technological advancement arises and leads the way to redefine the traditional approach. These changes introduced new tools and methodologies, especially digital humanities, allowing people to deal with different subjects, even history, arts, and literature. Focusing on literature, it enables a broader way to interpret and analyze a literary text. Furthermore, this provides more

opportunities in secondary education as there is the study of literature for the students provided by teachers. In the context of digital humanities—the process of incorporating the information in literature, language, history, and other aspects and combining it to provide a new framework and perspective—it enables students to easily compare and engage in different works that allow them to enhance their critical thinking and analytical skill, which is crucial not only in education but also in any field of work^[1].

Digital humanities and language learning being connected with technology enhances students' experience in terms of education. Learning a language through books and movies can be a captivating and successful method of language development. A person can get more skilled and proficient in literature studies by reading books, learning about genres, expanding their vocabulary, having discussions, and performing analysis. However, in the digital realm, language learning can be advanced through the use of language learning apps, TV series, movies, and audiobooks. English-language films, TV series, and music have a huge global audience in the media and entertainment industry, impacting languages and cultures all over the world. Language-neutral translation and localization services are now more widely available thanks to technology. Numerous platforms and apps make language learning easier by simplifying methods for users to learn several languages. Learning becomes more engaging, dynamic, and enjoyable when digital media is included in the process. Digital ethics in literature and language in today's dynamic world take into account the appropriate use of technology and online resources while producing, disseminating, and viewing material. As technology advances, ethical norms in literature and language provide accountability for the communication process and respect for other viewpoints. In our increasingly interconnected world, upholding integrity, justice, and respect in language and literature requires utilizing digital communication and technology while adhering to ethical ideals. Literature allows us to critically analyze the moral implications of technology on people, promoting introspection and directing moral judgment in the digital age. The relationship between digital ethics and morality in literature and language draws attention to how ethical issues are changing in a world that is becoming more and more technologically advanced.

However, despite the opportunities digital humanities brought in literary criticism, it also serves challenges. It raises concerns regarding digital ethics that deal with ethical considerations covering the appropriate ways to use the online resources gathered, the personal data of the owner, and even avoiding misinformation because of the credibility of the site. Relating this to the context of literature specifically with literary criticism, it deals with the production, sharing, and consummation of the context used in the criticism. Furthermore, it also concerns respect because of the different perspectives that each individual has wherein these must be addressed to provide a better outcome.

With this, the study aims to identify the opportunities and challenges related to the existence of digital humanities in literary criticism for senior high school students. In addition, we will explore how digital tools and resources can improve students' reading experience in approaching literature, providing them with new channels of analysis and appreciation of literary texts. It shall further delve into the challenges educators and institutions face in adopting these technologies, ranging from issues of access and pedagogical approaches to the need for comprehensive teacher training. Likewise, the research aims to provide practical recommendations for effectively incorporating digital humanities into high school curricula in a way that would encourage critical thinking, creativity, and digital literacy in students while preserving the essence of traditional literary analysis.

1.1. Research questions

This study aimed to determine the opportunities and challenges experienced by the teachers in the integration of

digital humanities into the literary criticism of senior high school students.

Specifically, this study sought to answer the following objective:

(1) What kind of ongoing support and resources are necessary for teachers to sustain the use of digital humanities in their classrooms?

(2) What are the challenges and barriers that teachers face when integrating digital humanities into their teaching practice?

(3) How can the effectiveness of digital humanities integration in senior high school literary criticism be measured and evaluated?

1.2. Study significance

This study would provide a great opportunity for educators, learners, parents, school administrators, and future researchers to be aware and be guided on the integration of digital humanities in writing literary criticism among senior high school students.

- (1) Educators: This study guides them on how they are going to handle the digital humanities in writing literary criticism.
- (2) Learners: As for the learners, this will benefit them in terms of knowledge and awareness of the existence of digital humanities and cope with the challenges to provide an appropriate output in writing literary criticism.
- (3) Parents: This study may guide the parents to know what specific action and guide they may provide for their children in the existence of digital humanities to lessen the challenges it brings and maintain and support the opportunities it provides.
- (4) School administrators: The findings may present ideas to help school administrators provide a conducive environment for the existence of digital humanities in writing literary criticism and provide specific strategies for maintaining its proper usage.
- (5) Future researchers: The result of this study may provide information for future researchers who want to conduct similar studies or any related studies about digital humanities.

1.3. Scope and limitation

The research sought to identify the opportunities and challenges experienced by the teachers in integrating digital humanities into the literary criticism of senior high school students. The aspects looked into the kind of ongoing support and resources necessary for teachers to sustain the use of digital humanities in their classrooms, the challenges and barriers that teachers face when integrating digital humanities into their teaching practice, and ways to measure and evaluate the effectiveness of digital humanities integration in senior high school literary criticism.

Moreover, this study is limited only to the senior high school teachers who are having literary criticism for their students at STI College Balayan. This is because they are suitable to be the respondents from whom the needed information for the study is gathered. This means that other teachers who are not handling senior high students and from other schools were excluded from this study.

2. Literature review

2.1. Support and resources to sustain the use of digital humanities

In the period between 1990 and 2000, the concept of digital humanities appeared, initially under the name of

humanistic computer science (Humanities Computing) or computer-aided processing of humanistic data ^[2], despite the use of computers to analyze research data in humanities disciplines such as literature and history dates back to the 1940s. At that time, according to Gavin and Smith ^[3], the focus was on the potential of computers to facilitate the creation and sorting of large concordances and thesauri of historical texts.

According to Harrison ^[4], young children can access pictures and videos, navigate YouTube, and interact and participate in games and digital applications that are suited to their age. This access provides a wide range of digital content for young individuals. For instance, YouTube can allow a child to explore different multimedia content wherein it also provides learning experiences as it gives way for a child to do hands-on learning. Generations Y and Z evidently possess the greatest experience of ICT facilities, thereby making it easier for these groups to utilize even online learning. This kind of familiarity allows them to navigate things online in an easier way.

In addition, Fauziana ^[5], students can revisit their lessons by re-watching recordings made by the educator, and obtain information from books or using the internet to strengthen their knowledge. Educators and students can also conduct bilateral communication, as messages can be exchanged during a lecture using the meeting software's chat column, WhatsApp, Telegram, video calls, or phone calls. Students can also review their lessons using Education TV on DidikTV channels. This is particularly useful for students expecting to take the following examinations: the Form 5 Malaysia Certificate of Education (SPM), the Form 3 Assessment Test (PT3), and the Standard 6 Primary School Assessment Test (UPSR).

2.2. Challenges and barriers in the integration of digital humanities

Technological advancement undeniably paved the way to transform one thing to another even in education, specifically in the method of teaching practices. This technology provides new ways in analyzing and sharing information. However, the digital age has also brought new challenges to the humanities. One of the most relevant is the problem of saving data ^[6]. Nowadays, so much information is stored digitally that there is a risk of losing important data due to technological obsolescence or data corruption. Scientists must take steps to ensure the long-term preservation of digital data so that it remains accessible to future generations ^[7]. This includes having a digital archive and a robust backup system for everyone.

Another challenge is the need for scientists to develop new skills and adapt to new technologies to keep up with the rapidly evolving digital landscape. Specific professionals need to adapt to this situation and incorporate technology in research and teaching. This requires a willingness to use new methods and tools, as well as a commitment to continuous learning and professional development, otherwise, there might be lapses in the use of available digital resources.

Furthermore, Walt ^[8] mentioned that the integration of digital humanities also deals with challenges in terms of communication, opportunities, funding, and resources. As digital humanities reach a wide scope, it now tends to be more complex. This is also related to the absence of technical support and limited experience in digital humanities, which affects the output itself. These challenges have been continuously mentioned over time as it does not only affect a single aspect but each one affects one another.

2.3. Effectiveness of the integration of digital humanities in senior high school literary criticism

The effectiveness of digital humanities in senior high criticism is a factor to be determined as it will foster ways on how it will be improved as well as address the opportunities and challenges it brought. Senior high school

students can benefit from digital technologies to improve their understanding of every word, text, and meaning delivered via digital literacy tools. It implies that such digital tools help them develop their digital literacy skills while promoting self-regulated learners' autonomy ^[9]. At the same time, digital literacy tools empower senior high school students in literacy as they grow with technology. Their skills develop through careful and detailed comprehension ^[10]. Over the last few years, the influence of digital technology in daily life has evolved ^[11].

This is primarily because digitally literate people have multiple literacies that allow them to use digital technology effectively and productively ^[12]. On the other hand, senior high school students should have various skills to be digitally literate where they can use different 24 Humanities, Arts, and Education digital technology effectively and innovatively, which can help achieve quality education in times of distance learning.

Moreover, senior high school students with developed digital literacy skills are helpful for the future generation of technology. Along with these technological advancements, students use software applications like Canva, Microsoft Office, WPS, and others. These applications are used to showcase their digital literacy skills and enhance their language skills by producing critical content with images, videos, and other media output. Additionally, the digital environment that develops as an educational tool requires skills to embrace basic literacy for reading and writing in today's era, as well as the requirements of the students to have critical thinking skills such as analyzing the reliability of information and contextualizing, analyzing, and synthesizing what is found on the Internet ^[13].

3. Research design

The study employed qualitative design wherein it deals with exploring and understanding a complex phenomenon through individuals' and or groups' interpretations. Plus, it captures rich human experiences, beliefs, behaviors, and attitudes by providing insight that is not within the statistical analysis ^[14]. This method is used in different studies as it enables one to get first-hand information as well as it is suitable for this study to determine the opportunities and challenges brought by digital humanities in writing literary criticism.

3.1. Data collection

The opportunities and challenges brought by digital humanities in writing literary criticism in senior high school were determined using teachers' perspectives based on their own understanding and experience. With this, the data for this study was collected using interview questions. However, to ensure ethical consideration and secure information, a permit was obtained before conducting the study. Upon the approval, the process was explained and pushed through one by one wherein the answer will be written down and treated with utmost confidentiality. The collected data was read carefully and analyzed with the use of thematic analysis.

3.2. Data analysis

Thematic analysis was used in this study to further analyze the gathered information and uncover the meaning of a certain text through its pattern ^[15]. This analysis was chosen as it is suitable for the study and it helps the researcher to easily categorize and analyze the data collected. The data was compiled and read thoroughly to identify the similarities and differences in the answers from each respondent. Furthermore, the analyzed data was used in the discussion to be further analyzed and interpreted.

4. Discussion

This section assessed the opportunities and challenges in the integration of digital humanities in senior high school literary criticism based on teachers' perspectives.

4.1. Ongoing support and resources necessary for teachers to sustain the use of digital humanities in their classrooms

All of the participants pointed out the importance of a supportive environment that pertains to people and resources to have a sustainable use of digital humanities in the classroom. Each participant highlighted different key aspects that aim to benefit the teachers in handling the digital humanities effectively. For participant 1, the need for specialized professional development tailored to their discipline was mentioned, which deals with having personal experiences on how to do things; it is related to the answer of participant 5 wherein it focuses on the need to have technical support wherever there are technical difficulties to be solved.

"Teachers should have access to specialized professional development tailored to their discipline. For example, humanities teachers may need training on text analysis software, while history teachers might benefit from resources on geographic information systems (GIS)."—Participant 1

"Teachers may face technical difficulties while using DH tools, so access to a responsive tech support team is essential."—Participant 5

On the other hand, participants 2, 3, and 4 emphasized the crucial role of collaboration among teachers and reflection on each practice with the integration of digital humanities. Participant 2 entailed that in order to have a supportive environment, each teacher must collaborate with each other to have a broader knowledge of digital humanities and provide more solutions regarding the problem to be solved. This collaboration is related to the reflection to gain feedback to monitor themselves to have continuous improvement. Furthermore, participant 4 added that it will also benefit the teacher to be flexible and adapt easily as they will be able to refine their approaches over time.

"Encouraging teachers to work together, whether within their own institution or with other educators in digital humanities-focused communities, fosters knowledge sharing and problem-solving."—Participant 2

"Teachers need ways to reflect on their teaching and get feedback from students, peers, or mentors. Regular surveys, focus groups, or peer reviews can help gauge the effectiveness of digital humanities integration."—Participant 3

"The nature of digital humanities work often involves constant iteration and adaptation. Teachers need a supportive environment that encourages experimentation and allows for the adaptation of projects as new tools or challenges arise."—Participant 4

4.2. Challenges and barriers teachers face when integrating digital humanities into their teaching practice

All of the participants shared a common concern about the interaction of digital humanities into teaching practice. Both participants 1 and 5 pointed out teachers having a hard time with digital humanities as they lack sufficient expertise and there are also existing issues about access. With this, the participants emphasized the importance of having technical expertise in the field and institutional support to cope with this challenge.

"Many teachers may not have the technical expertise required to effectively use digital humanities tools like text analysis software, GIS, or digital archives. Without proper training, educators might feel overwhelmed or ill-equipped to integrate these tools into their lessons."—Participant 1

"Without a strong institutional framework for continuous professional development, collaboration, and

technical support, teachers may struggle to keep up with the evolving nature of digital humanities tools and methodologies.”—Participant 5

On the other hand, participants 2 and 3 highlighted the challenge in terms of educators intentionally and unintentionally not wanting to adopt the existence of digital humanities for different reasons such as their preference and capability in doing so.

“Some educators or institutions may be resistant to adopting digital humanities due to unfamiliarity with new technologies or a preference for traditional teaching methods.”—Participant 2

“Not all students may have equal access to the technology or digital resources needed to fully engage in digital humanities projects, especially in institutions with diverse socioeconomic backgrounds.”—Participant 3

Meanwhile, participant 4 mentioned that the problem lies in balancing the approach with the use of modern and traditional approaches as both of them have their pros and cons.

“Teachers may struggle to find a balance between incorporating new digital tools and maintaining traditional teaching methods that they are comfortable with and that have proven effective.”—Participant 4

4.3. Methods to measure and evaluate the effectiveness of digital humanities integration in senior high school literary criticism

Each participant showcased common significant factors to measure and evaluate the effectiveness of digital humanities in senior high school literary criticism, which is the work of the students. Three of the participants shared a related way: for participants 1 and 5, it is crucial to evaluate the application of students in using digital tools. In addition, participant 3 mentioned that feedback must be also given to know what to improve.

“I can say that the effectiveness of digital humanities integration can be evaluated by assessing the ability of the students in using digital humanities in interpreting a literary text.”—Participant 1

“I can evaluate my students by focusing on the technical proficiency of my students while using digital humanities tools. Here, I can monitor the ability of my students in using digital humanities tools.”—Participant 5

“We can do it by giving feedback and rating our students’ work giving more points for the content.”—Participant 3

Meanwhile, participant 2 emphasized that the evaluation must focus on the shared knowledge of the students through collaboration while participant 4 suggested that determining the difference between the initial and final work should be given focus to see how digital humanities tools work on the students.

“This can be done through observing the collaboration of the students in doing their work with the use of digital platforms. I’m interested in collaborative projects and discussion since students can exchange ideas also there is digital humanities.”—Participant 2

“We can check the initial and final output to see the differences and changes between the two outputs since progress is a must especially as there are tools for digital humanities.”—Participant 4

5. Conclusion

The digital humanities significantly changed the landscape of the study of language and literature by analyzing specific themes, which have illuminated the profound implications of digital humanities in reshaping scholarly discourse, fostering interdisciplinary collaborations, and democratizing access to literary and linguistic resources. Through its innovative technologies, it enables deeper analysis, interpretation, and preservation of literary works and languages. However, ongoing support and resources are crucial parts of making this possible. It highlights the use of computational tools and techniques to open avenues for interdisciplinary collaboration,

which in turn has encouraged new approaches to understanding cultural artifacts, linguistic nuances, and historical contexts. With this, the future of the field will revolutionize how we explore, analyze, and appreciate language and literature in our increasingly digital world. The fusion of humanities and technology has enriched both scholarly research and democratized access to literary resources while establishing a more inclusive and diverse understanding of the language and literature. Therefore, the advent of digital humanities in the sphere of language and literature presents a new shift of paradigms providing novel chances for exploring, understanding, and sharing literary pieces of work as well as other linguistic ingredients with the collaboration of teachers, reflection of practices, and providing great opportunities for personal experiences.

The challenges and barriers teachers face when integrating digital humanities into their teaching practice involve insufficient technical expertise and experiences, difficulties and assistance, access to technology, and the use of traditional methods. Despite these difficulties, the digital age brings exciting new opportunities for the humanities, and scientists are taking innovative approaches to capitalize on these opportunities. The humanities continue to be important contributors to understanding human experience in the digital age, and beyond that, by using new technologies and methods of analysis as well as by engaging audiences in new and creative ways.

The effectiveness of digital humanities in senior high school criticism can be measured and evaluated with the help of student engagement as it deals with their work using digital tools. It emphasizes evaluating the works of the students and the discussions, and monitoring students' progress by giving feedback to enhance the critical thinking and understanding of the students in using digital humanities.

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AI-Powered Research on Translation Strategies and Methods and Its Advantages and Disadvantages: A Case Study of the Translation of *Ambulance Lectures: First Aid to the Injured*

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Abstract: This article, empowered by ChatGPT and through retrieving relevant historical literature, explores how the translator Sun Yat-sen flexibly employed strategies like domestication and foreignization, as well as methods like omission, addition, and modification in his translation of *Ambulance Lectures: First Aid to the Injured*. Additionally, the research highlights the use of ChatGPT as a tool to assist in the study. While ChatGPT is able to provide comprehensive knowledge quickly and proper translations, improvements are still needed in terms of image accuracy and citation generation. By providing specific context, probing for factual evidence, clarifying the reference objects, and narrowing the scope, prompts can be gradually refined for increasingly satisfactory outcomes.

Keywords: Artificial intelligence; Translation strategies and methods; *Ambulance Lectures: First Aid to the Injured*; Sun Yat-sen

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1. Introduction

Dr. Sun Yat-sen was a great national hero in China's democratic revolution. As a translator, he translated the medical work *Ambulance Lectures: First Aid to the Injured* into Chinese, with the Chinese version titled “红十字会救伤第一法” (hereinafter referred to as “救伤第一法”). This translated work is the first book on the Red Cross in the Chinese-speaking world. This article conducts a comparative analysis of the original and the translation, and, with the aid of artificial intelligence technology, explores the translation strategies and methods employed by the translator.

2. Literature review

Research on Chinese translations is scarce. Ding and Liu held that this translation played a significant role in the initial development of the Chinese Red Cross Society ^[1]. Zou pointed out that this translation is the first Chinese book on the Red Cross and represents a milestone in the history of the Chinese Red Cross Society ^[2]. Chi and Cui examined the translator's motivation and the translation's influence on the translator's thoughts. They argued that it was somewhat inevitable for Sun Yat-sen to translate this book, and the translation process was continually enriching his humanitarian ideas ^[3]. However, the above studies have only focused on the relationship between the translation and the translator's background, motivation, and intellectual development, as well as its impact on the development of the Chinese Red Cross Society. Takegami discovered that Sun Yat-sen added "Red Cross" to its translation's title which did not appear in the original, and changed the original publishing institution to "St. John's Red Cross." He also compared various chapters of the original and the translation, analyzing the translation of certain terms ^[4], without a comparative analysis of the original and the translation from the perspectives of syntax and culture in context. Zou further analyzed the reason for adding "Red Cross" to the title—to promote the development of the Red Cross movement through translation ^[5]. These studies mainly investigate from the perspectives of research on translator and the translation's publishing history. As a far-reaching translation, the Chinese translation has not attracted widespread attention from the translation studies community.

As a tool employed in this study, ChatGPT, an application of language intelligence technology, has had a significant impact on academic research. Many scholars have explored how to fully utilize the tool in teaching and research, especially in fields such as creation, translation, and academic paper writing ^[6]. In translation, Brewster *et al.* assessed the performance of Google Translate and ChatGPT for multilingual translation of pediatric discharge instructions, which demonstrated similar domain-level ratings to professional translations for Spanish and Portuguese. While for Haitian Creole, professional translations demonstrated greater adequacy ^[7]. Long and Zhou extracted high-frequency term lists of a book and established a bilingual term database through a term translation and management process based on ChatGPT and other technologies ^[8].

3. Case analysis

This paper compares the 1885 original edition with the 1897 Chinese translation by Sun Yat-sen, using the ChatGPT-4.0 model in combination with relevant historical records to explore the translation strategies and methods employed by the translator in terms of language, culture, and communication.

3.1. Linguistic level

In the translation process at the linguistic level, the translator must not only consider the phonetic features of the source language but also take into account the target reader's acceptability and cultural background, particularly in the translation of proper nouns. The translator's linguistic habits, that is, the influence of his mother tongue, may also affect translation decisions.

Example 1: Original text: Osborn

Translated text: 柯士宾

In terms of vocabulary, the translator employs transliteration to translate names, influenced by the translator's native Cantonese and the target readers' acceptability. For instance, in “英医柯士宾君,” the translator rendered the original author's name “Osborn” as “柯士宾” because the Cantonese pronunciation of “柯士宾”(“o-si-ban”) closely resembles the English pronunciation of “Osborn” (**Figure 1**).

Prompt: What is the Cantonese pronunciation of “柯士宾”?
ChatGPT: The Cantonese pronunciation of “柯士宾” can be roughly indicated using Cantonese pinyin. 柯 is pronounced [o1] in Cantonese. 士 is pronounced [si6] in Cantonese. 宾 is pronounced [ban1] in Cantonese.

Figure 1. Cantonese pronunciation of “柯士宾”

Sun Yat-sen was influenced by his mother tongue and tended to choose Chinese characters whose Cantonese pronunciations were similar to the English pronunciation for translation. Furthermore, the target audience of the first edition was primarily Chinese people in Hong Kong, Macau, Southeast Asia, and other regions, where Cantonese is widely spoken. The translator used transliteration based on Cantonese pronunciation for names, based on phonetic similarity and the readers’ acceptability, making the translation accurate in pronunciation.

Example 2: Original text: Tiles of a mosaic pavement

Translated text: 碎石街 (阶) 砖

In the translated text, common terms from the Guangdong region are used, such as “碎石街 (阶) 砖”^[9]. They are commonly found in the Lingnan region and are effective in drainage (**Figure 2**). Since Sun Yat-sen was from Xiangshan, Guangdong, and had studied and worked in Hong Kong and Macau, this translation was influenced by his surroundings and linguistic habits. It also makes it easier for the target readers to understand and accept.

Prompt: What is “碎石街 (阶) 砖”?
ChatGPT: “碎石街 (阶) 砖” is a type of building material used for paving roads or steps, typically made from small gravel, stones, or a mixture of both. <u>It is especially suitable for areas with frequent rainfall as it facilitates effective drainage. In regions like Lingnan, there is a long-standing tradition of using “碎石街砖” (or stone-paved streets).</u> Examples include the old streets and alleys in Guangzhou and the arcade streets in Foshan, among others.

Figure 2. Stone paving “碎石街 (阶) 砖” used in Lingnan streets

Example 3: Original text^[10]: You naturally will ask, of what use, then, is the nitrogen? Probably you may at some time or other have seen at some chemical lectures that bodies burnt in oxygen gas burn with far greater brilliancy than in ordinary air. Well, we should do the same if only this gas was present, and live our lives far too rapidly; and, consequently, nitrogen is present solely to dilute the oxygen.

Translated text^[9]: 或问：“天气中之淡气有何用处？”如各人曾听过化学讲课者，必见过养气之烧物，比之寻常天气更烈而速。由此推之，倘吾人独生于养气之中，生命必促。故淡气者，特用以和匀养气，而制其烈也。

In Example 3, the original text adopts a teaching tone and uses rhetorical questions to create a closer connection with the reader. The use of analogy makes the content easier to understand. Literal translation is adopted here, retaining the rhetorical devices of rhetorical questions and analogy. Additionally, since the target readers are the masses, the language of the translation is simple and easy to understand, with short sentences, thus reproducing the style of the original text.

3.2. Cultural level

Due to the cultural differences between the source and target languages, the translator must fully understand and

accurately convey the cultural connotations of the original text. The awareness of cultural differences and the acceptability of the readers should be reflected by the translation.

Example 4: Original text ^[10]: The heart in shape is not like what you see on a valentine, but has a more truncated base and apex. Its relative size for any individual is that of the two fists placed together.

Translated text ^[9]: 心之形如莲蕊。其大之比例，适如其本人双拳对合等。

In Example 4, the term “valentine” in the original text refers to a Valentine’s Day card. As shown in **Figure 3**, Valentine’s Day was not widely popularized from the late 19th century to the early 20th century. The Chinese translation was published in 1897, and its target readers were soldiers, sailors, and workers, who likely had never seen Valentine’s Day cards then, but were familiar with the shape of a lotus pistil (“莲蕊”). Here, the translator adopted a modification approach, replacing the metaphor of the heart with “lotus pistil.” This not only accurately conveys the message but also makes it easier for the readers to understand.

Prompt: When did Valentine’s Day enter China?
ChatGPT: The history of Valentine’s Day entering China can be traced back to the late 19th century to the early 20th century.
1. Early Introduction (Late 19th Century to Early 20th Century)
Valentine’s Day was first introduced to China’s coastal regions by Western missionaries and foreign merchants. <u>The concept of the holiday mainly spread within foreign communities.</u>
2. Initial Spread (Early to Mid-20th Century)
In the early 20th century, <u>the concept of Valentine’s Day started to be introduced to intellectuals and the urban middle class, but it was not widely popularized.</u>



Figure 3. Early introduction and spread of Valentine’s Day in China

Example 5: Original text ^[10]: The red corpuscles give the color to the blood, and in form are bi-concave discs; and when viewed edgewise are very similar in shape to dumb-bells, and on removal from the body have great tendency to adhere together in rolls, like a pile or rouleaux of coins.

Translated text ^[9]: 血之有色，则红轮所呈也。其形为扁体，两面皆凹，侧而观之，似窄腰纱灯，如图七。血轮流出体外，大有牵合之力，垒合如贯钱……

In Example 5, the original text compares the shape of the cross-section of red corpuscles to a “dumb-bell” and, after the blood flows out of the body, likens the stacked red corpuscles to “a pile or rouleaux of coins.” Due to cultural differences, ordinary Chinese people at the time might not have seen “dumb-bells” or “coins,” and they might have trouble imagining the shapes of these objects. Without modification, this could leave readers confused. The translator adopted a strategy of domestication, changing “dumb-bell” and “coins” to “窄腰纱灯” (narrow-waisted silk lantern) and “贯钱” (a string of Chinese coins) respectively (**Table 1**). It is evident that the translator prioritized the culture and readers of target language.

Table 1. Images generated by ChatGPT

Prompts	“其形为扁体，两面皆凹，侧而观之，似窄腰纱灯，” generate an image of “窄腰纱灯.”	“血轮流出体外，大有牵合之力，垒合如贯钱，” generate an image of “贯钱.”
Images generated by Chat-GPT		

Example 6: Original text^[10]: The male subject has the same number of ribs as the female, although many are apt to say, on the strength of their Biblical knowledge, that the male has one less.

Translated text^[9]: (肋骨) 男女俱同。俗传女多一骨，非也。

The concept of the rib in *Bible* is referred to in the underlined part. It is specifically from the Book of Genesis in the *Old Testament* (**Figure 4**). The original readers, from English-speaking countries, are very familiar with the *Bible*. However, in China, where the cultural context is quite different, the public is not familiar with the book and its content. The translator wisely chose to omit this part, adapting it to the target language readers.

Prompt: What is the conception of number of ribs in the Bible?
ChatGPT: In the Bible, specifically in the Book of Genesis, the concept of the number of ribs comes from the creation story of Eve, where it is stated that Eve was created from one of Adam's ribs. Genesis 2:21-22 (KJV): <i>"And the Lord God caused a deep sleep to fall upon Adam, and he slept: and he took one of his ribs, and closed up the flesh instead thereof. And the rib, which the Lord God had taken from man, made he a woman, and brought her unto the man."</i> This passage has led to various interpretations and beliefs, particularly the idea that men might have one fewer rib than women because Eve was made from Adam's rib.

Figure 4. The biblical conception of the number of ribs

Secondly, the translation also retains the exoticism and foreign culture. The translator adopted a strategy of foreignization, keeping the image of short hair in the illustrations (**Figure 5**), without adapting the character's image to suit Chinese culture. As can be seen in **Figure 6**, influenced by Western culture and ideas, Sun Yat-sen advocated for short hair. That image can spark curiosity and interest among Chinese readers and introduce new culture, so as to help eliminate backward feudal practices.



Figure 5. The 10th illustration in translation^[9]

Prompt: Did Sun Yat-sen advocate for short hair? What literature or evidence supports this?
ChatGPT: Yes, Sun Yat-sen advocated for short hair as part of the anti-queue movement. Evidence and Literature Supporting This: The Chronological Biography of Sun Yat-sen: This book mentions that in 1905, Sun Yat-sen, through the establishment of the Tongmenghui (Chinese Revolutionary Alliance), explicitly advocated for the abolition of the Manchu hairstyle system, calling for the overthrow of the Qing dynasty and the reform of traditional culture. Propaganda Materials during the 1911 Revolution: During the 1911 Revolution, anti-Qing slogans included "cutting off the hair" as part of the effort to overthrow Qing autocracy. Sun Yat-sen's Public Speeches and Writings: In <i>The Outline of National Reconstruction</i> , he mentioned the importance of reforms in education, culture, and other areas to promote China's modernization, including the abolition of old customs like the queue. Actions and Reactions after the 1911 Revolution: After the revolution, the Republic of China government began advocating for the abolition of the queue and the adoption of modern clothing and hairstyles.

Figure 6. Sun Yat-sen's advocacy for short hair and the abolition of the queue

At the cultural level, while the translator has taken the target culture and readers into full consideration, adopting a domestication strategy with modification and omission, the translator had chosen a foreignization strategy for advanced foreign culture, retaining the images in illustrations.

3.3. Communicative level

Any information without communicative intent is meaningless. Besides linguistic and cultural dimensions, the translator must also consider the communicative function, which is reflected in addition and modification of the book title by the translator.

Example 7:

	Book title	Preface
Original text ^[10]	<i>Ambulance Lectures: First Aid to the Injured</i>	The syllabus of the <u>St. John's Ambulance Association</u> has been strictly adhered to, as these are Lectures given to their classes.
Translation by ChatGPT	救护讲座：伤者的急救	本书严格遵循 <u>圣约翰救护协会</u> 的课程大纲，因为这些讲座是专门为其课程班级开设的。
Translated text ^[9]	《 <u>红十字会救伤第一法</u> 》	按照《 <u>圣约翰红十字会章程</u> 》，凡联班隶会者，当以此编为读本。

In Example 7, the translator added “Red Cross Society” to the title, indicating that the translated work was published by the Red Cross Society. Furthermore, in the preface, “St. John’s Ambulance Association” was translated as “圣约翰赤十字会” (St. John Red Cross Society). The original text does not mention any connection between Samuel Osborn’s experience and the Red Cross, yet the translation refers to him as the “chief doctor of the Red Cross in London.”

Research reveals that the translator may have aimed to promote the establishment of the Red Cross Society in China. During the First Sino-Japanese War, the Japanese Red Cross collaborated with the military to establish a comprehensive wartime medical system, receiving donations and support from the International Committee of the Red Cross (ICRC). In contrast, China was regarded as “backward,” and the Qing military was criticized for being “stubborn.” With China’s defeat, many reform-minded individuals were deeply concerned about the status quo of being impoverished and weakened, leading to an increasing number of movements to establish a Red Cross Society. Newspapers like *Shun Bao* frequently published articles about the Red Cross movement and the Japanese Red Cross. It was through the international praise for Japan and criticism of the Qing that Sun Yat-sen realized that founding a Red Cross Society could help integrate China into the international community and enhance the nation’s image.

Besides, the content of the original *Ambulance Lectures: First Aid to the Injured* aligns closely with the responsibilities and spirit of the Red Cross. Missionary doctors in China played a crucial role in advancing the Red Cross movement. For example, Sun Yat-sen’s mentor Dr. J. Cantlie founded the Hong Kong Red Cross and edited a first-aid manual. Sun’s close friend, Samuel Osborn, had worked in battlefield first-aid and authored the original. All this introduced Sun to the work of first-aid and the Red Cross. He believed that mastering the skills of aiding others and rescue embodied the humanitarian and charitable principles advocated by the Red Cross. Therefore, it is appropriate to add “Red Cross Society” to the title of the translation.

From the content of **Figure 7**, Sun Yat-sen realized the value of the Red Cross Society and the necessity of establishing one in China. Thus, the added “Red Cross Society” aimed to increase its visibility in China, lay the foundation for public support, and advocate for its establishment, thereby contributing to social reform, which is the communicative goal.

Prompt: Referring to the Japanese Red Cross Society of the time, what was the significance of establishing the Red Cross Society in China in the late 19th century?

ChatGPT: China's establishment of the Red Cross Society was deeply inspired by the international Red Cross movement and the Japanese Red Cross Society.
Learning from Neighboring Experience: Drawing on the experiences of the Japanese Red Cross in wartime rescue and social mobilization.
Enhancing Rescue Capabilities: Strengthening the capacity for medical assistance during wartime and natural disasters.
Integrating into the International System: Improving the nation's image through participation in international humanitarian affairs.
Promoting Social Reform: Advancing the modernization of healthcare and spreading the spirit of public welfare and volunteerism.
Inheriting Cultural Values: Combining China's traditional ethos of "helping the world and saving lives" with modern humanitarian principles...

Figure 7. The establishment of the Red Cross Society in China and its significance

This article identifies a few translation errors in the first edition of the translation, such as “gall bladder” being mistranslated as “腰骨” (waist bone). “Catgut” is a type of cord historically made from the natural fibers of the intestines of sheep or goats, not cats, despite the name; but it was mistakenly translated as “猫肠线” (the gut of cat). However, given the translator’s challenging circumstances at the time and lack of proofreading, such mistranslations were inevitable.

4. Advantages, disadvantages, and optimization methods



In the process of exploring the translation strategies and methods of the book, ChatGPT was used to complete tasks such as translation (Example 7), drawing (Tables 1 and 2), and retrieving background information (Example 2), professional knowledge (e.g. “catgut”), and relevant literature (Figures 4 and 6).

4.1. Advantages and disadvantages

One of the advantages of ChatGPT is that it can provide comprehensive background knowledge quickly, covering a wide range of informational needs. Additionally, the translations generated by ChatGPT are often proper. Researchers can obtain quality preliminary translations within a short time, significantly reducing the time and effort required for manual translation.

However, there are notable limitations in ChatGPT’s ability to generate accurate images and citations. First, although relevant images can be obtained through precise prompts, the images may not fully match the description. As shown in Table 2, without context, the generated image does not align perfectly with the described shape. Providing context can improve this to some extent. Another disadvantage is that ChatGPT cannot automatically generate accurate citations or sources. This means researchers still need to manually search for and verify sources to ensure academic accuracy and rigor. Therefore, while ChatGPT enhances research efficiency, improvements are still needed in terms of image accuracy and citation generation.

Table 2. Image comparison based on two prompts

Prompts	Generate an image of “窄腰” “其形为扁体，两面皆凹，侧面观之，似窄腰纱灯.” generate an image of “窄腰纱灯.”	
Images generated by ChatGPT		

4.2. Optimization methods

While ChatGPT-generated results are generally accurate, they tend to rely heavily on prompts and are significantly influenced by the specifics of multi-turn interactions with users. In case analysis, through optimization methods in **Table 3**, prompts were gradually refined for increasingly satisfactory outcomes.

Table 3. Comparison of original and improved prompts with optimization method

Source	Original prompt	Improved prompt	Optimization method
Table 2	Generate an image of “窄腰纱灯.”	“其形为扁体，两面皆凹，侧面观之，似窄腰纱灯.” generate an image of “窄腰纱灯.”	Providing specific context
Figure 6	Did Sun Yat-sen advocate for short hair?	Did Sun Yat-sen advocate for short hair? <u>What literature or evidence supports this?</u>	Probing for factual evidence
Figure 7	What was the significance of establishing the Red Cross Society in China?	a. <u>Referring to the Japanese Red Cross Society of the time</u> , what was the significance of establishing the Red Cross Society in China b. <u>in the late 19th century?</u>	a. Clarifying the reference objects b. Narrowing the scope

Firstly, more specific context helps generate more targeted and insightful content. Secondly, the accuracy of the generated content needs to be validated. Since the model is trained on existing online data, researchers should critically evaluate the results to ensure reliability. Thirdly, providing clear comparison objects encourages more in-depth and valuable analysis. Lastly, narrowing the scope by clearly defining time and spatial limits can help avoid irrelevant content. In short, the dynamic feedback and adjustment can bring about more innovative results that are closely aligned with research needs.

5. Conclusion

Dr. Sun effectively achieved his communicative and political goals by employing appropriate translation strategies and techniques, considering the original text’s language style, the target language’s cultural context, and the readership. After Sun’s translation was introduced to China, it was recommended as a textbook for medical schools. Subsequently, the Shanghai Branch of the Red Cross was founded in 1904. This demonstrates the translation’s significant role in the early movement of the Red Cross in China, contributing to the establishment of the Chinese Red Cross Society and marking a milestone in its development.

This study also examined the advantages and limitations of ChatGPT in the analysis of strategies and methods for translating medical texts, offering suggestions for improvement. With the support of artificial intelligence technology, we can not only make full use of abundant academic resources but also drive significant

transformations in teaching and research concepts, models, and content. By leveraging intelligent and information-driven practical approaches, the precision and efficiency of translation education will be enhanced, and innovative advancements in academic research will be fostered.

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Exploration and Practice of Collaborative Talent Cultivation Model for Urban Horticulture under the Background of Smart Agriculture

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Abstract: This paper discusses the development characteristics of urban horticulture under the background of smart agriculture, as well as the application of artificial intelligence technology in it. It analyzes the importance of highly skilled talents in urban agriculture in the era of smart agriculture and their cultivation pathways and practices. It proposes measures such as building multi-level practical teaching platforms, implementing the “Enjoy Horticulture” series of high-quality activities, and establishing the “1234” applied talent training model to cultivate high-quality talents that meet the development needs of modern urban horticulture industry. Taking Beijing University of Agriculture and other universities as examples, the paper analyzes the practical cases and effects of the urban horticulture discipline’s industry-education-research collaborative talent training model, which has reference significance for further improving and perfecting the urban horticulture industry-education-research collaborative talent training plan.

Keywords: Agricultural modernization; Smart agriculture; Urban horticulture; Industry-education-research collaboration; Talent cultivation

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1. Introduction

The third plenary session of the 20th Central Committee of the Communist Party of China emphasized the vigorous development of smart agriculture, while urban horticulture, as an important component of agricultural modernization, has also attracted much attention. In today’s world, technological advancements are occurring at an unprecedented pace. With the development of artificial intelligence technology worldwide, smart agriculture has become a new engine for promoting the development of urban horticulture. As an integral part of the urban green ecosystem, urban horticulture will leverage modern information technologies such as artificial intelligence, agricultural robots, the Internet of Things, and big data to achieve precise management, efficient production, and quality enhancement^[1]. Against this backdrop, the discipline of urban horticulture is also facing

the challenges of transformation, upgrading, and high-quality development. To cultivate high-quality talents who meet the development needs of the modern urban horticulture industry, it is particularly important to explore and practice industry-education-research collaborative talent training models. Through close cooperation between the industry, education, and research institutions, technological innovation, talent cultivation, and the transformation of scientific research results are promoted to meet the development needs of the modern urban horticulture industry, providing strong talent support for the construction of an agricultural powerhouse.

2. Background and significance of urban horticulture industry-education-research collaboration

2.1. Development trends of smart agriculture

Smart agriculture, through the integrated application of modern information technology, has achieved intelligent management of the agricultural production process. It not only enhances agricultural production efficiency and quality but also reduces resource consumption and environmental pollution, promoting sustainable agricultural development. With advancements in artificial intelligence and life sciences, an increasing number of innovative ideas and technologies are being applied to smart agriculture, revolutionizing the traditional, weather-dependent agricultural model and significantly enhancing production methods and efficiency in the modern era. The integration of smart agriculture with modern information technology is driving the digitalization, intelligentization, and networking of agricultural production. Similarly, its integration with life sciences is advancing the efficiency of new crop variety innovation and improving the precision of crop growth and development regulation throughout the entire process^[2,3]. Technologies such as 5G, the Internet of Things, big data, artificial intelligence, and high-precision sensing are being applied to smart agriculture on an increasingly extensive and profound scale. Against this backdrop, the urban horticulture industry is also undergoing transformation and upgrading, striving for high-quality development to meet the demands of this new era.

2.2. Characteristics and talent needs of urban horticulture

Urban horticulture, as an integral part of modern agriculture, is highly market-oriented and technologically dependent^[4,5]. With the acceleration of urbanization and the increasing consumer demand for high-quality agricultural products and integrated agricultural, cultural, and tourism services, the demand for intelligent upgrades and high-quality talent in urban horticulture has become increasingly urgent. These talents are required not only to possess solid professional knowledge but also to have an innovative spirit and practical abilities to cope with market changes and new technological challenges.

Modern urban horticulture has distinct characteristics: (1) Multifunctionality: Urban horticulture not only provides food and nutrients but also serves to sustain and improve the environment, significantly reducing urban noise and air pollution, and making residents' lives more comfortable and secure. (2) Intensive management: Urban horticulture is a highly facility-based model that intensively cultivates crops and adopts vertical planting and year-round production methods. (3) Integration of technology and innovation: Urban horticulture combines modern agricultural development theories, Internet of Things technology, facility production technology, and industrialized business models, emphasizing the application of technology in horticulture. (4) Green space creation: Urban horticulture creates green spaces in cities, which helps improve air quality, reduce pollution, and mitigate the urban heat island effect. (5) Integration of agriculture, culture, and tourism: Urban horticulture, as a carrier, promotes the integrated development of urban and rural areas. It allows people to appreciate the beauty of natural ecology, enriches the cultural connotations of rural revitalization, activates the economic vitality of

rural development, and enhances people's cultural pride and sense of happiness in life.

The urban horticulture industry actively introduces technological innovation to improve production efficiency, product quality, and social benefits. The application of smart greenhouses, automated irrigation systems, and drone technology makes horticultural production more intelligent and efficient. In light of this, higher demands are placed on the talent needed for urban horticulture. (1) Interdisciplinary education and practice: Urban horticulture students need to master not only the basic knowledge of facility horticulture, cultivation, breeding, plant physiology, etc., but also a certain amount of artificial intelligence science, big data science, engineering, and other professional directions' core course theories and operational skills. It is required that horticulture talents keep pace with technology to adapt to the development and changes in the era of smart agriculture. Emphasizing the integration of this interdisciplinary knowledge, the cultivation of innovative thinking, and the recognition and protection of the value of agricultural cultural heritage helps better adapt to the development needs of the urban horticulture industry. (2) Integration of industry, education, and research: The cultivation of urban horticulture talents needs to be closely integrated with the industry front line. Through industry-education-research cooperation, students can practice and intern in large enterprises and institutions of modern urban agriculture to understand the needs of the industry front line and integrate the agricultural scientific research advantages of schools. (3) Innovative consciousness and ability: Urban horticulture talents need to have enthusiasm and passion and must possess the ability to explore learning and lifelong learning. They should be able to conduct comprehensive analysis and innovative practice within the field of horticulture, promoting the development of the industry.

Therefore, educators should follow the outcome-based education (OBE) philosophy ^[6], grasp the development trends of the times, keep pace with the times, and achieve the goal of cultivating young talents with a sense of national pride and love for agriculture, strong capabilities in strengthening and revitalizing agriculture, and an open and progressive international perspective ^[7].

2.3. Significance of industry-education-research collaboration

Industry-education-research collaboration refers to the establishment of close ties between the industry, education, and research institutions to jointly undertake project research, technological development, and transformation, and share resources and outcomes ^[8]. This cooperative model is of significant importance in the context of smart agriculture.

- (1) Promoting technological innovation: Through industry-education-research cooperation, the practical needs of the industry, the theoretical knowledge of academia, and the research capabilities of institutions can be effectively integrated to jointly explore, study, and solve practical problems, thereby driving continuous innovation in agricultural technology.
- (2) Accelerating the transformation of scientific research results: Industry-education-research cooperation can rapidly transform academic research findings into productive forces, promoting the industrialization and commercialization of scientific and technological achievements, and providing strong support for the practical application of smart agricultural production technology.
- (3) Cultivating high-quality talent: Through industry-education-research cooperation, students can learn and master professional knowledge in practice, enhance their ability to solve practical problems, and at the same time, understand the latest industry trends and market demands. This prepares them to embrace the trend of agricultural intelligence and achieve the national strategy of strengthening and revitalizing agriculture with strong skills.

3. Exploration of urban horticulture industry-education-research collaborative talent cultivation model

3.1. Building multi-level practical teaching platforms

To meet the demand for high-quality talent in the development of the urban horticulture industry, multi-level practical teaching platforms can be established, including off-campus contracted practical teaching bases, high-level talent cross-training programs, and international talent cultivation pathways.

Establishing off-campus contracted practical teaching bases: By hiring off-campus practical teaching instructors and jointly formulating training plans, students' ability to apply professional knowledge to solve practical problems can be strengthened. This cooperative model allows students to gain a deep understanding of the actual operations of enterprises, market demands, and key issues, improving the targeting and quality of students' future employment. It also clarifies the key industry challenges that universities need to address.

High-level talent cross-training programs: Research institutions cooperate with each other to carry out high-level talent cross-training programs. By implementing projects such as the "Practical Training Plan" and the "Dual Training Plan," students' research and innovation abilities are enhanced, laying a solid foundation for further studies. These programs allow students to exercise their innovative thinking and problem-solving skills in scientific research practice, laying a solid foundation for future academic research and career development.

International talent cultivation pathways: Schools collaborate with foreign universities to carry out high-level talent cross-training programs and China-foreign joint training programs. By building international talent cultivation pathways, urban horticulture talents with an international perspective and thinking are cultivated. These programs enable students to understand the development trends and market demands of the international horticulture industry, improving their cross-cultural communication skills and international competitiveness.

3.2. Implementing the "Enjoy Horticulture" series of activities

Leveraging the scientific research resources, extension practice experience, and professional storytelling spirit of the experimental demonstration stations (bases), students' sense of belonging, identity, and pride in horticulture can be enhanced through cultural influence and infection, integrating professional ideological education into practical activities. According to specific seasons, the latest scientific research achievements of the experimental demonstration stations (bases) are shared with all teachers and students in the form of "Scientific Research Achievement Sharing Season." By showcasing and promoting the latest scientific research achievements, students' interest in learning and innovative spirit are stimulated, while promoting the transformation and application of scientific research results.

3.3. Establishing the "1234" applied talent cultivation model

Establishing a "1234" applied talent cultivation model centered on job capability training: This model integrates two core methods—school-enterprise cooperation and work-integrated learning—and organizes the curriculum into three categories: horticultural plant production, artificial intelligence, and agribusiness management. Furthermore, it emphasizes four types of collaboration to ensure comprehensive talent development: industry-education collaboration, learning-research collaboration, research-teaching collaboration, and learning-application collaboration. This framework aims to align education with industry demands, enhance practical skills, and promote innovation and adaptability among students.

Integrating enterprises into education: By bringing enterprises into the school and schools into enterprises, an "industry-education integrated" practical teaching platform is created. Internships and practical training are organically combined with local enterprise production, forming a school-enterprise interactive model that

integrates training with internships and internships with employment.

Optimizing curriculum structure: Based on industry demands and talent cultivation goals, the curriculum structure is optimized by setting up a series of courses such as special plant production in urban horticulture, facility agriculture, artificial intelligence, big data analysis, and agribusiness management. The combination of theory and practice is emphasized to enhance students' comprehensive qualities and practical abilities.

Strengthening faculty team building: A faculty team that is sufficiently large, reasonably structured, interdisciplinary, and integrated with industry, academia, and research is built. Teachers' professional literacy and teaching levels are improved by hiring off-campus practical teaching instructors and inviting industry experts to give lectures.

Promoting the transformation of scientific research results: Scientific researchers are encouraged and supported to be bold in innovation, supporting the transformation of scientific research results into productive forces and promoting industrial development and technological progress.

4. Practical cases and effectiveness of urban horticulture discipline's industry-education-research collaborative talent cultivation model

4.1. Exploration of urban horticulture talent cultivation model at Beijing University of Agriculture

Since the establishment of the horticulture major in 1957, Beijing University of Agriculture has, in line with the strategic positioning of the capital city and the objective need for the construction of a world-class harmonious and livable city, gradually formed a distinctive talent cultivation model for modern urban agriculture through more than 60 years of exploration and practice. This model provides strong talent support for the rural revitalization strategy and the modernization of Chinese agriculture^[9].

Construction of practical teaching platforms: Beijing University of Agriculture has cooperated with multiple enterprises and research institutions to establish various types of collaborative practical teaching platforms. For example, in cooperation with companies such as Capital Agribusiness Group, Shunxin Agricultural, and Cuihu Agricultural, off-campus contracted practical teaching bases have been established, and off-campus practical teaching instructors have been hired to jointly formulate training plans, enhancing students' abilities to apply professional knowledge to solve practical problems. High-level talent cross-training projects have been carried out in cooperation with research institutions such as the Chinese Academy of Sciences and the Chinese Academy of Agricultural Sciences. International talent cultivation pathways have been built in cooperation with foreign universities such as the Royal Agricultural University in the UK.

Curriculum system and teaching model reform: Beijing University of Agriculture has reformed the curriculum system and teaching model of the urban horticulture major. By optimizing the curriculum structure, increasing practical teaching segments, and introducing cutting-edge industry knowledge, the quality of course teaching and students' interest in learning have been improved, guiding college students in "Internet Plus" innovation and entrepreneurship project practices. Teaching models such as case teaching and project teaching have been adopted to cultivate students' innovative and practical abilities.

Scientific research achievement transformation and technological innovation: Beijing University of Agriculture focuses on the transformation of scientific research achievements and technological innovation. By cooperating with enterprises on scientific research projects and applying for patents, scientific research achievements have been transformed into productive forces, promoting industrial development and technological progress. Additionally, the university actively introduces and cultivates high-level talents,

strengthens the construction of scientific research teams, and enhances the capacity for scientific and technological innovation.

4.2. Exploration of urban horticulture talent cultivation model at other universities

Other universities are also actively exploring collaborative talent cultivation models for urban horticulture disciplines that integrate industry, education, and research. For example, Nanjing Agricultural University integrates “fruit, vegetable, flower, tea” common knowledge courses, offers cutting-edge interdisciplinary courses, and develops teaching courses covering pre-harvest, post-harvest, processing, and sales aspects of horticulture. They compile and revise textbooks, integrate bioinformatics and artificial intelligence technologies into traditional teaching, and promote the transformation of scientific research results and technological innovation by establishing industry-education-research cooperation bases and conducting scientific research project cooperation with enterprises. Zhejiang A&F University relies on in-campus practical teaching platforms, off-campus modern glass greenhouses, and modern agriculture and forestry science and technology parks to build off-campus teaching practice bases and introduce cutting-edge industry knowledge, thereby enhancing students’ urban horticulture innovation and practical abilities. These cases have reference significance for further improving and perfecting collaborative talent cultivation plans for urban horticulture.

5. Conclusion and outlook

The collaborative talent cultivation model for urban horticulture disciplines under the background of smart agriculture is an effective model for talent cultivation. It can promote technological innovation, accelerate the transformation of scientific research results, and promote the modernization and upgrading of agriculture. By building multi-level practical teaching platforms, implementing high-quality “Enjoy Horticulture” series activities, and establishing a “1234” applied talent cultivation model, high-quality talents that meet the development needs of modern urban horticulture can be cultivated. In the future, with the continuous development of technology and the transformation and upgrading of the urban horticulture industry, the collaborative talent cultivation model will play an increasingly important role. At the same time, it is also necessary to continuously explore and practice new cooperation models and methods to adapt to the future development needs of the modern urban horticulture industry, to better serve agricultural intelligent production ^[10], improve people’s quality of life, and contribute to the national agricultural modernization process.

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Research on College Students' Ideological and Political Education from the Perspective of New Media

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Abstract: In today's era, the rapid development of new media technology has reshaped college students' learning and lives, and brought opportunities and challenges to college students' ideological and political education. This study focuses on the situation of college students' ideological and political education under the new media environment, analyzes the opportunities and challenges, provides insights into the existing problems, and puts forward countermeasures to enhance the effectiveness and accuracy of college students' ideological and political education in the new media wave, so as to lay a solid foundation for cultivating all-round development talents in the new era and promote the innovative development of higher education in the new media era.

Keywords: New media; College students' education; Opportunities and challenges; Countermeasures

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1. Introduction

With its advantages of digitalization, interactivity, and immediacy, new media has become a central platform for college students to access information, engage in interpersonal communication, and enjoy leisure and entertainment. It has transformed the traditional education model, presenting both opportunities and challenges for ideological and political education. This shift compels educators to re-evaluate the direction and strategic choices of educational approaches. In the new media environment, college students can access a wealth of diverse learning resources anytime and anywhere, significantly enhancing their learning opportunities. Additionally, new media has disrupted the traditional one-way communication between teachers and students, fostering more frequent and convenient interactions. However, it is crucial for educators to remain vigilant regarding students' ideological perspectives and behavioral changes influenced by this environment. By closely monitoring these dynamics, educators can adjust their teaching strategies promptly to ensure the effectiveness

of ideological and political education ^[1].

2. A new opportunity for college students' ideological and political education in the new media era

2.1. Diversified expansion and sharing of educational resources

The new media platform brings together a large number of texts, pictures, audio, video, and other materials, covering various disciplines and knowledge dimensions. With the help of online course platforms, live broadcasts of academic lectures, and e-book reading, college students have broken through the limitations of time and space and broadened their knowledge horizons and cognitive boundaries. For example, the MOOC platform brings together high-quality courses from top universities around the world, covering various fields from humanities and social sciences to natural sciences, basic theories to cutting-edge applications. It realizes the optimal allocation and wide sharing of educational resources, provides rich materials and broad space for college students' autonomous learning, offers various teaching styles and thinking modes, and broadens their learning horizons ^[2].

2.2. Innovation and vitality in education models

New media technology fosters the diversification and innovation of educational models. Educators leverage tools such as multimedia courseware, engaging animations, immersive virtual reality, and augmented reality to create captivating and dynamic teaching environments. These technologies transform abstract and complex concepts into tangible, engaging content, making learning more interesting and accessible. They enhance the appeal of education, ignite students' enthusiasm for learning, and facilitate better mastery of knowledge and skills in a relaxed and enjoyable atmosphere. For instance, in ideological and political education, virtual reality applications enable students to experience historical events and heroic spirits in an immersive way, deepening their understanding and emotional connection to ideological and political theories. This approach significantly enhances the educational impact. Similarly, in subjects like physics and chemistry, augmented reality technology allows students to perform experiments in a virtual setting, observe phenomena, and develop practical skills. This not only makes learning more engaging but also minimizes experimental risks and reduces costs, thereby improving both safety and efficiency in the learning process.

2.3. Strengthened teacher-student interaction and relationship

New media has established a convenient and efficient communication bridge between teachers and students, eliminating the time and space constraints of traditional teacher-student interaction. Platforms such as WeChat, QQ, and professional online forums enable seamless, real-time communication. Students can seek guidance from teachers at any time, share feedback on their learning progress, and express any confusion or challenges they face. In turn, teachers can accurately identify students' personalized needs and monitor their ideological trends, allowing for flexible adjustments to teaching strategies and methods. This lays the groundwork for personalized education. This interactive model fosters a harmonious teacher-student relationship, transforming it into a partnership of mutual learning and growth, which in turn enhances the quality of education and teaching. For example, students can use WeChat to ask questions after class, and teachers can provide timely responses and guidance. Teachers can also initiate discussion topics in groups on QQ, DingTalk, or similar platforms to encourage active student participation, stimulating their critical thinking and creativity. This dynamic interaction enriches the educational experience and strengthens the connection between teachers and students.

3. Challenges in college students' ideological and political education under the wave of new media

3.1. Information fragmentation and confusion of false information

The new media environment is characterized by the overwhelming flow of fragmented and complex information, making it challenging for college students to identify and filter valuable content. This flood of information can lead to disordered learning experiences, resulting in fragmented knowledge systems that lack coherence and integrity. Students often consume scattered knowledge points through short videos, social media posts, and similar formats, which hinders the formation of a complete and systematic knowledge structure. Moreover, the openness and low threshold of new media platforms facilitate the rampant spread of false information, rumors, and other harmful content. Many college students have yet to develop strong critical thinking and information literacy skills. This lack of analytical and judgmental ability makes them susceptible to misinformation, potentially distorting their values and thought processes. It can also interfere with their capacity to correctly perceive and address social issues, leading to anxiety, confusion, and even inappropriate behaviors or attitudes that disrupt normal learning and life.

3.2. Internet addiction and the risk of negative behavior

The powerful entertainment features of new media can lead some students to excessive reliance on the Internet, immersing themselves in online games, short videos, social networks, and other virtual spaces. This overindulgence often consumes time and energy that should be devoted to learning or other productive activities, resulting in declining academic performance and poor physical health. Prolonged addiction to online games may cause students to neglect their studies, sometimes leading to suspension or dropping out. Excessive consumption of short videos can impair concentration and reduce learning efficiency. Additionally, exposure to harmful online content, such as pornography, violence, and gambling, poses significant threats to students' physical and mental well-being. This not only increases the risk of developing unhealthy habits but also presents severe challenges to university education management. In extreme cases, such exposure may result in psychological issues, imitative bad behavior, or even illegal activities. Colleges and universities must address these challenges by strengthening guidance and management of students' online behaviors, promoting healthy internet usage, and equipping students with the skills to navigate the digital world responsibly.

3.3. Shortcomings and dilemmas in educators' new media literacy

In the new media era, educators must possess strong digital literacy to effectively integrate technology into teaching. However, many educators face significant gaps in their ability to use new media tools proficiently. Some are unfamiliar with the functionalities and rules of new media platforms, making it difficult to incorporate these technologies into teaching. This often results in outdated and monotonous teaching methods that fail to meet students' evolving learning needs. For instance, some teachers rely solely on basic PowerPoint presentations and lack knowledge of how to utilize multimedia, virtual reality, and other advanced technologies to enhance their teaching content and delivery methods. Additionally, many educators struggle to understand the ideological and behavioral characteristics of students in the new media environment, resulting in generic, untargeted teaching strategies that significantly reduce the effectiveness of education ^[2]. A lack of insight into students' online learning habits and interests prevents educators from developing personalized teaching approaches tailored to individual needs. This deficiency has become a bottleneck in advancing college education in the new media era, hindering improvements in teaching quality and students' holistic development. To address these challenges, improving educators' new media literacy is an urgent priority. Teachers must be

equipped with the necessary skills to use digital tools effectively, adapt teaching methods to suit the new media landscape, and create engaging, student-centered learning experiences. This will ensure that education remains relevant and impactful in the digital age.

4. Existing issues in college students' ideological and political education in the new media era

4.1. Lagging shackles of educational philosophy

With the rapid advancement of new media, the field of education should evolve accordingly. However, many universities and educators remain constrained by traditional educational philosophies, which view teaching as a one-way transfer of knowledge from teachers to students. This outdated approach often emphasizes passive learning, treating students merely as vessels for absorbing information. Teachers lecture continuously, while students focus on mechanically recording and memorizing content, leaving little room for active participation or critical engagement.

Such a stagnant philosophy neglects students' role as active learners, hindering their initiative. Learning should allow students to explore knowledge and address problems based on their individual interests, needs, and pace. However, under the influence of traditional educational methods, students' autonomy is stifled, forcing them to follow a rigid, teacher-led rhythm that lacks opportunities for independent thinking and exploration.

In the new media era, students' approaches to information consumption, thinking habits, and expectations for knowledge acquisition have undergone profound changes. They increasingly seek autonomous, personalized, and interactive learning experiences. Unfortunately, the outdated educational philosophy fails to meet these needs, making classrooms dull and uninspiring. This inability to ignite students' intrinsic interest in learning or cultivate innovative thinking diminishes their capacity for independent thought. Over time, this disconnect with the demands of modern education hinders the development of innovative talent, which is critical for addressing the challenges of the new era.

4.2. Superficial integration of educational content and new media

Recognizing the importance of new media, many colleges and universities have attempted to integrate it into education. However, these efforts often remain superficial, failing to achieve meaningful integration. For example, many institutions simply digitize traditional textbooks, converting printed materials into electronic documents or incorporating videos into classroom teaching^[3]. While this approach utilizes new media tools, it does not fully leverage the medium's unique characteristics or address students' learning preferences.

New media offers advantages such as rapid dissemination, diverse formats, and interactivity. Students, raised in a new media environment, gravitate towards learning through engaging, varied, and interactive content. Unfortunately, current educational practices rarely capitalize on these strengths. Teaching materials are seldom redesigned to align with the communication characteristics of new media or students' evolving learning habits. As a result, educational content remains monotonous and impractical, failing to address students' diverse and personalized learning needs. This lack of innovation makes it difficult for students to maintain interest, resulting in diminished learning outcomes. Ultimately, the inability to harness new media's potential undermines the achievement of educational objectives and the enhancement of students' overall competencies.

4.3. Inadequate new media literacy in educators

In the new media era, educators play a pivotal role in implementing effective teaching strategies. Their

proficiency in new media literacy significantly impacts education quality and students' learning experiences. However, many educators struggle with inadequate understanding and application of new media technologies, limiting their ability to adapt to modern teaching environments. On one hand, educators often possess only basic knowledge of new media operations, lacking a deeper understanding of how these platforms function. They fail to optimize teaching content for new media communication and rarely utilize interactive features to enhance engagement with students. On the other hand, educators face challenges in monitoring and responding to online discourse. In the dynamic new media environment, students are exposed to diverse and often misleading information, while also expressing their thoughts and emotions online. Educators frequently lack the skills to discern students' ideological shifts or behavioral changes in this space. Consequently, they struggle to identify students' concerns, address their demands, or provide targeted guidance. This deficiency not only diminishes educators' effectiveness in the new media teaching environment but also leaves students vulnerable. Without timely and personalized guidance, students may develop misconceptions or face challenges in their academic and personal growth. Addressing these shortcomings is critical to fostering students' holistic development and ensuring they thrive in the digital age.

5. Coping strategies for college students' ideological and political education from the perspective of new media

5.1. Innovation of educational concepts and the cultivation of new media thinking

In the era of new media, universities and educators must evolve their educational approaches, recognize the transformative role of new media, and foster new media thinking among students. This begins with respecting students' central role in the learning process, viewing them as active participants rather than passive recipients of knowledge. A shift from traditional teacher-centered methods to student-centered approaches is essential, encouraging students to engage deeply in the educational process. For instance, educators can assign preparatory learning tasks before class, enabling students to explore materials independently, participate in group discussions, and develop initial insights. In class, teachers can guide students to share their opinions, raise questions, and engage in collaborative problem-solving. Such practices nurture students' autonomy, innovation, and critical thinking skills. Educators' roles also need to transition from being mere knowledge transmitters to becoming facilitators and mentors in the learning journey. By providing thoughtful guidance, teachers can help students construct a robust knowledge framework, encourage exploration of diverse perspectives, and inspire creativity and independent thought.

Furthermore, integrating new media into all aspects of education is crucial. This entails leveraging new media's interactive and resource-rich platforms to transition from traditional teaching methods to innovative education models. For example, educators can utilize online courses, learning forums, and multimedia tools to expand learning channels. Interactive activities such as online Q&A sessions, group collaborations, and multimedia presentations can enhance teacher-student and peer-to-peer interactions, making learning more engaging and personalized. This approach fosters comprehensive student development in the context of the new media era.

5.2. Optimization and upgrading of educational content and deep integration of new media

To address students' evolving learning needs in the new media age, educators must systematically enhance educational content, aligning it with the unique attributes of new media platforms. This involves identifying

and incorporating high-value materials from the vast array of online resources into curriculum design. For example, current events and case studies from new media platforms can serve as practical teaching materials. By analyzing these cases using theoretical knowledge, students can deepen their understanding, improve their problem-solving abilities, and develop critical thinking and social responsibility. Such integration enriches teaching content, making it dynamic and engaging, while also demonstrating the relevance and applicability of knowledge in real-world contexts.

In addition, universities and educators should invest in the development of new media technologies to create tailored teaching resources, such as online courses and virtual simulation experiments. Online courses provide flexible learning opportunities, allowing students to study anytime and anywhere, while adapting to their individual progress and feedback. Virtual simulation experiments offer hands-on practice in realistic scenarios, overcoming traditional constraints like limited resources and equipment. These simulations enhance students' practical skills and foster innovation by providing immersive, experiential learning opportunities ^[4]. Through these efforts, educators can establish an interactive and engaging educational environment, ensuring that content and new media tools are deeply integrated. This approach not only enhances students' learning experience but also equips them with the skills and mindset necessary to thrive in the digital age.

5.3. All-round improvement of educators' new media literacy

In the context of the new media era, colleges and universities bear the significant responsibility of enhancing educators' new media literacy. To achieve this, a normalized training mechanism should be established, regularly organizing systematic and comprehensive training activities. These efforts aim to significantly improve educators' ability to apply new media technology and their overall teaching effectiveness. The training should encompass multiple dimensions, with operational skills for new media platforms forming the foundational component. Educators need to master basic operations such as creating and managing online course platforms, using social media for effective teaching interactions, and employing multimedia software to develop high-quality courseware. Proficiency in these skills allows educators to better leverage new media for teaching activities.

Additionally, understanding the laws and strategies of information dissemination is crucial. Educators should gain deep insights into the characteristics of information dissemination in the new media environment, as well as the psychology of audience reception. By learning to choose appropriate communication methods and channels tailored to specific teaching content and objectives, educators can optimize the dissemination of information, enhancing the appeal and impact of their teaching materials.

Monitoring and responding to online public opinion is another essential aspect that cannot be overlooked. Educators must acquire skills in using professional tools and methods to monitor public opinion, enabling them to detect students' ideological trends and behavioral changes in a timely and sensitive manner. By staying attuned to online hot topics and public opinion trends related to students, educators can identify potential risks and develop effective strategies to address them. This proactive approach helps mitigate the influence of harmful information on students, ensuring a positive educational environment ^[5].

In addition to institutional training, educators should embrace lifelong learning as a core concept. They should actively stay updated on the latest developments in new media, explore innovative methods for integrating new media into education, and experiment with new technologies and approaches in their teaching practices. For instance, participating in academic seminars, engaging with online learning communities, and

exchanging experiences with peers can help educators continuously improve their new media literacy.

5.4. Improvement of education management mechanisms and fine governance of new media platforms

To address the challenges of education management in the new media era, colleges and universities must accelerate the development of robust new media education management mechanisms. This involves strengthening the comprehensive construction, standardized management, and strict supervision of new media platforms to create a stable, orderly, and healthy digital environment for students.

On one hand, institutions should increase investment in campus new media platforms, cultivating influential, engaging, and credible campus media brands. For example, colleges can develop fully functional official social media accounts, such as microblogs, to disseminate campus news, academic updates, and cultural activities. These platforms can also utilize features like topic discussions to foster a positive campus culture. Similarly, creating a WeChat public account that offers personalized services—such as course inquiries, performance tracking, and online registration—can provide students with convenient access to learning resources and life tips, enhancing engagement. Developing comprehensive campus apps that integrate diverse resources, offering one-stop solutions for learning, social interaction, and campus life, can also meet students' multifaceted needs.

On the other hand, establishing and refining supervision systems is key to ensuring the healthy operation of new media platforms. Universities should implement clear standards and review processes for content publication, ensuring that all released information is authentic, accurate, healthy, and relevant. By maintaining strict oversight, they can prevent harmful content from appearing on their platforms^[6].

Furthermore, an efficient public opinion monitoring and early warning system is essential. Dedicated personnel should monitor public opinion trends on campus networks in real time, using advanced technology to identify and address emerging issues. Early warnings can prompt timely interventions to guide discussions and resolve problems before they escalate. This ensures a harmonious educational environment, maintains the stability of teaching operations, and upholds the university's social reputation and public image.

Disclosure statement

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Junior High School English Teachers' Stancetaking on Social Media in the Mainland of China

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Abstract: The study employs discourse analysis as an analytical methodology, integrating stancetaking and positioning theories as theoretical frameworks, analyzing a post published by an in-service teacher and its related comments on RED, to explore the stancetaking of junior high school English teachers on social platforms in the mainland of China. This paper is expected to provide effective suggestions for enhancing the positive influence of front-line teachers on social media and facilitating the development of their teaching profession amidst the backdrop of educational informatization.

Keywords: Discourse; English teachers; Junior high school; Social media; Stance; Stancetaking

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1. Introduction

The term “stance focus” refers to the way an utterance emphasizes or highlights a particular stance in communication, shaping the overall meaning or intent ^[1]. In sociolinguistics, the term “stance” and its variant “stancetaking” have been used primarily to describe how people position themselves in conversation, frequently in terms of politeness, certainty, or emotion ^[2]. In recent decades, many scholars have conducted a lot of research on stance and stancetaking. Du Bois ^[3] claimed that taking a stance is a significant act we can accomplish with words. An action taken in public by a social actor that is accomplished dialogically through apparent communicative means, such as language, gesture, and other figurative forms. This action allows social actors to position and assess objects, and align with different subjects related to any salient aspects of the sociocultural field. The identities that speakers align or misalign with are revealed by their positionality about particular views and ideologies. This implies that stancetaking can offer insights into how communicative practices. In addition, positioning theory functions as a powerful tool to help understand the identity of individuals and groups in society. This theory holds that by using particular language, behaviors, and narrative modes in social interactions, people can create and preserve their positioning within the social system ^[4].

For those studying social media as a developing discourse genre, examining how intersubjective

orientation is achieved through discourse has been a successful avenue of inquiry ^[5]. Social media, a common term for online tools and websites that help users engage with others, represents the most dynamic dimension of postmodern culture. It offers people the stage to express thoughts through multiple mediums like text, images, and video, and could be used by people of all ages ^[6]. As a bridge of communication in the new era, social platforms are changing how people interact with others at an unprecedented speed. According to Biri ^[7], the expression of viewpoints on social media is a matter that shows one's thoughts to present positioning, it is also related to issues like an individual's identity and feeling of community. The field of education has also been gradually affected by this digital wave. Junior high school English teachers in the mainland of China, as part of the group of intellectuals who generally have an international vision and an inclusive mentality, inevitably integrate into the digital communication of social media by using such new platforms to carry out more diversified interactions with peers. Through interaction, their stancetaking could be reflected.

This study, using stancetaking and positioning theories as theoretical frameworks, aims to investigate the stancetaking of junior high school English teachers on social media in the mainland of China. By exploring the discourse of English teachers, we may gain insight into how they construct identity in the digital realm. In addition, analyzing discourse helps shed light on the interplay between a teacher's values and their online self-presentation, which is critical to understanding the dynamics of interactions between teachers in this information age.

In this paper, the analytical methodology and data collection will be first explained. Followed by showing the English translations of the post and several comments, the data will be discussed in detail. Finally, based on the key findings related to their stancetaking, some effective suggestions could be provided for society.

2. Methods and data collection

2.1. Material selection

Xiaohongshu (hereafter referred to as RED), originally founded in 2013, is the Chinese version of Pinterest or Instagram ^[8]. This social media platform, popular among young users in first-tier and second-tier cities in China, was chosen for the study since multi-dimensional data could be easily accessed and downloaded because of its publicly available comments and likes setting.

This study collected a post published by a junior high school English teacher with the nickname Pupu and its comments as data. The post has attracted wide discussion on RED, showing a certain degree of representation and resonance among teachers, and reflecting their common stancetaking. Additionally, to form a comprehensive dataset, the top 50 comments by likes were initially selected and subsequently refined based on response count, yielding 30 comments for analysis. Such two steps enable the collection of data that exhibit popular support and foster substantial engagement. Then, the authors of comments were privately messaged to verify their identities. They were categorized into three groups: junior high school English teachers, teachers not teaching junior high school English, and candidates aspiring to become junior high school English teachers.

2.2. Analytical methodology

To linguists, "discourse" refers to a component of language that is closely related to syntax, which is defined as the structure of language, the way words and phrases join into sentences ^[9]. Discourse analysis, which aims to investigate how language is organized and emphasizes linguistic structures that are more extensive than a single sentence such as a dialogue or a whole work, was applied as an analytical methodology to analyze the post and related comments ^[10]. According to Budd and Raber ^[11], the core of discourse analysis lies in the study of the

form and function of language use. In this study, analyzing language structures that go beyond a single sentence, such as the overall narrative style and the specific language features, helps show how social practice can reflect and shape ideologies and power dynamics^[12], revealing the stancetaking of junior high school English teachers in the mainland of China. This approach is useful for displaying the specifics that conventional qualitative or quantitative methods are unable to fully capture, thus providing a more thorough understanding.

3. Data analysis

3.1. Exemplify analysis

In this part, the translated full text of the post and some representative comments selected from the 30 comments are displayed and analyzed. The following is the post published by Pupu on RED.

(1) Pupu, February 24, 2022

Being a junior high school English teacher who also serves as a homeroom teacher lives like a puppy seeking comfort. I teach two classes, each with two days of English morning reading sessions. As the homeroom teacher, I'm also responsible for an additional morning reading session each week, as the school requires. So, that means I have morning reading sessions for five days in total. Every week, I have 14 regular lessons, one class meeting, a noon self-study session, and one after-school service period, I have to supervise two self-study sessions. I'm busy from morning till night, absolutely exhausted.

In this post, Pupu delicately describes her daily life as a junior high school homeroom teacher and English teacher, in a style close to spoken English. First of all, Pupu uses some specific figures to list her heavy work tasks, such as "morning reading sessions for five days," "14 regular lessons," "one class meeting," "a noon self-study session, and one after-school service period." By presenting these dense task arrangements in short sentences, Pupu expresses her depression. She also employs simile as a figure of speech, "lives like a puppy seeking comfort," to convey her profound feelings of overwhelming work, lack of respect, and both physical and mental exhaustion.

Subsequently, Pupu shows the audience a concrete case of what happened to her in current English teaching.

(2) Pupu, February 24, 2022

Yesterday, I gave a dictation and wrote the correct answers on the blackboard for students to correct, but I found that a bunch of them didn't even bother to correct their mistakes. They made a lot of mistakes in today's dictation again, and their handwriting was terrible.

In her description, she notes that "a bunch of them didn't even bother to correct their mistakes" after the dictation yesterday, and her response to today's dictation is that "a lot of mistakes" and "their handwriting was terrible." We can see that Pupu is strongly dissatisfied with the students' unserious and irresponsible attitude towards English learning. This disappointment can also be regarded as helplessness and concern about the current situation of education and the common problem of junior high school students' English learning attitude.

Finally, Pupu sums up her feelings in a straightforward way.

(3) Pupu, February 24, 2022

Well, there's a long way to go. What a sense of responsibility!

Here, she ends with the line "Well, there's a long way to go. What a sense of responsibility!" The use of modal words and a slight hint of impolite emotional venting reveal self-mockery at being unable to escape this heavy burden, yet her adherence to the cause of education and her sense of responsibility remains steadfast. This

complicated emotion is not only a helpless acceptance of the reality of the dilemma but also the persistence of her career choice.

Pupu employs short sentences, lists figures, utilizes rhetorical devices, and adopts a colloquial style of expression to present her multiple stances on the overwhelming work burden, poor students' learning attitudes, and complex emotions regarding responsibility. These stances are interwoven with each other, which constitute the understanding of junior high school English teachers on the current educational environment and their situation.

After publishing this post on Red, many users write comments as responses. In the comment section, we find many replies published by junior high school English teachers.

(4) February 24, 2022

Some students are consistently scoreless in every dictation. Would their parents perhaps think about having their IQ assessed for them?

(5) February 25, 2022

Being a homeroom teacher is one thing, but having to deal with a bunch of leaders who can't even make up their minds and a pile of tasks every day. There's no light in my eyes. I'm only 26 years old. What did I do wrong in my past life to deserve such a heavy punishment in this one?

(6) February 25, 2022

Really, being a junior high school English teacher is a tough job. I have four morning reading sessions a week. We're in a boarding school, so we get up at six in the morning, and the evening self-study session goes until 21:10.

(7) February 25, 2022

You said it so truthfully.

(8) June 30, 2022

It feels like you're my colleague.

(9) August 16, 2022

This really resonates with my experiences.

(10) October 30, 2022

I thought it was written by me.

In (4), the teacher adopts a rhetorical question to enhance the tone, expressing her obvious anger with the student's repeated mistakes, and implicitly questioning the responsibility of parents. The absolute word "scoreless" is used to express the extreme dissatisfaction the teacher felt about the serious problem. The expression "having their IQ assessed" is an exaggeration, not really asking why parents do not conduct this action, but implying that the teacher argues that the student's basic knowledge of English is not firm enough. In (5), the user uses a longer composite sentence in which she describes the stress of her job, as well as the resulting fatigue. The phrase "can't make up their minds" describes the lack of clarity in leadership instructions, which reflects her confusion with the working requirement. The expression "no light in my eyes" which means the feeling of exhaustion, is a metaphorical saying. In this case, the teacher suggests that her enthusiasm for work is lost. Additionally, she also expresses her exhausted emotions by contrasting her youth with the heavy workload she is under. In (6), the teacher affirms Pupu's emotions, highlighting the hardships of junior high school English teachers by listing specific work hours and tasks, like "four morning reading sessions," "get up at six," and "the evening self-study session goes until 21:10," to describe the work intensity. In (7), (8), (9), and (10), the users use simple and clear sentence structures to convey a strong emotional color. The comments put

themselves in the position of having shared experiences or feelings with Pupu, suggesting a deep identification with her remarks.

These comments together reflect the confusion of junior high school English teachers with heavy work tasks. In terms of language expression, they all use relatively strong tones and rhetorical devices, such as exaggeration and contrast, to enhance the expression of emotions. They express fatigue in their discourse as well, suggesting the challenges and pressures faced by junior high school English teachers in the current educational environment. These commonalities prove their similarity in stancetaking and positioning, that is, the helplessness to the pressure of the current working environment and professional identity.

We also find some comments from teachers not teaching junior high school English.

(11) February 25, 2022

The Chinese teacher has it even worse. We extremely envy the English teacher greatly when it comes to grading homework.

(12) February 25, 2022

Junior high school Chinese teachers have numerous morning reading sessions. Every day, the first class is always our session. We need to get up early every day!

(13) February 25, 2022

If you were to teach Chinese, you would be even more overwhelmed. Besides everything you need to do now, you would also have to take on other tasks, such as designing drama performances, grading hand-copied newspaper competitions, and so on.

(14) March 21, 2022

Try being a high school English teacher, and you'll find your current job happier.

In (11), the user uses a comparative structure, comparing the work of a Chinese teacher with that of an English teacher. The expression “even worse” expresses the relative difficulty of the Chinese teacher’s job, and “extremely envy” strongly shows this teacher’s envy for the relatively easy work of junior high school English teachers when it comes to homework grading, indirectly highlighting the relative advantages of English teachers. In (12), the junior high school Chinese teacher’s comment directly describes the reality in two declarative sentences. The word “numerous” accurately and vividly highlights the heavy workload of Chinese teachers. The second sentence further embodies the influence of this phenomenon on the daily work of Chinese teachers. The use of the expressions “every day” and “always” has a certain emphasis and exaggeration effect, which not only expresses the frequency and regularity of the morning reading class arrangement, but also implies the profound impact of this arrangement on the daily life of Chinese teachers. Although the comment does not express her evaluation of the workload of junior high school English teachers, by objectively describing the facts, she indirectly implies that the degree of hard work of junior high school Chinese teachers is even worse than that of junior high school English teachers. In (13), the user employs an adverbial clause of condition to directly point out the outcome of a hypothetical situation. She suggests that being a Chinese teacher would be even more devastating. Her stancetaking is further reinforced by the introduction of the word “besides” as an additional workload. The word “overwhelmed” implies that the extra tasks are tiring. In addition, the user uses exemplification, such as “designing drama performances” and “grading hand-copied newspaper competitions,” to make her positioning more vivid. By giving examples of tasks that do not need to be completed by junior high school English teachers, she expresses criticism or dissatisfaction with the additional work burden that teaching Chinese may bring. In (14), the user takes a hypothetical tone to guide the contrast by presenting a different situation (becoming a high school English teacher). By using the word “try,”

the teacher proposes a higher challenge (to experience the daily life of a high school English teacher) to imply the relative happiness of the current junior high school English teacher. This user's discourse is full of a tone of ridicule, indirectly evaluating the relatively easy work environment of junior high school English teachers.

Although the specific expressions might be different, the discourse of the two comments revolves around the two core points of contrast and envy, forming a similar stancetaking and positioning. The group shows agreement with some aspects of the relatively relaxed working style of junior high school English teachers.

Pupu's post also influences some candidates aspiring to become junior high school English teachers. As they read through the shared experience by Pupu, they contemplate their future life.

(15) February 25, 2022

Should I still take the teacher recruitment exam to become a teacher?

(16) February 25, 2022

I'm going to be a junior high school English teacher in the second half of the year, and I'm really scared.

(17) November 30, 2022

Can I have a rest at weekends?

(18) June 8, 2023

So, should I go to a key junior high school or an ordinary junior high school to be a teacher?

In (15), the user uses the question to express her hesitation about being a teacher, expressing her inner entanglement. Her discourse reveals a confused mood due to the worry about facing the pressure of a teaching career or the uncertainty of personal career planning. In (16), the user uses a compound sentence. By connecting two separate but closely related parts with "and," the first half of the sentence states an impending fact, and the second half directly expresses the speaker's inner feelings. The expression "really scared" means that she is insecure about what she is about to do. Without dissembling or avoidance, the comment reflects her concern and uncertainty about the new role. In (17), the words "rest" and "weekend" reflect the speaker's concern about teachers' working hours. The speaker asks the question mildly and politely, implying her expectation of reasonable breaks in future work. In (18), the user chooses to use a question to show her weighing and consideration of two different options, which not only reflects the prudence of her decision, but also reveals her expectations and worries about the future career environment. "Key" is in sharp contrast to "ordinary," suggesting quality educational resources and the possibility of higher career development, which can mean a more mundane but perhaps more relaxed working environment. The choice of these two adjectives accurately captures her perception of the career prospects offered by different types of schools. Her tone speaks of a desire for advice and guidance, but also of uncertainty and anxiety about her future career path.

These comments reflect candidates' complex feelings and concerns about the profession through similar stancetaking. Their discourses also imply the general recognition of the occupational pressure of junior high school English teachers.

3.2. Key findings

Based on these representative comments, the features of the stancetaking of junior high school English teachers could be summarized as follows.

The stancetaking of such teachers on social platforms is affected by personal experience and the working environment. For instance, in (11), the source of envy and satisfaction expressed by the high school English teacher is probably related to her personal experience in high school English teaching. The social interaction of comparing her working pressure with the interpretation of Pupu's posts prompted her to make such a comment.

She believes that if junior high school English teachers experience the pressure of high school English teachers, they will reconstruct identities. It also reflects that junior high school English teachers' positioning on social platforms may be affected by their experience and environment. This influence could shift the stancetaking and opinions they express on social platforms.

The stancetaking of junior high school English teachers on social platforms is a multifaceted phenomenon. Various social groups may provide different interpretations based on their unique working modes and cognition. Junior high school English teachers can easily understand Pupu's feelings due to similar workload and worries, while others, even teachers who teach other subjects or levels may not empathize with Pupu and even the whole group because of cognitive biases.

4. Conclusion

4.1. Summary

Based on the discussion and analysis, we can understand the stancetaking of junior high school English teachers as well as the existing problems they face. The role of junior high school English teachers is not only to impart linguistic knowledge, but also to serve as mentors, and even psychologists for their students. However, we can see that the heavy work pressure takes a toll on their mental and emotional well-being. Many previous experiments have also proved this judgment. Therefore, preventing and assisting with initiatives to lessen teacher stress and exhaustion would directly contribute to a healthy teaching profession^[13]. In recognition of this, the education department has a crucial role to play in supporting the mental health of front-line teachers. One effective measure would be to set up a mental health support system that provides psychological counseling services tailored to the needs of this group. It could offer a safe and confidential space for them to express concerns, seek advice, and receive professional guidance on how to better cope with the stresses and challenges of their profession. In addition to mental health support, schools could take proactive steps to properly relieve their pressure, like reallocating some of their non-teaching responsibilities. Administrators might consider handing over the work of homeroom teachers to some competent teachers of other subjects who have less teaching pressure. This reallocation of duties could help ensure that junior high school English teachers are not overwhelmed by multiple responsibilities, and can instead focus their limited energy on teaching English. By implementing these measures, we may create a more supportive and nurturing environment for junior high school English teachers, enabling them to provide the best possible education for their students.

4.2. Limitations and future studies

This study focused on the stancetaking of junior high school English teachers in the mainland of China. However, it is undeniable that the sample size is relatively limited. Future studies are expected to expand the scope and depth of data collection to enrich the findings. Additionally, diversified research methods, such as questionnaires and interviews, could also be applied to help deeply understand the feelings of this group as well as their positioning. Through these studies, we may provide effective suggestions to help promote the career satisfaction of junior high school English teachers and facilitate the development of their teaching profession.

Disclosure statement

The author declares no conflict of interest.

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A Brief Discussion on Cultivating Thinking Skills in High School History Education

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Abstract: Historical thinking refers to a cognitive activity or process that integrates general thinking with specific thinking activities unique to the history discipline. Historical thinking skills, therefore, represent the ability to solve problems demonstrated within the context of historical thinking activities. Cultivating high school students' historical thinking skills requires teachers to familiarize themselves with the fundamental characteristics of students' historical thinking, guide them in deeply understanding the basic concepts and principles of historical thinking, refine their cognitive structures, innovate teaching, learning, and evaluation methods, and stimulate intrinsic motivation for learning. This is not only a vital field of theoretical research in high school history education but also a key aspect of the reform and development of history teaching in secondary schools.

Keywords: High school History; Thinking skills; Cultivation

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1. The concept of thinking skills in history education

Thinking is a subject of multidisciplinary research, and its complexity has led to varying definitions even within a single discipline. Most domestic educators and psychologists provide similar interpretations of thinking, generally referring to it as the brain's abstract and indirect reflection of the essential attributes and laws of objective phenomena^[1]. Put simply, whenever people encounter problems in work, study, or life, they always "think about it." This "thinking" is what constitutes thinking itself. Both thinking and perception belong to cognitive activities; the difference lies in the fact that thinking represents a higher stage of cognition.

Thinking skills refer to the innate ability to think, particularly the capacity for logical thinking. Historical thinking skills are based on historical knowledge and involve the ability to analyze and solve historical and contemporary issues, as well as foresee future developments. These skills manifest as problem-solving abilities within historical thinking activities. During historical cognitive activities, forming and developing a scientific historical perspective—specifically, dialectical materialism and historical materialism—and applying it to examine and solve social and historical problems is key to developing historical thinking skills.

2. Reasons behind the challenges in cultivating thinking skills in high school history education

2.1. Student perspective

2.1.1. Weak foundation in basic historical knowledge among high school students

During the three years of high school, many students achieve significant improvements in their history grades through hard work. However, a puzzling phenomenon is observed: some students who excelled in liberal arts thinking and achieved outstanding history grades in their second year of high school show a decline in performance during their final year. The reasons for this include the following:

Firstly, “Knowledge is essential for any kind of thinking. Without knowledge, one cannot think; conversely, without thinking, knowledge is hollow and lifeless.” Secondly, in answering historical questions, students often quantify problems and approach them with precision. This raises the question of whether students are mechanically applying the thinking patterns they use in science subjects to history and whether their intense focus on mathematics in high school, spending hours immersed in solving math problems, has led them to neglect liberal arts subjects. Different subjects require distinct cognitive approaches due to the unique nature of their content. However, for a long time, while people have differentiated humans, society, and history from natural sciences in terms of research objects, they have not fully moved away from adopting natural science methodologies. This has resulted in an over-reliance on scientific thinking to derive, encompass, and even replace historical thinking.

2.1.2. Interference from cognitive set

The concept of “cognitive set” was introduced by German psychologists Müller and Schumann in 1889, with cognitive set being one of its components. A cognitive set refers to a pre-prepared mental state that individuals adopt when engaging in an activity, essentially a fixed mindset that restricts and confines their thinking within an established framework, preventing creative expression ^[2]. Cognitive sets have their positive aspects. For instance, under unchanged conditions, they enable individuals to utilize existing knowledge and experience to solve problems quickly. However, when conditions change, this thinking pattern mainly reveals its negative side. Taking students’ learning as an example: after accumulating extensive experience over time, students develop habitual ways of understanding things. When faced with new problems, they blindly rely on past experiences and fail to consider the differences between new and old problems. On the surface, students encountering such issues often exhibit “overly quick reactions.” Sometimes, cognitive sets manifest in students’ blind faith in textbooks or authoritative statements. They focus solely on memorizing these sources and hesitate to express their own opinions.

2.2. Teacher perspective: Shortcomings of the current classroom teaching structure

The utilitarian mindset of the surrounding environment, leaders, parents, and students: Everyone hopes to allocate more study time to core subjects like Chinese, mathematics, and English, while expecting history to be learned entirely within the classroom without requiring additional time after class, all in pursuit of “efficiency.” In such an environment, can quality education in the subject of history still be effectively carried out? Is there sufficient time to deeply reflect on historical issues?

Learners’ own inertia and lack of interest: Students are accustomed to the teaching model of “taking notes in class, memorizing notes for exams, and forgetting everything after the test.”

The absence of teachers’ sense of agency: Deficiencies in educational responsibility, research spirit, or subject-related skills are apparent. Firstly, some teachers lack an adequate understanding of the importance of

cultivating critical thinking. Secondly, the application of teaching methods in history often has issues. Poorly designed questions fail to stimulate students' thinking, and teachers should allow sufficient time for students to think after posing questions. Finally, the design of teaching processes often does not adequately consider students' needs.

2.3. Textbook perspective

2.3.1. Incomplete content in textbooks

Some content in textbooks is classified as elective, meaning that some students will not study it, leaving gaps in their understanding of this period of history and affecting their grasp of the overall knowledge structure. Due to high school students' lack of emphasis on middle school history, they often lack a solid factual foundation. High school's specialized history courses, which focus more on historical understanding, become difficult to grasp. If students do not even clearly understand the "what," how can they comprehend the "how"?

2.3.2. History conclusions in textbooks are numerous and "authoritative"

Exams, which are an important method of educational evaluation, mostly use the conclusions and viewpoints in textbooks as scoring criteria, except for a few open-ended questions. To score high marks, students only need to memorize the textbook.

2.3.3. Lack of primary historical sources

Textbooks often replace the presentation of primary historical sources with logical descriptions of historical facts. As a result, students lack opportunities to understand history in its original form, which is highly unfavorable for creating problem-based learning scenarios and understanding history.

2.3.4. Extensive content and high memorization requirements in textbooks

To cope with immediate challenges, learners tend to "take shortcuts," treating study materials that have comprehension and application value solely as memorization tasks. This further contributes to the inertia of critical thinking.

2.4. Inadequacies in the teaching evaluation system

2.4.1. Textbook-centric issues

For a long time, middle school history teachers have been accustomed to teaching centered around textbooks. Not only do they rely on textbooks for basic historical facts, but historical evaluations also depend heavily on textbooks, resulting in a "formulaic" approach to learning history. The reason is simple: it is widely believed that middle school history teaching is exam-oriented, and past history exams heavily relied on textbooks. This "utilitarian" approach to history teaching focuses only on key knowledge points, neglecting the development of students' individuality and psychology. As a result, it becomes disconnected from students' needs, leading to a lack of initiative in their learning^[3].

2.4.2. Over-reliance on exam scores

Modern teaching evaluation emphasizes process-based assessment, focusing on how each student learns, their thinking abilities, learning methods, and other aspects that require constant attention from teachers. However, in practice, non-homeroom history teachers rarely have opportunities to inquire into these areas. As a result, students' academic evaluations mainly rely on a few exam scores.

2.4.3. Issues with the environment and methods of teaching practice

In both science and humanities subjects, objective questions are heavily used in exams, presenting students with four listed answer options. However, this format greatly differs from real-life problems. Real-world issues are often open-ended and require independent exploration, with few ready-made answers. While objective questions have various advantages, they have significant shortcomings in terms of training critical thinking. They can fixate students' thinking patterns, foster inertia when faced with multifaceted and multi-layered choices, and weaken their ability to make comprehensive judgments and decisions. Individuals with such deficiencies tend to approach problems with a "one-track mind," lacking divergent thinking.

3. Exploration of implementation strategies for cultivating thinking skills in high school history education

"If a person masters the fundamental theories of his discipline and learns to think and work independently, he is bound to find his own path and will adapt better to progress and change compared to those whose training primarily focuses on acquiring detailed knowledge." The so-called "general ability for independent thinking and independent judgment" refers to thinking skills. Teachers' understanding of thinking and their level of thinking skills directly determine the thinking level of their students. To cultivate students with independent thinking and judgment skills, teachers themselves must first possess such skills.

Students' historical thinking skills can be developed through training, which is achieved during the process of understanding and mastering historical knowledge. The primary platform for developing historical thinking skills is the specific teaching of history in the classroom.

3.1. Cultivating historical thinking skills based on the presentation of historical thinking

As an ideological subject, history reflects that people from different eras may have varied views on the same event or figure. These perspectives can generally be divided into three temporal modes: (1) Synchronic thinking: The perspective of contemporaries, reflecting views of the same era; (2) Historical thinking: The perspective of later generations, reflecting views of the past; (3) Present thinking: The perspective of the modern era, reflecting contemporary views. By understanding these characteristics, teachers can integrate such thinking modes into daily teaching, enabling students to approach historical events more objectively and comprehensively, thereby enhancing the rigor of their thinking.

3.2. Cultivating students' thinking skills through historical sources

Integrating historical sources into teaching and assessments, and emphasizing their use as evidence to explore historical issues, has become a hallmark of high school history education in many developed countries. In classroom teaching, the selection of representative historical sources to enrich textbooks, naturally and organically interwoven throughout the teaching process, can better assist students in understanding the content. This approach achieves a combination of history and theory, where arguments are derived from historical evidence. It strengthens the connections between historical events, allowing students to comprehensively understand a particular historical event or figure, thereby broadening their thinking horizons.

3.3. Strengthening theoretical learning and exploring innovative teaching models conducive to thinking development

Drawing inspiration from teaching methods like the four-step teaching approach adopted by other schools ^[4],

the practical application of these new teaching formats significantly enhances students' thinking abilities and achieves notable results. The four-step teaching approach divides a lesson into four stages: setting the scene, providing inspiration, reinforcing the foundation, and conducting in-depth analysis.

The first step, "setting the scene," involves introducing new lessons by creating scenarios. This involves teachers purposefully introducing or designing vivid and concrete scenes imbued with emotional elements and imagery to elicit students' experiential responses. Such scenarios help students understand the material while fostering their cognitive development. As secondary school history textbooks often feel disconnected from students' daily lives, and specialized modules further dilute the subject's appeal, traditional teaching methods struggle to engage students. By using scenario-based lesson introductions, teachers can effectively spark students' enthusiasm for learning at the start of the lesson, thereby improving teaching outcomes.

After introducing the lesson, the next two steps focus on reinforcing the foundation and conducting in-depth analysis. Based on a thorough review of the senior high school history curriculum standards and academic proficiency exam guidelines, history teaching at this stage mainly addresses two levels of requirements:

- (1) Knowledge level requirements: These focus on memorization and are addressed through the second step—reinforcing the foundation. As this content primarily involves rote learning with low cognitive demands, it is suitable for self-directed learning. Teachers play a guiding role by setting learning objectives, creating tables, integrating textbooks, and designing targeted questions to facilitate self-study. They also monitor whether students achieve the expected outcomes of their self-study.
- (2) Cognitive level requirements: These focus on understanding. This involves delving deeper into historical phenomena and events that students have already grasped, analyzing their causes, impacts, and limitations ^[5]. As this level requires higher-order thinking skills, fully relying on students' independent inquiry may hinder the completion of teaching objectives.

In this context, teachers should take a more active role in in-depth analysis by carefully selecting materials, posing layered questions, and guiding students' thought processes toward higher levels of understanding. This approach enhances students' comprehension of historical events and phenomena. Once students reach a high level of thinking through in-depth analysis, the fourth step involves guiding them to reflect on the lessons and insights gained from historical study, thus realizing the practical relevance of history.

3.4. Emphasizing the integration of thinking skills training across disciplines

Historical thinking involves a holistic approach to examining societal and historical issues from multiple angles and dimensions ^[6]. Developing this ability requires a long-term process. Given students' limited time for history amidst their packed schedules, integrating thinking skills from other disciplines into history teaching minimizes unnecessary interference while promoting the horizontal transfer of thinking abilities. For example:

- (1) Mathematics: Incorporating logical concepts such as sufficient and necessary conditions when analyzing the causes of historical events.
- (2) Philosophy and political science: Applying dialectical perspectives, such as viewing historical figures' merits and faults comprehensively.
- (3) Geography: Using geographical knowledge to analyze the characteristics of historical phenomena and their interrelationships.

While analyzing the major social transformations during the Spring and Autumn and Warring States periods, concepts like productive forces determining production relations, economic foundations determining superstructures, and social existence determining social consciousness are introduced. When discussing the

economic crises in capitalist societies, the fundamental and principal contradictions of capitalism are examined. In studying ancient Greek democracy, the significant influence of Greece's unique geographical position and environment on its democratic politics is emphasized.

Disclosure statement

The author declares no conflict of interest.

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A Study of Variations in Address Forms in the Tinghu Dialect of Yancheng City

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Abstract: This study explores the variations in address forms within the Tinghu dialect of Yancheng city. The findings reveal that the ways individuals address one another in this region deviate from the established principles of tone sandhi theory. In Chinese phonology, it is generally assumed that individual characters serve as fundamental forms based on their standard pronunciations, with real-time pronunciations adapting to phonetic conditions. However, the study of address forms has not traditionally been integrated into this framework. Observations indicate that a wide range of addressing methods is employed in social interactions, reflecting the complexity of regional cultural traits and social dynamics. This research highlights the distinctive features of address forms in the Tinghu dialect, particularly in terms of tone sandhi, vocative expressions, and indirect address. By examining these unique characteristics, the study enhances our understanding of the principles governing tonal changes in Chinese. Furthermore, it offers valuable insights into the preservation and inheritance of regional dialects.

Keywords: Tone sandhi; Address form; Vocative; Indirect address

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1. Introduction

One basic assumption in Chinese phonology is that individual words, based on their pronunciation, form the fundamental forms and make real-time pronunciation according to phonetic conditions.

However, there are also different viewpoints. Observations indicate that the same address forms in dialects show different phonetic forms in different contexts. It was introduced that “In Jiangxi Shanggao dialect, phonetic variations are used to express address forms for family members. The preceding syllable always has a tone change.” Thus, we need to learn more about address forms. There are various definitions of address forms, which are generally defined as discourses that draw the listener’s attention and convey emotions, often used in the form of noun phrases.

Vocative and indirect addresses are two different ways people use to address others in their daily lives. Vocative refers to the discourse when speaking directly to someone, while indirect address is used when

reporting someone's words. The difference between the two lies in the distance between the speakers, which is the focus of our research in this paper.

The current theory of tone sandhi cannot explain the phonetic variation of the address form, so the study of tone variation of address words is of complementary significance to the current theory. Overall, the study of address forms in the Tinghu District of Yancheng has important theoretical and practical significance. It can promote the current tone sandhi theory and study more about the pronunciation theory based on this research because context is often ignored.

2. Literature review

2.1. Previous studies about tone sandi

Yuen Ren Chao, one of the pioneers in modern Chinese intonation theory, proposed the theory of tone sandhi in his work *Studies in the Modern Wu Dialects*. This theory suggests that “when two or more syllables are combined, the tone of the syllables may differ from their individual pronunciations.” In other words, the pronunciation of Chinese is influenced by the preceding and following sounds and it has nothing to do with the context.

Li ^[1] thought that “most previous studies are confined to inquire into the two issues: (1) there are tough problems with the mode of application; (2) the rule has complicated morphosyntactic and prosodic conditions on its application.”

Qin ^[2] investigated that “entering tone is involved in a phonological alternation with falling tone when it precedes another entering tone.”

Gu ^[3] said “Sandhi is a collective term used for a variety of sound changes that occur in many languages. Sandhi can be either internal, meaning that it occurs within a morpheme, or external, meaning it occurs at word boundaries.”

Wu ^[4] said “Tone sandhi is a common phenomenon of phonetic variation when two or more tones go together in a word or a phrase cross-dialectally in Chinese.”

Tone sandhi in longyou tones were studied, and the duration and changes were compared ^[5].

2.2. Previous studies about phonetic variation

In our country, scholars argued that the tone changes in the dialects of Shandong Province were different. For example, single-tone verbs, adjectives, nouns, and lightly stressed syllables have phonetic variations. For instance, in the sentence “I sweep one house,” the verb “sao” changes tone to indicate the meaning of “have swept.” The continuous tone and soft voice in Wenzhou dialect introduced that “Dialect research begins with phonetic studies.” Scholars said, “As for the research on Chinese dialect change, there is more research on linking change, and relatively few research on grammatical change that represents certain vocabulary and grammatical meaning.” A paper ^[6] studied the formal contexts in English by Trinidadian professionals, “the analysis shows that exonormative influences do not play a role.”

The phonetic realizations were analyzed in 21 speakers in previous studies. “Traditional Irish English weakened fricative realization in lexical words” ^[7]. Speech variation is often viewed as a trade-off between the needs of the listener and the speaker. Edona ^[8] said that “women played a leading role in innovative variants.” Scarborough ^[9] said that “speech variation is often viewed as a real-time trade-off.” Schulte ^[10] said that “there are differences in vowels in Dublin English.”

The basic rules of pronunciation tone in Tokyo Japanese are studied ^[11], “This paper examines the phonetic

and phonological structure of vocative intonation in Tokyo Japanese.” A study ^[12] talks about “The aim of the present study is to delve further into the topic of tone changes by examining the networked communicative practices of a group of transnational work colleagues.” These achievements have an important guiding role in understanding research methods related to phonetics.

2.3. Previous studies about Yancheng dialect

Research on the tones of the Yancheng dialect is conducted, “providing a specific definition of the tones of individual words in Yancheng dialect and demonstrating the influence of Standard Mandarin on the rising tones in Yancheng dialect.” The rules of entering tones in Yancheng, Yangzhou, and Nanjing were also studied, providing a paradigm for the entering tone in the Yancheng dialect. The paper studies the pitch and duration of the entering tone on the mono-syllable intonation systems, the pitch, and the duration.

3. Methodology

3.1. Research questions

This study aims to investigate factors that affect the phonetic variation of address forms, which cannot be explained by the theory of tone sandhi. For the same call, such as “mama (mother),” the phonetic condition is constant for both words, so the aim of this paper is to answer the following question: What is the relationship between the address forms in the indirect address context and vocative context, and what factors change their intonation?

3.2. Research subjects

The experimental subjects involved two individuals who have been living in Yancheng. The experimental design consisted of two sets of different distance recordings of address words, each consisting of two subjects (one man and one woman). The male speaker is 22 years old, and the female speaker is 51 years old. Both speakers are capable of speaking the standard Yancheng dialect. The recordings were conducted within a fixed period of time, and four sets of words with different tones were selected for the experiment. The experimental words are “mama (mother)” (even tone), “ye (grandpa)ye (grandpa)” (rising tone, pronounced as “die die” in Yancheng dialect), “nainai (grandma)” (entering tone), and “baba (father)” (falling tone).

3.3. Recording procedure

In the course of the recording, every subject was allowed to finish the whole task from the beginning to the end, each sharing two minutes. The recording was performed using Praat software with a sample rate of 22400Hz. Excel and Praat software were used to observe and analyze speech changes by data of pitch and duration. Step 1: The subjects look at the words and then orally transport the four experimental words with the dialect of Tingshu District. Step 2: The subjects memorize the experimental words “mama (mother),” “yeye (grandpa), read as ‘diedie’ in the dialect,” “nainai (grandma),” and “baba (father),” and speak to the listener face to face. The distance between the speaker and the subject should be constant and the speaker should be calm.

4. Data collection and analysis

4.1. Data processing

The results of the three recordings were saved separately. The effective pitch parts of “ba (dad),” “ma (mother),”

“ye (grandpa),” and “nai (grandma)” were extracted, while avoiding noise, and the corresponding pitch values were recorded at equal time intervals. Praat was used to record the data, separating vowels and consonants in the words and extracting time and corresponding pitch data. The duration was also recorded. The data was then filled into an Excel and a line graph was drawn.

4.2. Pitch data

In individual character addressing, the maximum and minimum pitch values of the “a” sound in the word for male subjects in vocative are equivalent in the indirect addressing context. The pitch range decreases gradually. In the vocative context, the pitch range first decreases slowly and then decreases significantly. The pitch of the “ie” sound in the word “die” is also generally the same. In the indirect addressing context, the pitch range decreases slowly and then decreases significantly. In the vocative context, it first decreases and then increases.

For the “ai” sound in the word “nai,” the pitch value in the vocative context is higher than in the indirect addressing context, at 173Hz. In terms of pitch range, in the indirect addressing context, it decreases first, then increases, and then decreases again, while in the vocative context, it increases first and then decreases (**Figures 1 and 2**).

For the “a” sound in the word “ba,” the pitch in the vocative context is 171Hz, which is also higher than the indirect addressing context at 150Hz. In terms of pitch range, in the indirect addressing context, it increases first, then decreases, and then increases again, while in the vocative context, it increases (**Figures 1 and 2**).

In the case of female subjects, the pitch of the “a” sound in the word “ma” in the vocative context is lower compared to the indirect addressing context, at 269.52Hz; while the highest value for the back addressing “a” sound is 278.7Hz, and the lowest value is equivalent to the vocative context. In terms of pitch range, both the back addressing and vocative contexts show a decrease (**Figures 3 and 4**).

For the “ai” sound in the word “nai,” the pitch in the vocative context is also lower, at 248.8Hz, compared to 261.5Hz in the indirect addressing context. In terms of pitch range, in the indirect addressing context, it decreases slowly, while in the vocative context, it decreases slowly at first and then decreases rapidly (**Figures 3 and 4**).



Figure 1. Vowel sounds in indirect address for male

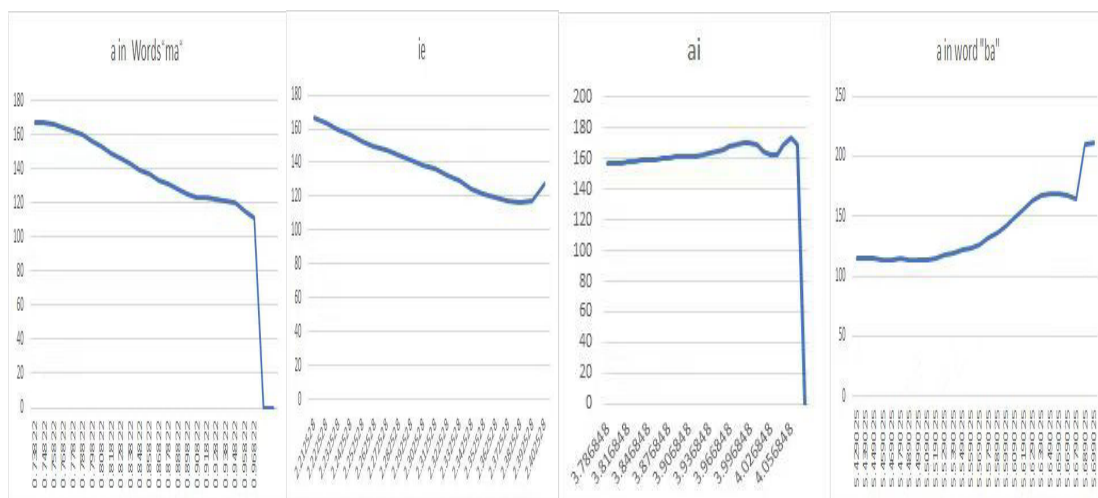


Figure 2. Vowel sounds in vocative contexts for male

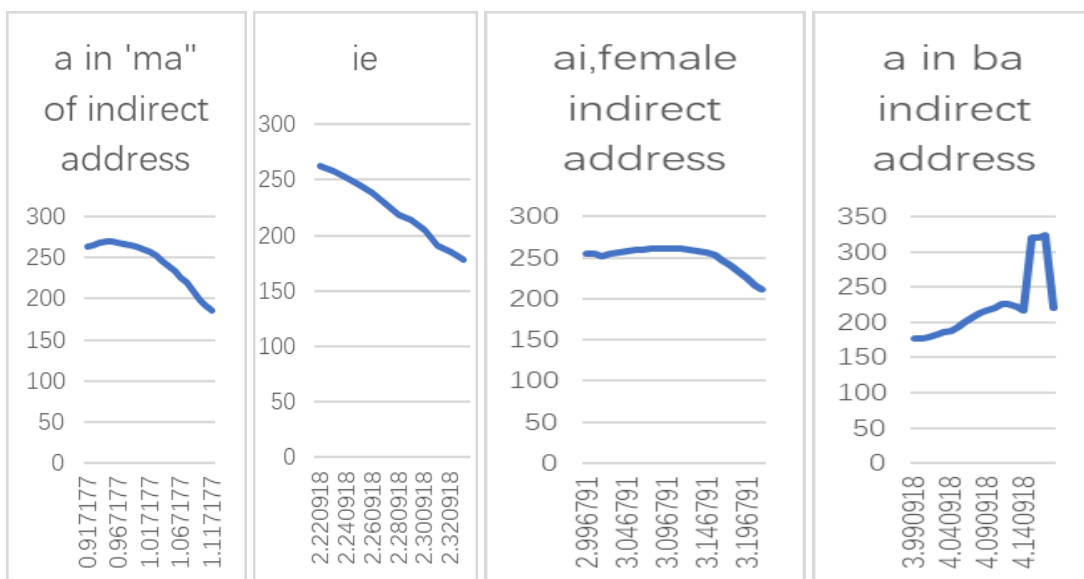


Figure 3. Vowel sounds in indirect address for female

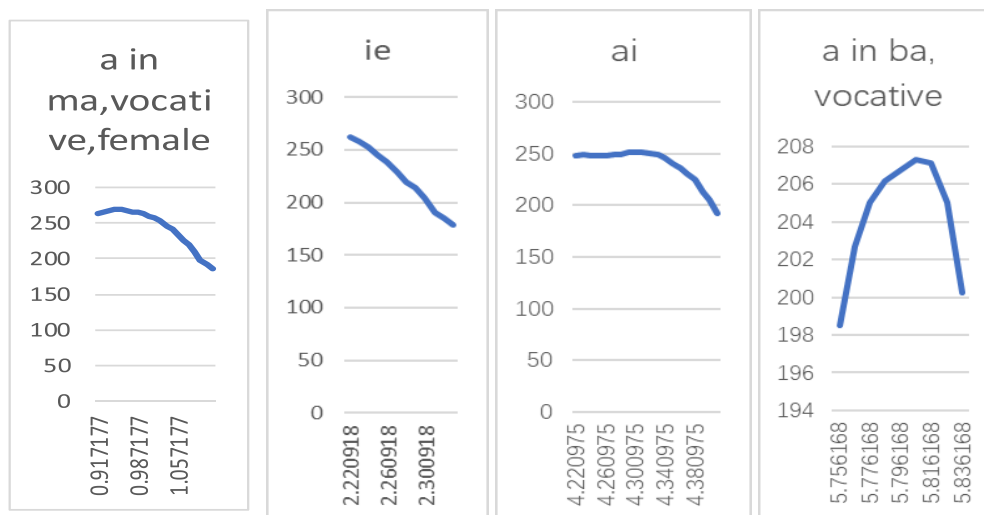


Figure 4. Vowel sounds in vocative contexts for female

4.3. Results and discussion

For the limitations of sample size and experimental conditions, these conclusions may only apply to the specific circumstances of this study.

In the experiment, the vowel pronunciation varied in different contexts, with varying lengths and difficulty in segmentation, especially when the boundary between vowels and consonants was not clear. Therefore, there may be errors in the data for consonants. The conclusions of this study mainly rely on vowel analysis.

The relationship between vocative and indirect addresses is that people speak with different perspectives, while other elements are the same. When people talk with others face to face, they have a different perspective than in the indirect address. This is because, in the indirect address, the subject is not looking directly at the listener. The relationship between summoning and seeking context is that people speak with different emotions, while other elements are the same. When people talk for seeking, they have a different emotion. This is because, in the seeking context, people get more emotional because they do not know where the listener is.

Based on the data, there is a significant difference in pitch for vowels in different contexts. In the two contexts of the two participants, the pitch difference between seeking and summoning contexts is pronounced. For example, in the seeking context, the highest pitch for the vowel “a” in males reaches 195.1Hz, much higher than the 161.4Hz in the summoning context. On the other hand, in the seeking context, the highest pitch for the vowel “a” in females is 321Hz, lower than the 336Hz in the summoning context. There is a significant pitch variation between the summoning and seeking contexts for both male and female participants, which may be due to the lack of clarification regarding the distance to the imaginary person in the summoning context. As mentioned before, the perspective to the listener is different between indirect address and vocative, and emotions are different in the seeking and summoning contexts.

5. Conclusion

The relationship between vocative and indirect addresses is that people speak with different perspectives, while other elements are the same. When people talk with others face to face, they have a different perspective than in the indirect address. The relationship between summoning and seeking context is that people speak with different emotions, while other elements are the same. When people talk for seeking, they have a different emotion.

Through the above experiment, it is observed that there are differences in pitch and pitch range for individual characters in both vocative and indirect address situations, which contradicts the theory of tone sandhi. Similar observations are made in the contexts of summoning and seeking. Therefore, it can be reasonably inferred that the phonetic variations in terms of addressing and tone sandhi are parallel phenomena, rather than the previously widely believed inclusive relationship. The phonetic changes of address in Yancheng dialect are affected by distance and emotion.

The research on addressing in the Yancheng dialect also has significant academic and social significance. By delving into the linguistic features and social functions of addressing in the Yancheng dialect, we can enrich our understanding of dialects, promoting the inheritance and development of dialectal culture.

Future experiments should expand the number of participants, conduct further research on sociolinguistic factors such as gender, and create a better experimental environment to further eliminate interfering factors.

Disclosure statement

The authors declare no conflict of interest.

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Research on the Current Situation of Occupational Stress among Young University Teachers in China

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Abstract: With the development of the international education environment and the continuous reform of higher education in China, the working pace in universities is accelerating, with higher requirements for university work and increasingly apparent pressure on teachers. Young teachers in Chinese universities are prone to occupational stress. In addition to undertaking teaching, research, and other tasks, they feel anxious and at a loss when facing personal issues such as job promotion and taking care of their families. This article selects young teachers from some universities in China as research subjects and uses a questionnaire survey method to understand the current situation and sources of pressure on young teachers in universities, so as to focus on and alleviate their stress in a targeted manner.

Keywords: Young university teachers; Occupational stress; Current situation

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1. Introduction

1.1. Definition of young university teachers

There is no universally accepted definition for young university teachers in China. Currently, teachers who can enter universities generally require at least a doctoral degree. After a long period of study experience, the normal age should be above 28 years old. Considering that in China, research fund projects generally require young and middle-aged project applicants to be under 40 years old, this study sets the upper age limit for young university teachers at 40 years old. Therefore, young university teachers in this study refer to those who specialize in teaching and research work on the front line of universities below 40 years old ^[1].

1.2. University teacher stress

Scholars believe that teacher stress is an unpleasant and negative emotional experience caused by the teaching profession, such as tension, anxiety, anger, frustration, or loss. Through the review of relevant literature, questionnaire data, and interview content, this study believes that the pressure on university teachers refers to the

long-term and sustained effects of stress sources under the constraints of the domestic higher education system, which affect the assessment of personal performance and the completion of work goals ^[2]. Due to differences in individual characteristics, coping abilities, and psychological qualities, university teachers experience varying degrees of imbalance when facing the effects of stress sources, forming a series of physiological, psychological, and behavioral reactions ^[3].

1.3. Sources of stress

The source of stress, also known as a stressor, refers to any event or stimulus from the internal or external environment that can be perceived by an individual and generate positive or negative stress responses, including situations, stimuli, activities, and events that lead to an individual's stress response. Stressors are divided into biological stressors, psychological stressors, and social stressors. The stressors studied in this article are mainly work-related stressors, including various stimuli, events, and environments that cause work-related stress responses. This mainly includes work pressure, life pressure, and social pressure. The main sources of stress are society, organizations, and individuals, and these factors interact with each other, forming a complex stress system that affects workers' physical and mental health.

Occupational stress, also known as work stress, refers to the pressure in a work context. It is believed that occupational stress refers to the threat that the profession itself poses to practitioners, which is the result of the interaction between the work environment and the characteristics of the worker, changing the psychological and physiological state of the worker. Another scholar believes that occupational stress is the result of the interaction between individual characteristics and work environment requirements, that is, in the work environment, stressors that threaten individual characteristics continue to act on individuals for a long time, and under the influence of individual subjectivity and coping behavior, a series of psychological, physiological, and behavioral reactions are produced in a systematic process ^[4]. Scholar defines this term as a physical and emotional response in which employees perceive an imbalance between their work needs and their abilities or resources to meet those needs. The World Health Organization (WHO) considers occupational stress to be work-related stress. Occupational stress often stems from unexpected responsibilities and pressures that are inconsistent with an individual's knowledge, skills, or expectations, thereby inhibiting their ability to cope. Based on the review and analysis of existing literature, this article defines occupational stress as a series of physical, mental, and behavioral reactions that occur due to differences in individual characteristics, abilities, and resources under the long-term and sustained influence of occupational stressors.

2. Maslow's hierarchy of needs

Maslow's hierarchy of needs includes five needs (**Figure 1**) ^[5]: (1) Physiological needs include the need for air, food, water, etc. This is the fundamental factor that sustains people's survival, and only when these fundamental factors are met can they ascend to the next higher level of needs, namely safety needs. (2) Safety need refers to the human need for personal safety, property safety, and moral protection. People need a stable and safe environment to ensure their protection, and fear and anxiety can be eliminated in an orderly environment. (3) Next is social needs. As an individual in society, everyone needs to establish emotional connections with others, such as making friends and pursuing love. People hope to find belonging and love through mutual care and concern. Emotional needs are more detailed and sensitive than physiological needs. (4) Esteem needs include respecting oneself, respecting others, and being respected by others. Respecting oneself includes self-esteem,

confidence, self-love, independence, etc.; respecting others includes respecting their reputation, achievements, or prestige; at the same time, people also hope to receive recognition and respect from others around them, which will make them feel safe and needed, thus giving them more confidence and a more positive attitude towards life. (5) Self-actualization need refers to people pursuing, realizing, and perfecting their own abilities or potentials. People have a series of self-actualization needs due to the stimulation of stressors ^[6].

College teachers also have their own different levels of needs, but generally go beyond physiological needs such as clothing, food, housing, and transportation, and safety needs such as living security and medical insurance. Their hierarchy of needs is usually at the third, fourth, and highest levels. Under the appointment system for university teachers, competition among colleagues is rampant, and everyone is working hard for their own jobs. In this situation, interpersonal relationships between peers become tense, and superiors have considerable power within a certain range. The phenomenon of administrative interference in academia occurs from time to time, and the equal system between teachers and leaders has undergone subtle changes ^[7]. At the same time, many schools adopt the method of evaluating teachers by students, which reflects the subject status of students, but has certain drawbacks. Strict demands on students' good looks sometimes fail to gain their recognition. All of the above have led to significant deficiencies in interpersonal relationships, status, and self-esteem among university teachers, resulting in excessive pressure and inability to fully utilize their talents ^[8].

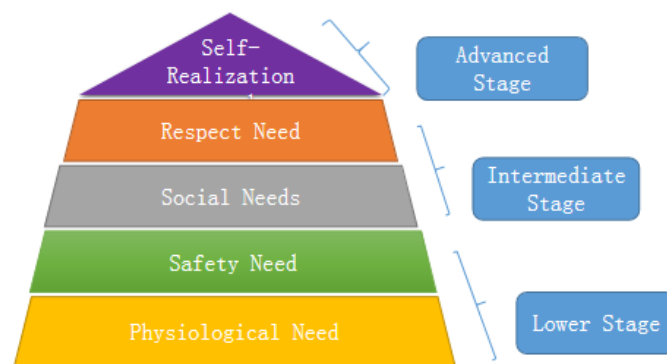


Figure 1. Maslow's hierarchy of needs model

3. Three levels of stressors for young university teachers

According to Maslow's hierarchy of needs theory, the sources of stress for young university teachers are classified into three levels: societal level, university level, and individual level, each containing different variables (Figure 2).

3.1. Societal level

People have high social expectations for young university teachers, believing that they have high education and knowledge, and expecting them to cultivate a group of high-quality talents for society ^[9]. However, in fact, the social recognition and social status given to young university teachers by society are low, and the government's welfare policies for them are also limited, which invisibly puts pressure on them and prevents them from receiving sufficient respect and recognition from society ^[10].

3.2. University level

Due to the special identity of university teachers, in addition to arranging a full range of teaching courses for

young teachers, universities also assign them heavy research work and even social service tasks, which occupy most of their time^[11]. They are also busy with professional title evaluation and promotion. In addition, schools attach great importance to scientific research and neglect teaching, which conflicts with scientific research and cannot promote each other. The evaluation and reward and punishment system is unreasonable, and the high work requirements lead to reduced leisure and entertainment time. The school cares less about teachers, and the university does not understand the difficulties of teachers^[12]. These multiple factors constitute multiple sources of pressure, making most young university teachers feel overwhelmed, emotionally unstable, and stressed.

3.3. Individual level

Insufficient knowledge and education, uncoordinated colleague relationships, intense job competition, occupational burnout, housing shortages, economic difficulties, and a lack of proportional return and effort, as well as frequent insomnia, headaches, and irritability, are the main variables affecting the physical and mental health of young university teachers^[13].

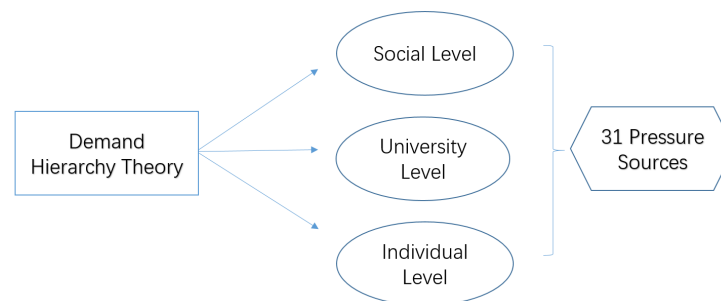


Figure 2. Three levels of stress sources

4. The impact of three different sources of stress on young teachers in Chinese universities

We selected six universities from the eastern, central, and western regions of China, and further selected 30 young teachers (under 40 years old) from each of the six universities, totaling 180 young teachers as participants in the questionnaire survey. We also selected six typical young teachers from these six universities as participants for in-depth telephone or video interviews^[14]. They come from different disciplines, professional titles, and age groups. Their educational backgrounds are mostly master's or doctoral degrees, making them a highly educated and knowledgeable group. After graduating with a master's or doctoral degree, they are around 28 years old. Between the ages of 28 and 40, they have undergone 12 years of teaching and research training and gained rich work experience. They are relatively young, and their leaders are more inclined to assign them more work. They may have more say in the stress they feel in their careers^[15]. The impacts of stress at societal, university, and individual levels on young teachers in Chinese universities are shown in **Tables 1 to 3**.

Table 1. Sources of stress at the societal level

Code	Stress at the societal level (%)	No stress	Low stress	Medium stress	High stress	Great stress
s1	High social expectations	18.24	34.71	16.47	17.06	13.53
s2	Low social status	17.65	38.82	23.53	8.82	11.18
s3	Inapparent welfare policy	14.71	27.06	27.06	20.59	10.59

Table 2. Sources of stress at the university level

Code	Stress at the university level (%)	No stress	Low stress	Medium stress	High stress	Great stress
c1	Few opportunities for further study and academic discussion	12.35	8.82	38.24	22.94	17.65
c2	Emphasis on scientific research and neglecting teaching	5.29	12.94	24.12	31.18	26.47
c3	Conflict between teaching and scientific research	7.65	12.94	30.59	37.06	11.76
c4	High scientific research requirements	2.35	6.47	9.41	32.35	49.41
c5	High requirements for professional title evaluation and employment	7.65	6.47	18.82	25.88	41.18
c6	Difficulty in project application	4.71	5.88	15.29	34.12	40.00
c7	Strict promotion system	17.06	19.41	32.35	19.41	11.76
c8	Lack of professional development	12.94	22.94	25.88	28.24	10.00
c9	Unreasonable evaluation and reward and punishment system	11.18	13.53	19.41	31.76	24.12
c10	Large teaching workload	11.18	13.53	28.24	28.82	18.24
c11	Reduced leisure and entertainment time	25.29	12.35	28.82	21.18	12.35
c12	The school cares little about teachers and does not understand their difficulties	10.59	40.59	25.29	12.35	11.18
c13	Lack of trust from leaders	18.82	22.94	28.82	23.53	5.88

Table 3. Sources of stress at the individual level

Code	Stress at the individual level (%)	No stress	Low stress	Medium stress	High stress	Great stress
p1	Personal ability is unable to handle high workload work	7.06	21.76	25.88	28.24	17.06
p2	Not being valued, with intention to resign	9.41	12.94	28.82	26.47	22.35
p3	Housing shortage and economic difficulties	13.53	11.18	27.06	40.59	7.65
p4	The return is not proportional to the pay, and low income	8.82	12.94	38.24	32.35	7.65
p5	Poor work-life balance	9.41	14.12	45.29	22.35	8.82
p6	Frequent insomnia, headache, and irritability	9.41	12.35	38.82	28.24	11.18
p7	Lack of professional achievement	21.76	45.88	18.82	6.47	7.06
p8	Incoordination among colleagues	25.88	37.65	15.29	12.94	8.24
p9	Intense job competition	29.41	39.41	12.94	14.71	3.53
p10	Difficulty in managing students	24.12	37.06	18.24	14.12	6.47
p11	Part-time work	24.71	38.82	17.06	12.35	7.06
p12	Insufficient knowledge or education	26.47	35.29	17.65	12.35	8.24

In summary, we hope that society has a reasonable expectation for the teaching profession, giving teachers certain political respect and improving their economic status. Universities should establish a reasonable evaluation system, training mechanism, and humanized management system, create a good working

environment, and provide a platform for young teachers to communicate and share. Individual teachers should appropriately assess their stress, recognize controllable and uncontrollable stress, and understand short-term and long-term stress. It is necessary to find the best way to effectively control stress, actively seek channels to relieve stress, make full use of the psychological counseling and assistance centers provided by society and universities, resolve psychological confusion, and release excessive stress ^[16].

5. Conclusion and prospects

Every industry or position has its challenges and stressors, and the same goes for young university teachers. Young teachers in universities are the core members of higher education institutions and direct practitioners of higher education. They are responsible for cultivating high-level talents at all levels and promoting scientific and technological development and social progress in the country. However, as the most important resource in the higher education system, young teachers in universities have not received corresponding respect and attention. For a long time, teachers' occupational stress has been a focus of research in the field of psychology abroad. Currently, with the continuous deepening of education reform in China, the issue of teachers' occupational pressure has attracted increasing attention. Persistent occupational stress can seriously affect teachers' physical, psychological, and behavioral health, creating a vicious cycle in education ^[17]. Teacher stress has also become an issue that universities cannot ignore. It is hoped that society, universities, and relevant managers can take active measures to improve the current situation.

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Visual Analysis of Domestic and International Social Practice Evaluation Systems Based on CiteSpace

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Abstract: The evaluation of social practice outcomes is a critical component of the social practice mechanisms in colleges and universities, serving as a core index to assess the effectiveness of practice activities and the quality of student training. This paper employs CiteSpace to analyze references, keyword co-occurrence maps, time zone maps, and time diagrams, identifying key research hotspots in social practice evaluation systems domestically and internationally. These hotspots include the construction of evaluation indicators, evaluation pathways, and methods. Additionally, this study compares and summarizes the evolution of social practice evaluation systems across regions. It highlights that foreign social practice evaluation systems are characterized by diverse interpretative paradigms, an emphasis on students' self-reflection during the evaluation process, and more robust theoretical foundations. These findings provide valuable insights for domestic colleges and universities seeking to build social practice evaluation systems with relevant content and effective results.

Keywords: Social practice evaluation system; Colleges and universities; Practice education; Knowledge graph; Hotspot

Online publication: February 14, 2025

1. Introduction

Social practice activities serve as a vital vehicle for moral education in universities, providing an essential means—outside the classroom—for cultivating college students' ideological and moral character^[1]. The Ministry of Education has formalized social practice courses, incorporating them into the scope of first-class curriculum construction. Social practice evaluation, as a key standard for assessing the outcomes of practical activities in universities, has garnered significant attention for its system optimization. In February 2023, the Central Committee of the Communist Youth League emphasized in the Opinions on Enhancing the Effectiveness of Social Practice Activities for University Students in the New Era the importance of improving the assessment and evaluation measures for social practice. It advocated for the integration of results and processes, a combination of qualitative and quantitative methods, and complementary self-assessment and peer

evaluation, with a particular focus on evaluating students' ideological changes, actual performance, and personal growth ^[2].

Through a review of relevant literature, it is evident that the construction of social practice evaluation systems in domestic universities remains in an exploratory phase. Common challenges and issues include overemphasis on results, superficial evaluations, and a lack of discipline-specific characteristics. In contrast, social practice initiatives abroad began earlier, featuring scientifically designed evaluation content and well-established support mechanisms. This study employs the visualization software CiteSpace.6.3.R1 to conduct a systematic, illustrative, and comprehensive comparative analysis of domestic and international literature on social practice evaluation systems from 2003 to 2023. It seeks to explore the current research landscape, key topics, and emerging themes in this field, as well as to understand the evolutionary trajectory of social practice evaluation mechanisms in universities worldwide. Furthermore, the study identifies aspects of foreign evaluation systems that can be adapted to domestic contexts, offering insights for predicting reform trends in university social practice mechanisms, enhancing the effectiveness of social practice activities, and promoting the personal development of university students.

2. Research data sources and publication statistics

2.1. Data sources

The primary content of the study comprises core literature from domestic and international databases. International literature was sourced from the Web of Science database, using the following keywords: “volunteer activities” OR “volunteer service” OR “service learning” OR “social practice” OR “innovation and entrepreneurship practice” AND (“evaluate” OR “assess”). Domestic literature was sourced from the China National Knowledge Infrastructure (CNKI) database, with keywords including: “social practice evaluation,” “practical education evaluation,” “service learning evaluation,” “volunteer service evaluation,” “volunteer activity evaluation,” “innovation and entrepreneurship activity evaluation,” and “social survey activity evaluation.” The search period was set from January 2003 to December 2024, yielding 1,128 Chinese documents and 626 English documents. After removing conference papers, theses, dissertations, and newspaper articles during the data-cleaning stage, 303 Chinese documents and 339 English documents were retained as valid research samples.

2.2. Research methods

The study combined econometric analysis and literature review methods to analyze publication trends, keywords, and knowledge mapping in related fields. It aimed to comprehensively explore the development status, network structure, research hotspots, frontiers, and trends of the social practice evaluation system. The research pathway included: (1) Using Citespace 6.3.R1 software for bibliometric visualization analysis to identify trends in annual publications domestically and internationally. (2) Exploring keyword co-occurrence patterns in domestic and international literature. (3) Revealing the evolution trends of the social practice evaluation system through time-zone and timeline maps. Additionally, qualitative analysis was conducted on literature with relevant content to gain deeper insights into the core research questions.

2.3. Statistics on literature publications

Publications were arranged by year to visualize the differences in research focus on this topic over time in domestic and international contexts. While both domestic and international publication trends show growth over

the years, the annual volume of international publications on social practice evaluation systems consistently exceeded that of domestic publications. Moreover, international publications exhibited more pronounced fluctuations, with peaks and troughs. The highest number of publications was in 2023, totaling 65, with research topics leaning towards the informatization of evaluation systems. This is attributed to the advanced application of digital technologies in practical education abroad ^[3].

In contrast, domestic publications showed a steady upward trend from 2003 to 2016. This trend may stem from three factors: (1) A rapid increase in public demand during this period, leading to greater attention to social security and public services. (2) A gradual transformation in government functions, emphasizing social equity. (3) National initiatives advocating for the exploration of long-term mechanisms for college students' social practice, along with the establishment of reasonable evaluation methods and incentive systems.

However, from 2016 to 2018, domestic publications declined from 24 to 11, likely due to a shift in focus as practical education mechanisms became more established, and attention turned to curriculum-based ideological and political education and educational system reform. After 2022, the volume of domestic and international publications intersected, with a noticeable decline in international publications and an upward trend in domestic ones. This suggests a potential future trend in social practice evaluation system research. **Figure 1** shows the details.

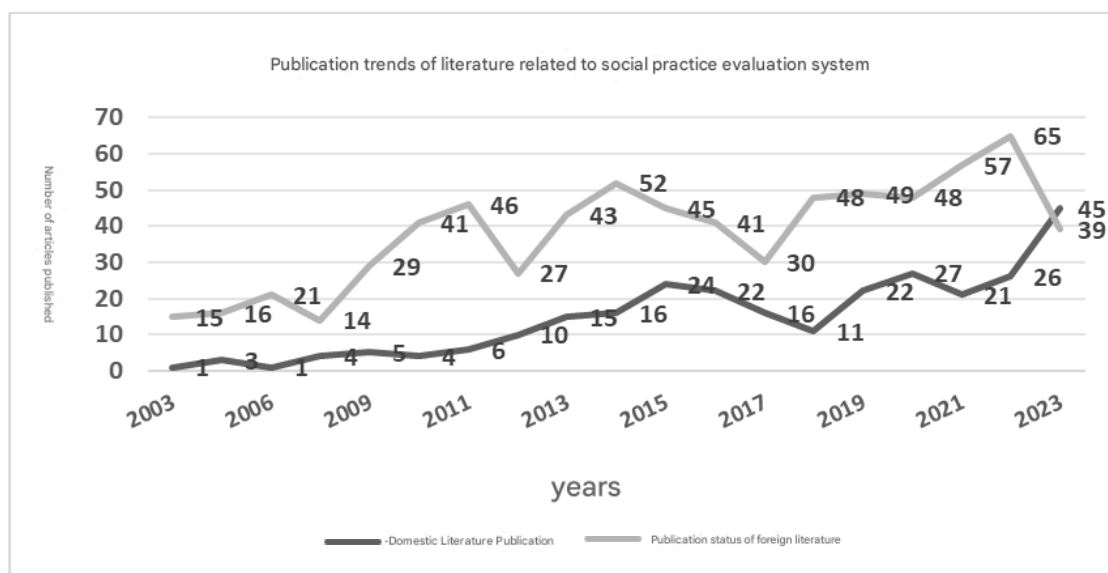


Figure 1. Publication trends of literature related to social practice evaluation systems

3. Hot topics in the social practice evaluation system

This section explores the focal areas of research on social practice evaluation systems through co-occurrence analysis. A keyword co-occurrence map emphasizes horizontal research on keywords, facilitating the exploration of connections between different research topics or segments. The more frequently keywords appear together in the same document, the closer their thematic relationship. Darker colors represent earlier appearances, as shown in **Figure 2**.

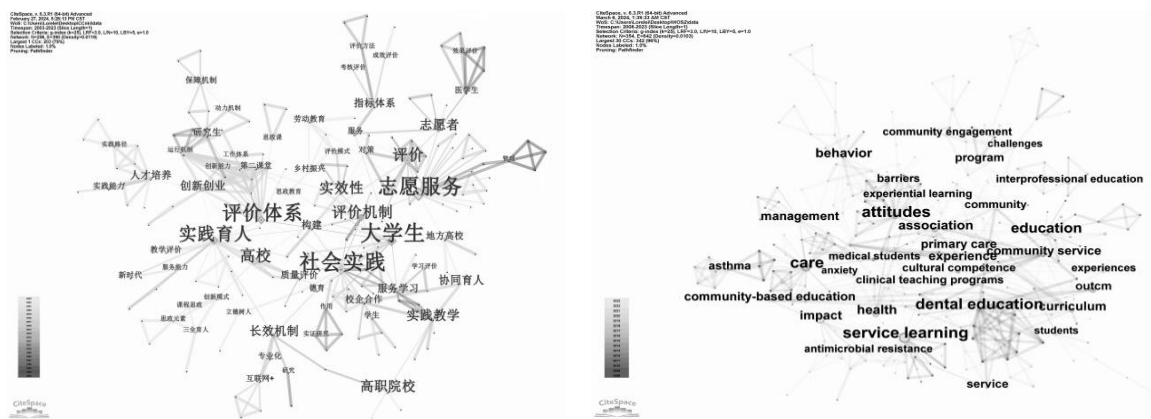


Figure 2. Comparison of keywords in domestic and international social practice evaluation systems

3.1. Domestic keyword co-occurrence analysis

Using CiteSpace software, an analysis of domestic literature was conducted with “keywords” selected as the target. The time interval was set to one year, and the threshold was set to TOP = 50. This produced a domestic keyword co-occurrence map featuring 256 nodes (N = 256) and 390 edges (E = 390). The map clearly shows that research on the social practice evaluation system has developed into two interconnected segments radiating outward from a central point: one focusing on the construction of an evaluation system centered on volunteer service, and the other on the expansion of activity types centered on social practice.

3.1.1. Evaluation system centered on volunteer service

The keyword co-occurrence map reveals a significant co-occurrence of terms such as “volunteer service,” “social evaluation,” “two-way evaluation,” and “star rating” within the same documents, indicating close interconnections. The evaluation system for volunteer service is typically constructed from both macro and micro perspectives.

Macro perspective: This refers to evaluation methods, which often follow similar approaches. First, an overall evaluation framework is built using graded indicators. Then, quantitative or mixed evaluation content is embedded within the framework, akin to the relationship between “skeleton” and “flesh.” Many studies use a goal-oriented approach, applying theories or methodologies to construct and enrich volunteer service evaluation systems. These goals include moral education and holistic student development. Theories such as rough set theory and the CIPP model, along with methodologies like digital fuzzy evaluation and factor analysis, are commonly employed.

Micro perspective: Different levels of graded indicators capture both the “form” and “essence” of practice activity outcomes. This allows for standardized assessments of aspects such as the organization of volunteer activities, behavioral changes, and the social benefits of the activities. Long-term evaluation processes focus on aspects such as appropriateness, satisfaction, social impact, sustainability, and evaluation of the practice participants. Short-term evaluations, in contrast, are project-specific, such as assessments of “Three Countryside Campaign” activities or “voluntary blood donation” services. These typically involve written summaries and reviews of team professionalization, practical outcomes, and existing issues at the project’s conclusion, though the evaluation systems are relatively incomplete.

3.1.2. Professional development evaluation centered on social practice

The keyword co-occurrence map also highlights frequent co-occurrence of terms such as “elderly care services,” “internship bases,” “university-enterprise cooperation,” and “interest alignment” in studies focusing on professional expansion evaluations. Social practice venues are not limited to communities or schools, and the content of activities is not static. Social practice evaluation systems tend to emphasize the assessment of students’ professional competencies. Existing research incorporates elements such as professional skills acquired through social practice activities, school and social environments, curriculum and base support, practical outcomes, and media coverage ^[4]. In recent years, multi-party evaluation systems based on collaboration between government, society, and schools have garnered increased attention. These systems also consider factors such as university students’ innovation and entrepreneurship abilities, teamwork skills, problem-solving capabilities, and psychological resilience.

3.2. International keyword co-occurrence analysis

Using CiteSpace software to analyze international literature through keywords, a time interval of one year was set, and the threshold was configured as TOP = 50. This generated a co-occurrence map of international keywords, revealing 354 nodes (N = 354) and 642 connections (E = 642). By combining keyword frequency and betweenness centrality, several major co-occurrence clusters emerged, dominated by keywords such as “service learning,” “education,” “care,” and “attitudes.” These clusters exhibit significant interconnections and can be divided into two main themes: professionalized evaluation centered on higher education and reflective evaluation focused on student attitudes.

3.2.1. Professional evaluation centered on higher education

The co-occurrence map of international keywords indicates that the primary subjects of social practice evaluation are university students, with the evaluation content designed around their academic disciplines. In 2008, the introduction of the Serve America Act institutionalized service learning, integrating it into U.S. higher education through extracurricular activities and academic courses. Consequently, the social practice evaluation systems in international higher education institutions are predominantly discipline-specific, with medicine leading, followed by engineering and the arts.

In the evaluation of medical students’ practice, assessors are mostly faculty members, aiming to evaluate collaboration between the medical profession and the community, as well as program design. This helps educators identify students’ professionalism, teamwork, leadership, and communication skills. Some studies also focus on students’ self-assessments. For instance, McMenamin conducted qualitative interviews with medical students about their experiences in community service learning, summarizing aspects such as knowledge transformation, skill development, teamwork abilities, and professional growth ^[5]. In engineering, the focus is often on students’ sense of achievement. Lathem *et al.* studied changes in students’ perceptions of engineers’ social responsibilities and technical knowledge, as well as their satisfaction with curriculum reforms ^[6].

3.2.2. Reflective evaluation centered on student attitudes

Based on the co-occurrence of keywords like “attitude” and “student” in the international keyword map, it is evident that considerable emphasis is placed on students’ self-evaluation in social practices. John Dewey’s advocacy of “reflective thinking” highlights the importance of seeking conclusions and resolving doubts through reflection, which holds significant value in service learning. When reflective thinking is integrated throughout the service learning process, students enhance their participation experiences, improve critical

thinking skills, and better understand social phenomena. Schmidt described students' critical reflections during service learning and provided suggestions for evaluating these experiences [7]. Additionally, Jia emphasized the crucial role of student reflection in service learning, noting that self-reflection enables students to prepare for upcoming projects and improve the content of service learning [8].

The international social practice evaluation system improves practice quality and student engagement by encouraging self-reflection and critique. This approach aligns more closely with students' needs, suggesting that building a social practice evaluation system focused on students' self-gains, assessments, and critiques could offer valuable lessons for domestic education.

4. Analysis of the evolution path of the social practice evaluation system

A visual analysis of the timeline of high-frequency keywords can clearly reveal the evolution trajectory of the themes within the social practice evaluation system, both domestically and internationally, as shown in **Figure 3**.

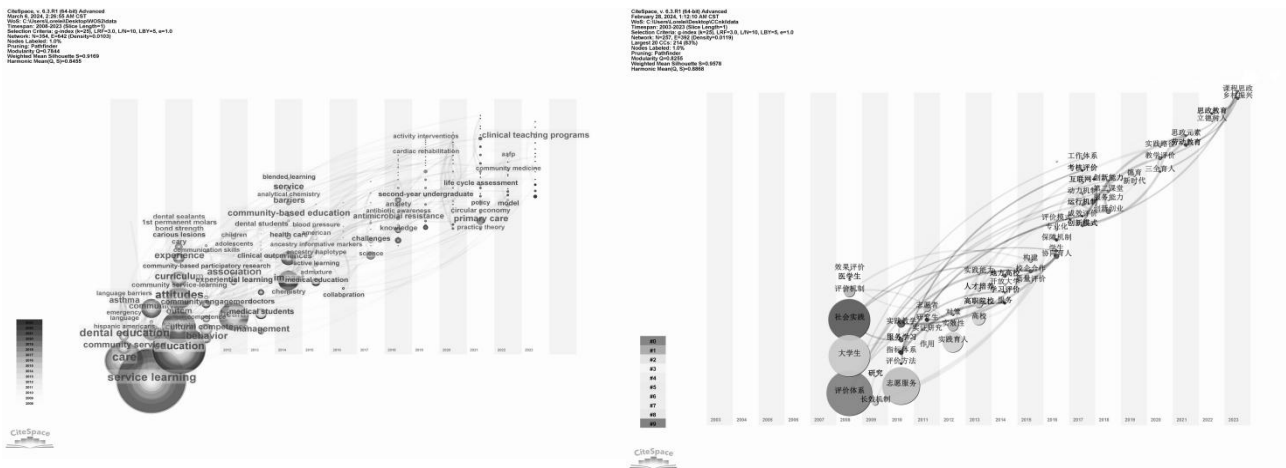


Figure 3. Comparison of keyword time zone maps for domestic and international social practice evaluation systems

4.1. Domestic keyword time zone map

Analyzing the time zone map reveals that keywords such as “practical education,” “talent cultivation,” “moral education,” and “virtue-based education” are closely aligned with the national educational policies of the respective periods, reflecting certain characteristics of the times and policy orientations. Keywords like “university students,” “postgraduate students,” “local universities,” and “open universities” highlight changes in evaluation subjects. Additionally, the shift in keywords from “practical ability” to “innovative ability” and “service ability” reflects the evolving national requirements for educational outcomes. Based on the specific content, this study identifies two main evolutionary trajectories, described as follows.

4.1.1. Policy-oriented domestic evaluation mechanisms and gradually improved evaluation systems

The strategy of strengthening the nation through talent development has provided policy impetus and ideological guidance for the construction of the domestic social practice mechanism. In 2005, the All-China Youth Federation issued the Opinions on Further Strengthening and Improving University Students' Social Practice, which called for the development of reasonable assessment methods and incentive mechanisms, as

well as the regular recognition of outstanding collectives and individuals. However, such evaluation systems primarily focused on overall practice performance, with indicators leaning toward utilitarianism and lacking dimensions related to students' personal growth and development.

With the launch of the innovation capacity improvement plans in universities, scholars began to integrate national, corporate, and university perspectives to construct social practice evaluation systems for educational outcomes. These systems assessed students' adaptability to corporate culture, initiative, and professional skills within evaluation decision frameworks ^[9]. At this stage, the evaluation system was primarily driven by enterprise needs, using the practical benefits students brought to organizations as key assessment indicators. The goal was to enhance university-industry collaboration and promote graduate employability. Since the Ministry of Education emphasized ideological and political education in courses and labor education, the social practice evaluation system has further incorporated the mainstream ideology of a socialist state, Marxist theory, and the Party and state's principles, policies, and guidelines. The aim is to guide students toward establishing a correct worldview, outlook on life, and value system.

In recent years, as China's rural revitalization strategy has gradually matured, ideological and political elements have been integrated into the practice evaluation system. Indicators such as the integration of innovation and entrepreneurship with professional studies, disciplinary cross-compatibility, and the alignment of academic disciplines with local industries have been included. This aims to enhance university students' awareness of rural revitalization. It is evident that the indicators within university evaluation systems exhibit a strong policy orientation, aligning educational activities with the needs of the times to cultivate highly qualified, capable, and application-oriented successors for the socialist cause.

4.1.2. Broad coverage of domestic evaluation entities with attention needed on subjective perception

The Ministry of Education mandates that social practice teaching must encompass all students. Consequently, the scope of research on social practice evaluation systems has expanded, as reflected in keywords such as "undergraduate students," "postgraduate students," "universities," and "vocational colleges."

From keywords like "effectiveness evaluation," "service capacity," and "assessment evaluation," it is evident that the focus of social practice evaluation is on practical outcomes, with limited attention to students' subjective experiences and sense of benefit. Currently, social practice is often tied to students' qualifications for awards, recognition, or party membership, which boosts participation and enthusiasm. However, in the long term, this approach may provoke resistance among students. Student satisfaction is a critical evaluation metric. Scholar suggests that practice evaluations should be student-centered ^[10]. Related research ^[11] has surveyed student satisfaction but lacks insights into students' cognitive, emotional, and attitudinal processes during practice, as well as their sense of gain. This indicates that the practice mechanism has yet to form a well-functioning feedback loop, leading to fixed content and monotonous forms of activities. Such rigidity hinders flexible improvements aligned with students' ideas, ultimately deviating from the "student-centered" educational philosophy and the goal of fostering students' comprehensive development.

4.2. International keyword time zone map

Analyzing the time zone map reveals that keywords like "service learning," "care," "community service," and "program" appeared earlier, reflecting two evolutionary trends in evaluation systems, as explained below.

4.2.1. Effectiveness-based international evaluation mechanisms with diverse evaluation methods

As early as the 1990s, international research on volunteer service evaluation systems began, encompassing assessments of volunteer motivation, service performance, and service quality. Most evaluation mechanisms for social practice focus on evaluating the service-learning process, employing a variety of tools.

Myers-Lipton utilized the Civic Responsibility Scale to assess university students' social efficacy, social concern, personal responsibility, sense of competence, and performance evaluation, aiming to explore whether service-learning enhances students' moral cognition ^[12]. Botelho *et al.* developed an evaluation tool for assessing the effects of service-learning in STEM courses at California State University. This tool includes eight components: "Reflection," "Value Concern," "Community Collaboration," "Addressing Community Needs," "Academic Content," "Communication with the Community," "Service-Learning Preparation," and "Learning Objectives" ^[13]. Additionally, the National Service-Learning Clearinghouse in the United States developed tools specifically for evaluating service-learning in higher education ^[14]. In qualitative research, Gibboney employed grounded theory to describe the interactive experiences of service-learning participants, identifying three themes: promoting personal growth, impacting the lives of service recipients, and influencing community service programs ^[15]. These studies reveal that international evaluation systems are multilayered, emphasizing the effectiveness of activities and their impact on students' development.

Japan and the Republic of Korea began research on social practice evaluation earlier than China. Since 1998, the Republic of Korea has incorporated volunteer service into academic credits, while Japan has integrated social contribution activities into school education, turning schools into collaborative hubs for community volunteer activities. Korean researchers found that social practice enhances students' sense of social responsibility ^[16]. Similar to Western countries, early evaluations of social practice in Japan and the Republic of Korea also focused on the impact on students' civic morals and practical outcomes.

4.2.2. Shifting of international evaluation towards systematic approaches with increasingly in-depth content

Keywords such as "blended learning" and "model" reflect the growing systemic and standardized development of social practice evaluation internationally. In 1995, Schneider *et al.* identified issues such as unengaging themes and lack of student participation in service-learning ^[17]. In 2002, Yamauchi *et al.* pointed out that the content of service-learning practices varies greatly, the quality of projects is contested, and the generalizability of evaluation mechanisms is limited ^[18]. Subsequently, some evaluations abandoned single approaches, shifting toward constructing systematic evaluation models tailored to different disciplines to provide an integrated view of participants' implementation, reflection, and assessment of service-learning.

Stewart developed a service-learning evaluation scale for agricultural studies, laying a foundation for evaluations in the field ^[19]. In dental service-learning, various evaluation strategies have emerged, including online guidelines and the CCPH Handbook. The University of North Texas developed the ADAPT Evaluation Tool for assessing service-learning in pharmacy, covering content such as pre-implementation preparation, planning, student experiences, and supervisor satisfaction ^[20]. Additionally, the SLQAT Scale is suitable for all types of service-learning courses and student groups ^[21]. These studies integrate evaluation frameworks, highlighting their completeness and systematic nature. In terms of evaluation content, from "care" in 2008 to "health care" in 2014 and "primary care" in 2021, the evaluation of social practice in nursing has become increasingly refined, aligning with the overall development of the discipline and the key focus areas in health.

In recent years, international evaluations of social practice have become closely aligned with specific

disciplines, with increasingly refined mechanisms and evaluation systems.

4.3. Keyword timeline mapping

By analyzing and comparing the clustered keywords in timeline maps from both domestic and international studies, two key themes emerge: theoretical foundation research and value evaluation research, as shown in Figure 4.

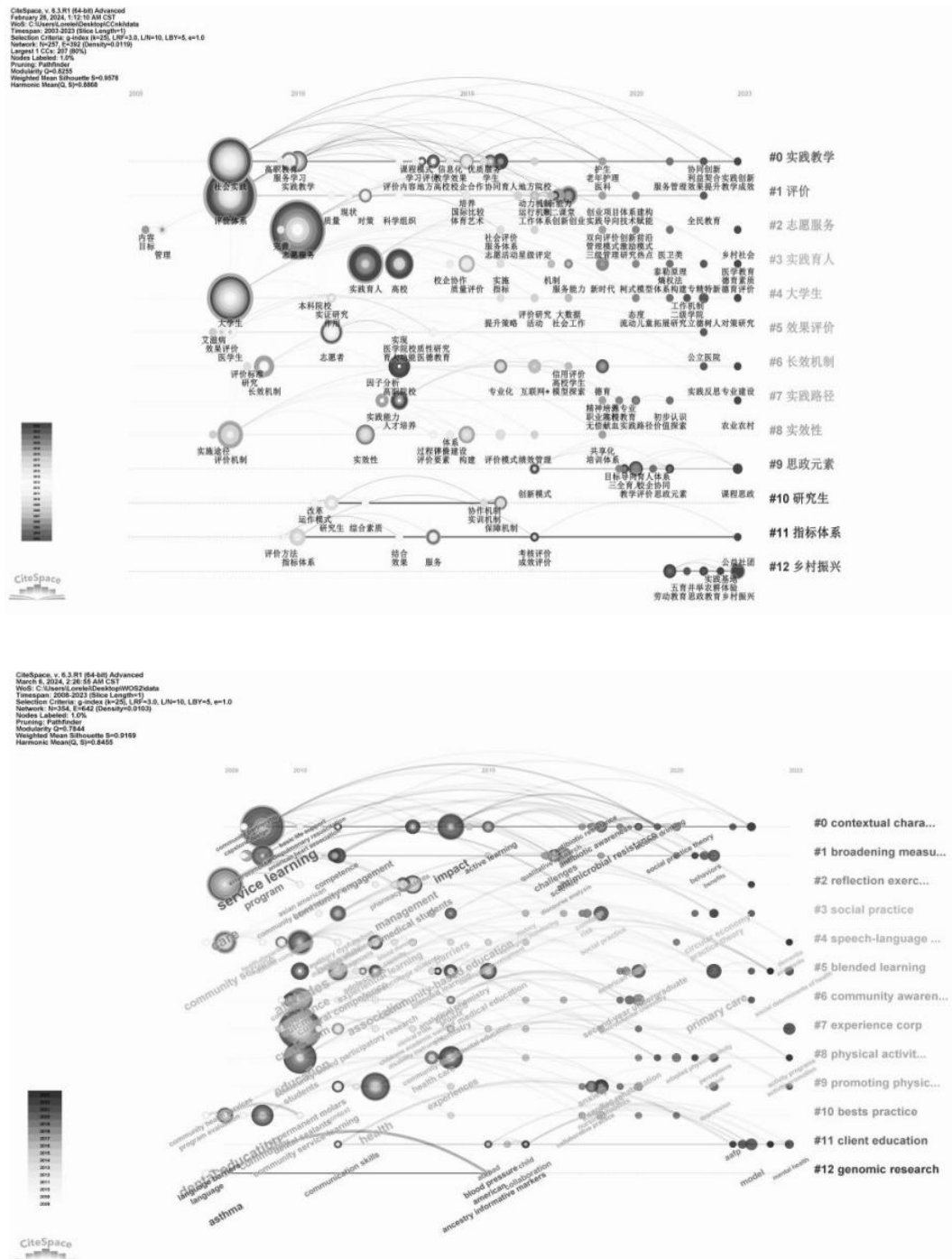


Figure 4. Comparison of timeline maps of keywords in domestic and international social practice evaluation systems

4.3.1. Theoretical foundation research

Internationally, theoretical models have been used earlier to explore teaching quality in schools, as reflected by the keyword “theory” in the timeline map. In 1967, American scholar Stufflebeam proposed the CIPP model, which includes four components: context evaluation, input evaluation, process evaluation, and product evaluation. This theory was first applied in the field of education, such as evaluating service-learning outcomes in medical programs and social internship plans. After Dongtai Wu introduced this theory to China in 2002, the CIPP model began to be widely applied in teaching evaluation, corporate management, and social practice evaluation systems^[22]. Domestic research primarily uses the four-step framework of this model to construct social practice evaluation systems, emphasizing the comprehensiveness of such systems.

The domestic timeline map mentions the “entropy weight method,” a concept derived from rough set theory, which was proposed by the Polish scholar Pawlak in 1982. This theory addresses uncertain and incomplete knowledge^[23]. While internationally it has been applied to fields like artificial intelligence and cognitive science, in China, it is primarily used in the humanities and social sciences. The theory is employed to calculate weights for items in social practice evaluation systems where the importance cannot be precisely estimated, thereby identifying the most critical areas for evaluation and improving the overall evaluation framework.

Additionally, in 1983, American psychologist Howard proposed the theory of multiple intelligences, which has also been applied to social practice evaluation research. This theory emphasizes the development and cultivation of intelligence through acquired learning^[24]. Drawing on this theory, Yin^[25] pointed out that social practice evaluation systems should include diverse, dynamic, and unique evaluation content, integrating self-assessment by students to promote diversity in evaluation themes, comprehensiveness in content, and multidimensional evaluation standards.

It is evident that international theoretical foundations are well-established and diverse. Chinese scholars leverage these mature international theories to support social practice evaluation systems, applying them in innovative ways across various fields. This approach maximizes the effectiveness of these systems in evaluations.

4.3.2. Value evaluation research

Internationally, the focus of value evaluation in social practice emphasizes both the societal value of practice activities and their value for individual student development.

In terms of societal value, it is recognized that “civic responsibility is the hallmark of service learning.” Evaluations of social practice abroad emphasize students’ levels of social engagement, with a focus on the public and social nature of practice content. This serves as a means to assess university students’ civic awareness and contributes to enhancing their sense of social justice. As early as 2010, Ottenritter from the American Association of Community Colleges evaluated the role of service learning in fostering socially just behaviors among students. The findings demonstrated that service learning significantly contributes to the cultivation of students’ civic consciousness and societal impact^[26].

In terms of individual value, it is also recognized that “education is the driving force that inspires students to try, think, persevere, and improve.” With the shift in higher education towards a “student-centered” approach, research has increasingly focused on students’ gains and personal growth from practice activities. By analyzing keywords from timeline clustering studies, such as “reflection exercise,” “speech-language,” “blended learning,” “promoting physical,” and “competence,” the theme of “students’ personal capability development” emerges. In the social practice evaluation system, assessments of students’ individual capabilities primarily

include active learning, professionalism, communication, teamwork, critical thinking, and cultural competence. Notably, research on professionalism, communication, cultural awareness, and reflection appeared between 2010 and 2015, while research on active learning and teamwork emerged between 2015 and 2020. International research on social practice evaluation has extensively focused on promoting individual growth and enhancing students' overall abilities, aiming to foster self-growth and development. Masterson *et al.* argued that social practice helps students improve competence, enhance autonomy, and develop understanding, abstract thinking, and problem-solving skills ^[27].

In contrast, the value evaluation system for social practice in China primarily emphasizes societal value. While many studies highlight the evaluation of comprehensive abilities, the ultimate goal is to cultivate students' sense of social responsibility, which aligns with the socialist system in China. Additionally, the promotion of social practice evaluation in Chinese universities is driven by societal demands and new policy initiatives, ensuring that talent cultivation aligns with national development needs. The 20th National Congress of the Communist Party of China explicitly emphasized the importance of “comprehensively improving the quality of independent talent cultivation” as a cornerstone for supporting national strategies. As universities serve as critical intersections of “the primary resource of talent, the primary productivity of science and technology, the primary driving force of innovation, and the primary soft power of culture,” they bear the responsibility of cultivating innovative talent independently in this era. Therefore, the content and evaluation system of social practice in Chinese universities often integrate current political themes, focusing on ideological and political literacy and societal value. The timeline clustering of themes such as “rural revitalization” and “ideological and political elements” reflects this focus.

5. Conclusion and outlook

Through a comprehensive analysis of literature on current social practice evaluation systems, including publication volume, keywords, and other aspects, as well as a comparative examination of research status, hotspots, and development trends at home and abroad, the following conclusions and outlook are drawn.

5.1. Conclusion

Firstly, in terms of the overall mechanism, international university practice mechanisms typically consist of “government financial support + public promotion and supervision + curriculum arrangement + teacher and student training + funding application and management + university-industry collaboration + outcome evaluation + social public welfare fund guarantees.” In contrast, domestic practice mechanisms mainly comprise “ideological cognition cultivation + curriculum design + practice module planning + funding application and management + assessment and evaluation system + guidance and feedback mechanisms.” Notably, public promotion, supervision, and fund guarantees are relatively lacking in China's social practice mechanisms. Domestic social practice support is insufficient, and government attention is limited to “point-to-point” focus. In terms of evaluation systems, international practices rely on evaluations from students, teachers, enterprises, and even the public, achieving comprehensive coverage. However, domestic evaluations are mostly conducted from the perspective of practice activity managers, resulting in a more singular approach. The social practice evaluation system is a crucial component for measuring the outcomes of practice, and there is significant room for improvement in domestic evaluation systems and practice mechanisms.

Secondly, regarding evaluation methods, international social practice evaluation systems tend to adopt

qualitative research paradigms, which deeply explore participants' value perceptions. Quantitative tools are diverse and have transitioned toward systematization and general applicability. Furthermore, international theoretical foundations are robust and largely validated. In comparison, domestic universities tend to develop social practice evaluation systems based on policy contexts, practical conditions, and individual experience, with limited efforts to construct comprehensive evaluation tools. Universal evaluation scales have not yet emerged. Additionally, some qualitative research interview outlines display directional bias, making it difficult to uncover participants' genuine thoughts. This suggests that domestic research paradigms and methods require further refinement.

Thirdly, in terms of evaluation content, international social practice evaluations primarily focus on students, emphasizing their civic awareness, professional achievements, skill enhancement, and personal development. In contrast, domestic evaluations prioritize ideological and political values, activity effectiveness, and practical outcomes, often neglecting students' self-reflection and satisfaction with the practice. As key participants in social practice, students are best positioned to identify shortcomings in the practice and evaluate their own performance. This highlights the need for domestic evaluation content to align more closely with students' personal development.

5.2. Outlook

Firstly, it is necessary to improve the overall mechanism. To begin with, greater attention should be directed by various departments toward social practice activities in higher education institutions. Governments, universities, medical institutions, enterprises, and communities should collaborate to organize large-scale social practice activities, establishing a prominent brand for domestic university practice programs. Additionally, mechanisms for support, funding provision, and public supervision should be further refined. Furthermore, research paradigms should be expanded in evaluating social practice activities at domestic universities. Moreover, individual student evaluations should be emphasized by understanding their opinions and satisfaction with the arrangement of practice activities. The evaluation content should be tailored to focus on students' personal development, thereby promoting personalized practice education. Lastly, modern information technologies, such as artificial intelligence, should be utilized to evaluate the entire process of social practice, promote resource sharing, and drive iterative upgrades in evaluation concepts and methods. This will ensure continuous optimization of the overall social practice mechanism.

Secondly, the evaluation system should be implemented. Most domestic studies focus on constructing systems but rarely apply them, resulting in limited practical outcomes. In contrast, international approaches often utilize existing tools for evaluation, enabling timely activity reviews and problem-solving. Research indicates ^[28] that the construction of practice-based educational bases in China faces shortcomings. Facilities and equipment necessary for student practice activities are often neglected, leading to difficulties in smoothly conducting practice activities and significantly diminishing their educational impact. Therefore, universities should expedite the improvement of closed-loop management in social practice evaluation, implement feedback mechanisms, and enhance the quality of social practice activities. This will contribute to nurturing more high-caliber talent who are "thoughtful, principled, knowledgeable, and responsible" for the nation.

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Styles and Characteristics of Thematic Art Creation in Hong Kong, Macao, and Taiwan Regions

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Abstract: This article explores the styles and characteristics of thematic art creation in Hong Kong, Macao, and Taiwan regions, analyzing the uniqueness of these regions' artistic backgrounds, artistic languages, theme selections, and expressive techniques. The art creation in Hong Kong, Macao, and Taiwan regions is deeply influenced by traditional Chinese culture while incorporating Western artistic elements, exhibiting a diversified artistic style. Thematic art creation in these three regions has its own distinct features, including a deep exploration of local culture and a sensitive capture of the spirit of the times, which together constitute a rich and colorful artistic landscape in Hong Kong, Macao, and Taiwan regions.

Keywords: Hong Kong, Macao, and Taiwan regions; Thematic art creation; Artistic style

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1. Introduction

The Hong Kong, Macao, and Taiwan regions, as an integral part of China, have formed unique styles of art creation due to their distinct historical, cultural, and social backgrounds. Thematic art creation, as an important component of art creation, not only reflects the social landscape and cultural characteristics of a region but also embodies the aesthetic pursuit and creative philosophy of artists. This article aims to explore the styles and characteristics of thematic art creation in Hong Kong, Macao, and Taiwan regions, providing a reference for research in related fields.

2. Cultural background of thematic fine art creations in Hong Kong, Macao, and Taiwan regions

Thematic fine art creations in Hong Kong, Macao, and Taiwan regions are rooted in profound historical and cultural heritage and unique geographical features. They blend the essence of Chinese and Western cultures, exhibiting the diverse and unified cultural landscape of the Chinese nation.

2.1. Historical origins and cultural accumulation

Hong Kong, Macao, and Taiwan regions have been an integral part of China's territory since ancient times, boasting rich historical and cultural heritage. This cultural heritage provides abundant materials and inspiration for fine art creations in these regions.

Since its opening, Hong Kong has become an important hub for cultural exchanges between China and the West. Hong Kong's fine art creations are deeply influenced by traditional Chinese culture and Western modern art, forming a unique artistic style. In thematic fine art creations, Hong Kong artists often combine traditional Chinese cultural elements with Western modern artistic techniques, creating works that possess both traditional charm and a sense of the times ^[1].

As a city with a long history, Macao's fine art creations are also deeply influenced by Chinese and Western cultures. Macao's thematic fine art creations often integrate the essence of Chinese and Western cultures, exhibiting Macao's unique cultural landscape. For example, Macao artists often employ traditional Chinese painting techniques while drawing inspiration from Western painting colors and compositions, creating works that possess both traditional Chinese charm and a modern sensibility.

Fine art creations in the Taiwan region more prominently reflect the essence of traditional Chinese culture. In thematic fine art creations, artists in the Taiwan region often take traditional Chinese culture as the theme, employing various art forms such as painting and sculpture to showcase the profound and unique charm of Chinese culture ^[2]. Simultaneously, they also focus on absorbing nutrients from Western modern art, promoting the modern transformation and innovative development of traditional Chinese culture.

2.2. Regional characteristics and ethnic emotions

Thematic fine art creations in Hong Kong, Macao, and Taiwan regions are deeply influenced by regional characteristics and ethnic emotions. These works often take the geographical features, cultural landscapes, and ethnic customs of these regions as themes, showcasing the unique charm of Hong Kong, Macao, and Taiwan regions through artistic means.

Hong Kong's fine art creations often revolve around the city's urban scenery, street life, and cultural symbols, exhibiting Hong Kong's modern urban landscape and humanistic feelings ^[3]. For instance, Hong Kong artists frequently depict the city's skyscrapers, bustling streets, and night market scenes in their creations, showcasing Hong Kong's prosperity and vitality through these culturally symbolic elements unique to the city.

Macao's fine art creations, on the other hand, embody the city's historical culture and human landscapes ^[4]. Macao artists often depict the city's historical buildings, cultural heritage, and natural landscapes in their works, showcasing Macao's unique charm and historical depth through these culturally distinct elements.

The fine art creations in the Taiwan region more prominently reflect the region's characteristics and ethnic emotions. Artists in the Taiwan region often take the island's natural scenery, folk customs, and historical culture as themes in their thematic fine art creations. Through various art forms such as painting and sculpture, they exhibit Taiwan region's cultural diversity and unique charm. These works not only showcase Taiwan region's natural beauty and cultural landscapes but also convey the people's love for their homeland and pride in their ethnic culture.

2.3. Exchange and integration of Chinese and Western cultures

Thematic art creations in Hong Kong, Macao, and Taiwan regions are deeply influenced by the exchange and integration of Chinese and Western cultures. These works often blend the essence of both cultures, showcasing

the diverse and unified cultural landscape of the Chinese nation.

Hong Kong's art creations, based on the absorption of traditional Chinese culture, draw on the techniques and concepts of Western modern art, forming a unique artistic style. For example, Hong Kong artists often employ modern artistic techniques such as abstraction and figuration in their creations, while incorporating the brushwork and colors of traditional Chinese painting, to produce modern artworks with Hong Kong characteristics.

Macao's art creations also reflect the exchange and integration of Chinese and Western cultures. Macao artists often draw on the colors and compositions of Western painting, while integrating the techniques and elements of traditional Chinese painting, to create works that combine Western modern art style with rich traditional Chinese charm.

Art creations in the Taiwan region focus more on the inheritance and innovation of traditional Chinese culture. In thematic art creations, artists in the Taiwan region often take traditional Chinese culture as the theme, showcasing the profound and unique charm of Chinese culture through artistic forms such as painting and sculpture^[5]. At the same time, artists in the Taiwan region also focus on absorbing the nourishment of Western modern art to promote the modern transformation and innovative development of traditional Chinese culture.

3. Artistic language of thematic art creations in Hong Kong, Macao, and Taiwan regions

The thematic art creations in Hong Kong, Macao, and Taiwan regions present a unique artistic language and aesthetic style in the context of the new era. These works not only enrich the diversity of art creations but also convey a love for the excellent traditional culture of the Chinese nation and a sense of national sentiment through artistic means.

3.1. Integration of regional culture and the spirit of the times

The thematic art creations in Hong Kong, Macao, and Taiwan regions often combine regional culture with the spirit of the times, exhibiting distinct regional characteristics and features of the times. For example, Min Zheng, a Macao artist's Chinese painting "New Look of Macao," not only depicts Macao's landmark buildings, historical monuments, and street scenes but also portrays the Hong Kong-Zhuhai-Macao Bridge connecting the Greater Bay Area, showcasing Macao's vigorous appearance and a better tomorrow in the new era. This work not only conveys the unique charm of Macao as an international city but also expresses the people of Macao's beautiful expectations for the future. The creations of Hong Kong artists also show similar characteristics. Changming Yao's oil painting "Horse Racing Continues in Hong Kong's Return" depicts the horse racing scene at the Sha Tin Racecourse in Hong Kong in a realistic manner, showing the vigorous vitality of the people of Hong Kong. This work not only reflects the social development and progress of Hong Kong since its return to the motherland but also expresses the Hong Kong people's love for the motherland and confidence in the future through horse racing, a cultural symbol with Hong Kong characteristics.

3.2. Intertwining of tradition and modernity

Thematic art creations in Hong Kong, Macao, and Taiwan regions often seek a balance between tradition and modernity, expressing the essence of traditional culture through modern artistic language. For example, Taiwan region painter Hongqian Lin's Chinese painting "Rise of China: Leaping into a New Era" transforms the image of "carp leaping over the dragon gate" to represent the revival of the Chinese nation. This work incorporates

modern elements through traditional Chinese painting techniques, forming a new artistic language that is both traditional and contemporary.

Macao painter Guoming Zeng's Chinese painting "Guarding the Heavenly Chaos" and Taiwan region painter Mingli Gong's Chinese painting "Old Days" boldly explore brushwork and ink language. In particular, "Old Days" incorporates colors such as white powder, ocher, and bright yellow into the painting, creating a rich visual hierarchy when combined with ink. This innovation based on traditional techniques not only enriches the expressive power of the painting but also conveys the creator's deep understanding of traditional culture.

3.3. Diversified artistic expression

Thematic art creations in Hong Kong, Macao, and Taiwan regions exhibit diversified expression techniques. These include not only traditional art forms like ink painting and oil painting but also modern art forms such as sculpture, installation, and video art. These diversified expression techniques provide artists with broader creative space, allowing them to express their thoughts and emotions more freely. For instance, the sculpture "Walking and Reciting" created by Macao artists Yichuan Zheng and Yongpei Qiu borrows from the traditional Chinese ivory carving art, emphasizing the depiction of character's clothing folds and adding a sense of dignity, shaping the moral demeanor of the characters. On the other hand, the sculpture "Dongjiang Column Rescue Cultural People" created by Chinese-American artist Shuguo Zhang employs a combination of round carving and relief carving to showcase the historical deeds of the Dongjiang Column. This excellent group of red revolutionary theme sculptures reflects the highly impressionistic nature of traditional Chinese sculpture culture.

In exploring painting forms, Hong Kong painter Xiaoli Zhang's Chinese painting "One Leaf" expresses a modern concept using traditional Chinese painting elements and techniques on an open book page, offering a unique perspective and novel approach. Taiwan region painter Yisheng Zhang's "Prosperity is Just a Dream, City" created with watercolors and gouache uses large areas of pure color blocks to express a city's state of mind and emotions, filled with constructivist implications.

3.4. Patriotic feelings and cultural identity

Thematic art creations in Hong Kong, Macao, and Taiwan regions often embody strong patriotic feelings and cultural identity. Through artistic means, these works convey the creators' love for their hometown and pride in Chinese culture. For example, in the art exhibition celebrating the 25th anniversary of Hong Kong's return to the motherland, many works focus on the theme of "the motherland is Hong Kong's strong backup," expressing the patriotic feelings of Hong Kong artists and compatriots. Works such as "Prosperous Tsim Sha Tsui," "Ode to the Return," "Kowloon Walled City," and "New Look of Hong Kong" showcase Hong Kong's vigorous development and thriving prosperity since its return to the motherland through delicate brushstrokes and exquisite compositions. These works not only convey the deep friendship between the Hong Kong people and the motherland but also demonstrate Hong Kong's unique charm as an international city.

In Macao, Guangrong Mai's oil painting "Ruins of St. Paul No.1" presents a mottled texture, showcasing the rich historical and cultural heritage of Macao. On the other hand, Chinese paintings like Desheng Li's "Birds Singing in the Woods" and Jiewen Liang's "Fleeting Beauty" express the harmonious atmosphere of Macao society and the joy of its people. Through artistic means, these works convey the Macao people's love for their hometown and their beautiful expectations for the future.

4. Theme selection for thematic art creations in Hong Kong, Macao, and Taiwan regions

The theme selection for thematic art creations in Hong Kong is wide and diverse, ranging from depictions of local cityscapes to deep reflections on human history and culture. Hong Kong artists are skilled at capturing moments of city life and showcasing the diversity and inclusivity of Hong Kong society through their artistic works ^[6]. For example, Hong Kong artist Yuehui Pan's oil painting "Hong Kong's Tomorrow Will Be Better" features Hong Kong's cityscape as the background, expressing the prosperity and development of Hong Kong society through delicate brushstrokes and rich colors. At the same time, Hong Kong artists also focus on integrating local cultural elements into thematic creations to express their love and inheritance of local culture.

The theme selection for thematic art creations in Macao primarily focuses on local history and culture, customs, and cityscapes. Macao artists are adept at using artistic works to showcase Macao's unique charm and cultural heritage. For instance, Macao artist Ping Liu's "Impression of the Ruins of St. Paul" takes Macao's iconic building, the Ruins of St. Paul, as the background, presenting Macao's historical culture and cityscape through the language of lacquer painting. Simultaneously, Macao artists also emphasize integrating the spirit of the times into thematic creations to express their best wishes for Macao's future development.

The theme selection for thematic art creations in the Taiwan region is equally diverse, encompassing depictions of local natural landscapes and deep reflections on human history and culture. Artists of the Taiwan region excel at utilizing artistic works to exhibit Taiwan region's natural scenery and humanistic sentiments ^[7]. For example, Taiwan region artist Anping Zeng's landscape painting "Dreams of Mountains and Rivers" adopts a "high and far" composition mode, adhering to tradition while innovating in brushwork and texture. The ancient and modern buildings dotted in the painting imply the inheritance of the cultural context of landscape painting. Additionally, Taiwan region artists also prioritize integrating social and realistic issues into thematic creations to express their concern and reflection on society.

5. Expressive techniques in thematic art creations in Hong Kong, Macao, and Taiwan regions

Hong Kong's thematic art creations emphasize a combination of innovation and tradition in their expressive techniques. Hong Kong artists are skilled at utilizing modern artistic expression methods to showcase local cultural elements and the spirit of the times ^[8]. For instance, Hong Kong artist Deyuan Zhu's "Bright Starlight" and Macao artist Ping Liu's "Impression of the Ruins of St. Paul" are both lacquer paintings that experiment with new painting materials, achieving striking visual effects. Simultaneously, Hong Kong artists focus on integrating traditional Chinese painting techniques with modern aesthetic concepts to create artworks with unique charm.

Macao's thematic art creations prioritize detailed representation and emotional conveyance in their expressive techniques. Macao artists excel at using delicate brushstrokes and rich colors to depict local cultural elements and the spirit of the times ^[9]. For example, Macao artists Yichuan Zheng and Yongpei Qiu's creation "Walking and Reciting" borrows from traditional Chinese ivory carving art, emphasizing the depiction of character clothing folds, adding a sense of dignity and shaping the moral demeanor of the characters. Furthermore, Macao artists strive to incorporate modern aesthetic concepts into traditional paintings, aiming to produce artworks with contemporary characteristics.

Taiwan region's thematic art creations emphasize the use of brush and ink and the creation of artistic conception. Taiwan region artists are adept at utilizing traditional Chinese painting techniques to express the

artistic conception of landscapes and the emotions of characters ^[10]. For instance, Taiwan region artist Mingli Gong's Chinese painting "Old Days" incorporates white powder, ocher, bright yellow, and other colors into the painting, creating a rich visual hierarchy when combined with ink. Additionally, Taiwan region artists focus on integrating modern aesthetic ideas into traditional paintings to produce artworks with distinct contemporary features. For example, Taiwan region artist Lifang Zhan's "Ocean Life" series breaks through the medium of traditional Chinese painting, achieving cross-material artistic fusion and demonstrating the innovative expression of Chinese painting in a contemporary context.

6. Exchange and integration of thematic art creations in Hong Kong, Macao, and Taiwan regions

6.1. Exchange and integration of art creations in the three regions

With the continuous strengthening of cultural exchanges between the three regions across the Taiwan Strait, the thematic art creations in Hong Kong, Macao, and Taiwan regions also show a trend of exchange and integration. Artists from these regions engage in artistic exchanges through exhibitions, seminars, and other formats, jointly exploring the future development direction of art creation. For instance, the "14th National Art Exhibition: Hong Kong, Macao, Taiwan Regions, and Overseas Chinese Artists' Works Exhibition" opened at the Shenzhen Art Museum (New), receiving 1,044 qualified and valid entries from artists in Hong Kong, Macao, Taiwan regions, and overseas Chinese communities. These works represent the latest creative achievements of artists from these regions, reflecting the overall style and artistic level of art creations in Hong Kong, Macao, and Taiwan regions. Through exchange and integration, artists from the three regions learn from and inspire each other, jointly promoting the prosperous development of thematic art creations in Hong Kong, Macao, and Taiwan regions.

6.2. Thematic art creations in Hong Kong, Macao, and Taiwan regions from a cross-cultural perspective

In the context of globalization, thematic art creations in Hong Kong, Macao, and Taiwan regions also exhibit characteristics of cross-cultural exchange. Artists from these regions continuously enrich and improve their creative concepts and technical means by absorbing and drawing on international art trends and styles. Simultaneously, they also focus on integrating local cultural elements into international art exchanges, showcasing the unique charm and profound heritage of Chinese culture. For example, works such as Hong Kong artist Xia Li's "Urban You, Me, and Them" and Taiwan region artist Ziyuan Dong's "Flying Wonders on the Snowy Path" have received widespread praise and recognition in international art exhibitions. These works not only demonstrate the creative talent and aesthetic pursuit of artists from the three regions but also reflect the strong centripetal force and cohesion of Chinese culture.

7. Conclusion

Thematic art creations in Hong Kong, Macao, and Taiwan regions exhibit rich and diverse artistic styles and characteristics with their unique cultural backgrounds, artistic languages, theme selections, and expressive techniques. Through exchange and integration, artists from these regions have jointly promoted the prosperous development of thematic art creations. In future development, artists from the three regions should continue to adhere to the principle of combining innovation with tradition, deeply explore local cultural elements and the connotations of the spirit of the times, and create more artistic works with unique charm and profound heritage.

At the same time, they should also strengthen exchanges and cooperation with the international art community, continuously improve their creative level and influence, and make greater contributions to the inheritance and development of Chinese culture.

Disclosure statement

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Teaching Strategies of High School English from an Interdisciplinary Perspective

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Abstract: This article focuses on the study of high school English teaching strategies from an interdisciplinary perspective. Through an in-depth analysis of the significance and implementation path of interdisciplinary teaching in high school English education, combined with practical teaching cases to explore how to effectively integrate knowledge from other disciplines with English teaching, this study aims to provide a useful reference for improving the quality of high school English teaching and cultivating students' comprehensive literacy. Interdisciplinary teaching can significantly stimulate students' interest in learning and improve their language proficiency and interdisciplinary thinking, laying a solid foundation for their future development.

Keywords: Interdisciplinary; High school English; Teaching strategies; Comprehensive literacy

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1. Introduction

In the current wave of globalization and the vigorous development of the knowledge economy, the demand for talent in society has shown a diversified and comprehensive trend. A single-discipline knowledge system has been difficult to meet the complex and changing real-world demands, and compound talents with interdisciplinary abilities and comprehensive literacy are highly favored. As a core subject in the basic education stage, high school English bears the important task of cultivating students' language proficiency, cross-cultural communication skills, and thinking quality^[1]. However, the traditional teaching model in high school English often focuses on the imparting of language knowledge and skills training. The teaching methods are relatively singular, with clear boundaries between disciplines, which makes it difficult to fully stimulate students' interest and potential in learning and cannot effectively cultivate the comprehensive abilities required to face future challenges. The introduction of the interdisciplinary teaching concept brings new opportunities for high school English teaching reform. This concept breaks the boundaries between disciplines and advocates the organic integration of English with other disciplines, enabling students to view and solve problems from a multidisciplinary perspective in the process of learning English, broaden their knowledge horizons, and enhance

their ability to comprehensively apply knowledge. Therefore, exploring high school English teaching strategies from an interdisciplinary perspective has important practical significance and theoretical value for promoting innovation in high school English teaching and improving the quality of talent cultivation.

2. Significance of interdisciplinary teaching in high school English instruction

2.1. Stimulating students' learning interests

Traditional high school English teaching often focuses on vocabulary, grammar explanations, and text analysis. The teaching content can be relatively dull, and the teaching methods tend to be uniform, which can easily lead to low interest among students. Interdisciplinary teaching organically combines English with subjects that students are interested in, such as music, art, history, and geography, greatly enriching the teaching content and forms ^[2]. For example, when teaching English poetry, painting skills from the art discipline can be introduced, allowing students to depict scenes from the poetry through drawing. In the process of creation, students need to deeply understand the imagery and artistic conception of the poetry, transforming abstract words into concrete images. This not only deepens their understanding of the poetry but also stimulates creativity and imagination, making English learning lively and interesting.

2.2. Improving language proficiency

Language is a tool for communication, and it can only be truly mastered through application in real situations. Interdisciplinary teaching creates rich and diverse language application contexts for students, enabling them to improve their language proficiency through practical communication. Taking English teaching with a tourism theme as an example, combining knowledge of famous sites around the world with geography, students can introduce the unique scenic spots and local customs of different places in English. When preparing the introduction, students need to research a lot of information, learn relevant English vocabulary and expressions, and organize their language for clear and smooth expression. In the actual introduction process, they also need to interact with classmates and teachers, adjusting the content and manner of expression based on feedback. This language practice in real situations helps improve the fluency and accuracy of students' English oral expression, enhancing the flexibility and appropriateness of language use.

2.3. Cultivating interdisciplinary thinking

The future society requires comprehensive talents with interdisciplinary thinking abilities, who can analyze and solve problems from different disciplinary perspectives. The application of interdisciplinary teaching in high school English classrooms can guide students to break through the single-discipline thinking paradigm, cultivating innovative thinking and the ability to solve complex problems. For example, when exploring the global topic of environmental protection, the English classroom can be combined with subjects such as biology, chemistry, and geography. Students first analyze the causes of environmental problems in English, such as ecosystem imbalances in biology, pollutant emissions in chemistry, and natural environmental changes in geography. Then, they explore the hazards of environmental problems, such as their impact on biodiversity, threats to human health, and changes to the global climate. Finally, corresponding solutions are proposed, such as promoting clean energy, strengthening the formulation and implementation of environmental protection laws and regulations, and raising public awareness of environmental protection.

3. Challenges in high school English teaching from an interdisciplinary perspective

3.1. Insufficient teachers' interdisciplinary knowledge reserve

Interdisciplinary teaching poses higher requirements for teachers' professional literacy. Teachers not only need to be proficient in English subject knowledge but also need to have a certain understanding of other subjects. However, most high school English teachers currently have insufficient interdisciplinary knowledge reserves. During the normal education stage, the discipline specialization is relatively fine, and the curriculum of English education majors mainly focuses on English language and literature, English teaching methods, etc., with less involvement in other subject knowledge^[3]. In addition, systematic training for interdisciplinary teaching is relatively scarce in post-employment training. This makes it difficult for teachers to organically integrate other subject knowledge with English teaching when conducting interdisciplinary teaching, affecting the teaching effect.

3.2. Imperfect teaching evaluation systems

Traditional high school English teaching evaluation mainly focuses on assessing students' English language knowledge and skills, such as vocabulary, grammar, reading comprehension, and writing tests, which cannot comprehensively evaluate the effectiveness of interdisciplinary teaching. Interdisciplinary teaching focuses on improving students' comprehensive literacy, including interdisciplinary thinking, team collaboration, and innovation. These abilities are difficult to effectively evaluate through traditional paper-and-pencil tests. In addition, the existing teaching evaluation system lacks attention to the interdisciplinary teaching process, which is not conducive to timely discovering problems in teaching and making adjustments and optimizations.

3.3. Compact teaching schedule

The task of high school English teaching is heavy and teaching time is limited. Interdisciplinary teaching requires teachers to spend more time on teaching design and preparation, such as integrating knowledge from other disciplines, designing interdisciplinary teaching activities, and preparing teaching resources. In classroom teaching, more time is also needed for students to discuss, practice, and collaborate, which may lead to compact teaching schedules and difficulty completing established teaching tasks. Teachers face a major challenge in reasonably arranging interdisciplinary teaching content and activities within a limited teaching time and improving teaching efficiency.

4. Implementation strategies for high school English teaching from an interdisciplinary perspective

4.1. Integrating knowledge from other disciplines to design teaching content

4.1.1. Combination with history

High school English textbooks contain many articles involving historical events and figures, such as "The Million Pound Bank-Note" and "Astronomy: The Science of the Stars." Teachers can fully utilize this opportunity to integrate historical knowledge into English teaching. When teaching "The Million Pound Bank-Note," teachers can briefly introduce the social background of the United States at that time, including economic development, people's lifestyles, social class structure, and other historical knowledge. This helps students better understand the era background of the story, thus deeply understanding the character traits, behavioral motives, and emotional changes of the characters in the article^[4]. At the same time, students are guided to describe historical events and figures in English, such as writing biographical sketches of historical figures and

narrating historical stories. This not only improves English expression skills but also deepens the understanding of historical knowledge ^[5].

4.1.2. Combination with geography

When English teaching content involves the cultures and customs of different countries and regions, integration with geography becomes particularly important. For example, when learning English expressions about weather and climate in various countries, teachers can use explanations of climate types around the world from geography to help students understand the reasons for different climate characteristics, such as the influence of latitude, land and sea distribution, topography, and other factors on the climate ^[6]. At the same time, students are guided to describe the climate characteristics, seasonal changes, and people's lifestyles in different climatic conditions in English, such as clothing, dietary habits in tropical areas, and residential building characteristics in cold regions. Through this interdisciplinary teaching, students can not only master English knowledge but also have a more intuitive understanding of geographical knowledge, cultivating students' global perspectives and cross-cultural awareness.

4.1.3. Combination with art

English teaching often involves content related to art, such as literary works, music, and painting. Teachers can integrate art knowledge into English teaching to enhance students' art appreciation ability and interest in English learning. When studying English literary works, students are guided to analyze the theme, character images, writing style, and expression techniques from the perspective of literature and art, such as analyzing the language characteristics and character-shaping methods in Shakespeare's plays. At the same time, students are encouraged to express their understanding and feelings about the work in English literary reviews. When learning English vocabulary and expressions related to music, different types of music work, such as classical music, pop music, and folk music, can be played. This allows students to learn English lyrics and musical terminology while appreciating the music. Additionally, they can experience the emotions and cultural connotations conveyed by different music styles, achieving the perfect integration of art and language.

4.2. Adopting diversified teaching methods to promote interdisciplinary learning

4.2.1. Project-based learning

Project-based learning is a student-centered teaching method that enables students to achieve comprehensive knowledge application and skill enhancement by completing specific projects. In interdisciplinary high school English teaching, teachers can design interdisciplinary project-based learning tasks. For example, students can work in groups to create an English promotional poster about "World Cultural Heritage Protection." In this project, students need to use English to collect and organize information and write promotional copy. Simultaneously, they need to integrate knowledge from history and geography to understand relevant information about world cultural heritage, such as historical backgrounds, geographical locations, and cultural values. Additionally, they utilize art knowledge for poster design, including color coordination, composition layout, and font selection. By completing this project, students not only improve their comprehensive English proficiency but also cultivate team collaboration, information gathering and processing skills, interdisciplinary thinking, and innovation.

4.2.2. Situational teaching method

Creating authentic situations is one of the essential means of interdisciplinary teaching. Teachers can design

various real-life scenarios based on teaching content, allowing students to use English to solve practical problems. For instance, simulating an international business negotiation scenario where students role-play as business representatives from different countries and negotiate in English. In this process, students need to understand business etiquette, cultural customs, market demands, and other knowledge areas, spanning cross-cultural communication, history, geography, and economics. Through role-playing, dialogue, and negotiation activities in the situation, students develop their English language proficiency, broaden their interdisciplinary knowledge horizons, and cultivate cross-cultural communication and problem-solving skills.

4.2.3. Cooperative learning method

The cooperative learning method emphasizes collaboration and interaction among students. It aims to foster teamwork spirit and communication skills by completing learning tasks in groups. In interdisciplinary English teaching, teachers can group students with different subject strengths to accomplish learning tasks together. For example, during an English drama performance, some students excel in English expression, some possess strong acting talents, while others have unique insights into stage art design. Grouping these students allows them to collaborate and complete the rehearsal and performance of an English drama ^[7]. Through this process, students learn from and support each other, not only enhancing their English proficiency but also cultivating interdisciplinary abilities and teamwork spirit. They learn to listen to others' opinions, leverage their respective strengths, and achieve common goals.

4.3. Utilizing information technology to expand interdisciplinary teaching resources

4.3.1. Multimedia teaching resources

With the rapid development of information technology, multimedia teaching resources are becoming increasingly abundant. Teachers can utilize multimedia materials such as images, audio, and video to present interdisciplinary teaching content to students ^[8]. For example, when learning an English text, teachers can play historical documentaries, geographical scenery videos, or musical works related to the text content, helping students better understand the background and context of the text. When studying the text "The Great Wall," a historical documentary about the Great Wall can be played to introduce students to its construction history and military role. Videos showcasing the majestic scenery of the Great Wall can be shown to give students a sense of its grandeur, while musical works related to the Great Wall, such as "The Ballad of the Great Wall," can create a strong learning atmosphere and deepen students' understanding and memory of the text. Additionally, teachers can use multimedia to display knowledge charts and data from different subjects, guiding students to conduct interdisciplinary analysis and reflection.

4.3.2. Online learning platforms

There are many high-quality online learning platforms on the internet that provide a wealth of interdisciplinary learning resources. Teachers can guide students to use these platforms for independent learning. Some online learning platforms offer English lectures and open courses on different subjects. Students can choose learning content based on their interests and needs. For example, if students are interested in history and culture, they can watch English lectures on world history or Chinese history. If they are interested in science and technology, they can watch English open courses on physics, chemistry, biology, and other subjects. Furthermore, teachers can utilize online learning platforms to assign interdisciplinary learning tasks. For instance, students can be asked to search for multidisciplinary information related to a specific theme on the platform, organize, analyze, and

summarize the information, and present their learning outcomes in the form of reports or presentations. This process allows students to achieve knowledge integration and expansion while completing tasks ^[9].

4.3.3. Educational software

Currently, there are many software programs specifically designed for education, which are equipped with rich functions and resources to support interdisciplinary teaching. Some language learning software integrates knowledge from various subjects such as history, geography, and culture. Through games and interactive activities, it enables students to learn English and other subject knowledge in a relaxed and enjoyable atmosphere ^[10]. For example, some software includes game levels like “Traversing History,” where students play as historical figures and complete various tasks in English to learn about historical events. Other software uses virtual maps to allow students to explore different parts of the world, learning about geographical knowledge, cultural customs, and English expressions of various regions. Teachers can choose appropriate educational software to assist teaching based on their needs, improving teaching effectiveness and stimulating students’ interest in learning.

5. Conclusion and outlook

High school English teaching from an interdisciplinary perspective is an important teaching model that meets the development needs of the times. By organically integrating English with other subjects, it can effectively stimulate students’ interest in learning, significantly improve their language proficiency and interdisciplinary thinking, and comprehensively cultivate their comprehensive literacy. In the future, with the continuous updating of educational concepts and the sustained development of educational technology, further exploration can be conducted on the specific application strategies of interdisciplinary teaching in different teaching content and scenarios. Additionally, research can be done on how to better combine interdisciplinary teaching with the requirements of high school English teaching for the college entrance examination. This will provide more targeted and practical suggestions for the reform of high school English teaching, promote the continuous improvement of high school English teaching quality, and cultivate more compound talents who can adapt to the development needs of future society.

Disclosure statement

The author declares no conflict of interest.

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Teaching Design for the Elementary Chinese Comprehensive Course “My Family” Based on Multimodal Theory

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Abstract: With the rapid development of Teaching Chinese as a Foreign Language (TCFL), improving teaching quality requires integrating advanced pedagogical concepts. Multimodal teaching, which employs various symbolic modes to engage students’ multiple senses, is a highly effective approach. Introducing multimodal theory into TCFL education can enhance teaching efficiency and improve students’ communication skills. This paper applies multimodal theory to TCFL, using the elementary Chinese comprehensive course “My Family” as a case study to propose a detailed teaching design, followed by evaluation and reflection. The aim of this teaching design is to deepen the understanding of multimodal theory and provide additional reference for the TCFL.

Keywords: Multimodal theory; Elementary Chinese Comprehensive Course; Teaching design

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1. Feasibility of applying multimodal theory to the elementary Chinese comprehensive course

1.1. Learner level

The target audience for elementary Chinese comprehensive courses typically includes beginners or learners with basic proficiency in Chinese. At this stage, most learners are highly motivated to acquire the language. Multimodal teaching methods, which utilize various communication modes, can effectively engage students and foster a relaxed learning environment. However, beginner learners may encounter interference from their native language and may feel apprehensive about tackling a new language ^[1]. The application of multimodal theory can significantly enhance students’ comprehension and expressive abilities. Thus, from the perspective of learners, applying multimodal theory to the elementary Chinese comprehensive course is highly feasible ^[2].

1.2. Teaching content level

Compared to other skills-based courses, the content of an elementary Chinese comprehensive course is more

diverse and engaging. The primary objective of this course is to develop students' communicative abilities in Chinese. Multimodal teaching offers students more opportunities for contextualized communication, continuously improving their communicative skills in alignment with the communicative nature of Teaching Chinese as a Foreign Language (TCFL). By integrating multimodal theory into instruction, teachers can combine various modes with diverse content, making lessons more dynamic and interactive. Therefore, from the perspective of teaching content, the application of multimodal theory is also highly feasible^[3].

2. Teaching design for elementary Chinese comprehensive classes based on multimodal theory

2.1. Teaching material

The teaching content for this session is based on Lesson 3, My Family, from Experiencing Chinese for Primary School Textbook (Book 3). This textbook, developed by the Higher Education Press with the support of Hanban and recommended by the Confucius Institute, is recognized for its credibility and extensive use in TCSL. The textbook adheres to the “structure-function-culture” framework and incorporates an experiential teaching approach^[4].

In Lesson 3, 10 vocabulary items (including seven verb phrases, one adverb, one interrogative pronoun, and one modal particle) and three key language points are introduced, with an emphasis on the topic. The application of multimodal approaches is recommended to enhance the presentation and comprehension of this content, demonstrating the effectiveness and suitability of multimodal theory in TCSL^[5].

2.2. Teaching object

The students for this course are primary school learners whose native language is English and who possess a two-year foundation in Chinese. According to the “Critical Period Hypothesis” of language acquisition, language learning is facilitated before puberty. The students' foundational knowledge of Chinese enables greater use of Chinese rather than English during instruction.

2.3. Class types and teaching arrangement

This session is an elementary Chinese comprehensive course with a duration of 45 minutes.

2.4. Teaching objective

Knowledge objective: Students are expected to master the following vocabulary: “kàn bào” (read newspaper), “xǐ yī fu” (wash clothes), “shuì jiào” (sleep), “shàng wǎng” (surf the Internet), “dǎ diàn huà” (make a phone call), “chī fàn” (have a meal), “zài” (at, in, on), “zuò” (do), “shén me” (what), “ne” (a modal particle). Corresponding sentence patterns should also be mastered^[4].

Ability objective: Students should be able to communicate using sentence patterns such as “zài zuò shén me?” (What is... doing?), “zài kàn bào” (is reading newspaper), and “ne?” (What about...?).

Emotion objective: Through learning, students develop the desire to use “zài zuò shén me?” in daily communication, thereby enhancing their oral communication skills.

2.5. Key and difficult points

Key point: Mastery of the new vocabulary and sentence patterns; Difficult point: The application of sentence patterns for effective communication.

2.6. Teaching methods

- (1) Explanations are provided more comprehensively by utilizing the visual modality to display real objects, combined with the language modality.
- (2) Demonstrations are conducted using body movements and expressions, making full use of the body modality.
- (3) Multimedia-assisted teaching is employed, utilizing videos, audio, pictures, and other resources to elaborate and practice concepts further through visual and auditory modalities^[6].

2.7. Teaching procedures

2.7.1. Pre-class preparation

The classroom is entered five minutes in advance to ensure that the teaching equipment functions properly. Teaching aids, such as newspapers, flashcards, magnets, etc., are prepared, and the cardboard is affixed to the blackboard. Audio, pictures, and videos in the PPT are checked to ensure they can be played without issues.

2.7.2. Classroom introduction

Organizing the lesson: Students' physical conditions are inquired about to demonstrate concern. Questions are asked to determine whether students have reviewed the previous lesson and previewed the new one. Verbal communication is used as the primary mode, supported by facial expressions (e.g., smiling) and gestures (e.g., greetings) to enhance interaction. The cartoon image displayed on the first page creates a relaxed and engaging atmosphere, enhancing the overall teaching experience.

Reviewing the previous lesson: The previous lesson, The Road to Knowledge, is reviewed using multimedia to display visuals that aid students in recalling vocabulary. A panoramic image is shown, and a student is invited to use “zhèr” and “nàr” with body movements to reinforce memory through kinesthetic and visual modalities.

2.7.3. Learning the new lesson

Lead-in: Pictures are displayed to lead students in a quick review of the kinship terms previously learned, which are incorporated into the current lesson. Through visual modality, students' attention is effectively captured^[7].

Explaining vocabulary: Vocabulary explanation is implemented using methods such as displaying real objects, creating action-based scenarios, and utilizing dialogue contexts. These strategies are designed to fully engage students' various senses, allowing teaching modalities to be selected based on lesson requirements, thereby making instruction more targeted and effective.

The new vocabulary is initially presented by the teacher through a PPT slide. To demonstrate the word “kàn bào,” the teacher simulates the action of reading using a newspaper, combining real objects with visual modalities to engage students and foster a lively learning atmosphere. Since the students are primary school children whose native language is English, exaggerated body movements are employed to capture their attention effectively.

- (1) “zài”: The question “What is the teacher doing?” is asked while demonstrating the act of reading a newspaper. This is followed by “What are you doing?”
- (2) “zuò”: The teacher enacts the action of cooking while asking “Can you cook?”
- (3) “shén me”: A picture of a snack bar is shown with questions like “What place is this?” or “What is in the park?” for consolidation and review.
- (4) “né”: Using pictures of countries and convenience stores, the teacher reviews prior knowledge by asking “The teacher is from China. What about you?” and “I like to go to convenience stores. What about you?”

- (5) “kàn bào”: The action of reading a newspaper is demonstrated with the question “What is the teacher doing?” followed by “Have you all read newspapers?”
- (6) “shuì jiào”: The teacher mimics sleeping and asks “What do you do at night?” or introduces a picture of a younger brother sleeping with “What is the younger brother doing?”
- (7) “dǎ diàn huà”: The teacher demonstrates making a phone call while asking “What am I doing?” and “Do you often make phone calls?”
- (8) “chī fàn”: Eating is represented with hand gestures while asking “What is the teacher doing?”
- (9) “shàng wǎng”: A classroom computer is pointed at with the question “What is this?” After students identify it as a computer, the teacher follows up with “What is the teacher doing?” while mimicking typing and asking “What do you do when you surf the Internet?”
- (10) “xǐ yī fu”: The teacher demonstrates rubbing clothes while asking “What is the teacher doing?” and follows with “Can you wash clothes by yourself?”

Practicing new words: The practice phase incorporates visual, body, and language modalities. This multimodal approach effectively stimulates students’ enthusiasm for learning and deepens their understanding of the vocabulary.

- (1) Students are guided by the teacher to read each word aloud twice, accompanied by tone gestures and verb actions.
- (2) A collective reading session follows, with students incorporating tone gestures and verb actions simultaneously.
- (3) Several students are randomly selected to read aloud and recognize words, with the inclusion of hand movements for emphasis.
- (4) Cards corresponding to the new words are shown by the teacher, and students identify the matching vocabulary.
- (5) Words displayed on the PPT are matched by students through line connections, reinforcing their understanding.

Language point explanation and practice: This section primarily integrates example sentences from the textbook with teacher-student interactions, utilizing both written and spoken language. Visual, auditory, and body language modalities are also incorporated, enhancing student participation ^[8].

The new word “zài” is taken from the board by the teacher and combined with the words “zuò,” “shénme,” and “ne” to form questions. These questions are then used to elicit responses, with the nouns “kàn bào” and “chī fàn” forming possible answers. Using images, questions are posed by the teacher, requiring students to respond while performing corresponding actions. Finally, the entire class reads the sentence together.

Text analysis: This section focuses on the text content and dialogue practice, with an emphasis on language modality. Both the teacher and students use gestures and body language to reinforce language knowledge and enhance speaking skills.

The text content has been previously practiced through grammar exercises. The teacher reads aloud, and students repeat. The class is then divided into two groups for role-playing, followed by the teacher selecting students to retell the content.

Images are presented, and a dialogue exercise is first conducted by the teacher with the students. Students then practice the dialogue with each other, focusing on the characters and verbs depicted in the images ^[9].

Summary: The knowledge learned today is summarized on a complete PPT slide. Students are encouraged to take notes and gain a systematic understanding of the content covered in class. This section primarily utilizes

language modality.

2.7.4. Consolidation and review

Listening practice: This section primarily utilizes the auditory modality. Classmates are used as examples, and students engage in listening practice. The inclusion of familiar characters in the content sparks the curiosity of primary school students, increasing their interest and focus on the lesson.

Game activity: Building upon the body language used to explain new words, students participate in the “act and guess” game. Flashcards are demonstrated by the teacher, who then invites a group of students to act out and display the language. The use of body and visual modalities deepens students’ understanding of the content.

Extension activities: Verb words learned previously are combined, and students are encouraged to practice dialogues, such as writing, playing ball, running, and other related words. Through video display, the visual modality is used to facilitate quick understanding and enhance students’ oral communication skills.

2.7.5. Homework

Students are tasked with describing what family members do at home on weekends using learned sentence patterns. Presentations will be made in the next class.

3. Reflection and suggestions

3.1. Highlights

This class applies multimodal theory to the elementary comprehensive course by fully utilizing various modalities for teaching, transforming the traditional single-modal approach. When new knowledge is introduced, actions or physical objects are incorporated. Although the language used is simple, highly effective results are achieved with minimal effort ^[9]. On one hand, auditory and visual modalities are integrated through PPT presentations, along with various forms of body language. Additionally, language modalities such as the teacher’s guidance and teacher-student dialogue work together to enhance multimodal interaction. On the other hand, multimodality is employed to create a real communicative environment, encouraging greater interaction between the teacher and students, as well as among students themselves.

3.2. Disadvantages

Firstly, the teacher may lack sufficient teaching experience and may not yet be fully adept at using multimodal approaches flexibly. Teachers often rely heavily on PowerPoint presentations, which incorporate numerous modalities that require careful selection, potentially resulting in information overload for students. Secondly, issues with time management may arise. While body language modalities are effectively used to explain verbs, other parts of speech may receive less attention. Furthermore, multimodal activities can lead to class time overruns. Finally, this lesson relies heavily on multimodal teaching, which limits the implementation of student-centered teaching principles. As a result, the lesson focuses more on modality displays and teacher explanations, leaving less time for students’ autonomous learning.

3.3. Suggestions for improvement

Firstly, time should be allocated effectively by reviewing the key points and challenges of the lesson before class. Simple concepts should not be overly repeated, and modal symbols should be carefully chosen to ensure the content is both practical and foundational, thereby maximizing the use of students’ sensory modalities.

Secondly, a student-centered approach must be emphasized. During the lesson, the chosen modalities should be clear and accessible, enabling students to grasp the material quickly. The teacher should also avoid overwhelming students with excessive information through an overuse of modalities. After class, student feedback should be gathered to make necessary adjustments to improve teaching methods.

Lastly, multimodal teaching should be applied flexibly. Given its adaptability, teachers must be prepared for unforeseen situations. The selected modalities should align with teaching objectives while meeting the students' actual needs.

4. Conclusion

The application of multimodal theory to elementary comprehensive Chinese courses has demonstrated a high degree of adaptability. The teaching design is based on the characteristics of these courses and the principles of multimodal theory. In this lesson, various modalities are employed to enrich information input, enhance students' communicative abilities, and complement the teacher's language input, thereby ensuring high instructional effectiveness. However, due to the author's limited teaching experience, there remain areas that require improvement and ongoing refinement. It is hoped that this paper can provide valuable insights for TCFL.

Disclosure statement

The author declares no conflict of interest.

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Research on the Application of the Production-Oriented Approach in Teaching Chinese Culture as a Foreign Language

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Abstract: In recent years, the production-oriented approach has been applied in the field of teaching Chinese as a foreign language, providing a new perspective for language and cultural instruction. Currently, several issues exist in cultural teaching, such as the lack of in-depth cultural input, insufficient training in cross-cultural communication skills, and the over-stylization of cultural teaching in the classroom. The production-oriented approach offers a solution to these challenges. This paper seeks to introduce the production-oriented method into the teaching of Chinese culture as a foreign language, using silk culture as a case study for teaching design. The aim is to implement cultural teaching through a new instructional model and to promote the spread of Chinese silk culture.

Keywords: Production-oriented approach; Cultural teaching; Silk culture; Teaching design

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1. Introduction

The production-oriented approach (POA), proposed by Professor Qiufang Wen, has been widely applied in foreign language teaching in China. Its primary goal is to address the “disconnection between learning and use” in language education ^[1]. Significant progress has been made in the application of POA in Chinese university foreign language teaching. POA has also been increasingly utilized in Teaching Chinese as a Foreign Language (TCFL). For instance, Li demonstrated that POA significantly improves learners’ writing abilities through its effectiveness in teaching ^[2]; Lu and Zhu observed that the driving phase of POA encourages learners to engage in discovery-based learning, and they proposed strategies for addressing challenges in this phase during actual teaching ^[3]. Zhuo suggested that POA provides more opportunities for learners to use language in communication, thereby enhancing the effectiveness of listening instruction ^[4]. Overall, POA holds significant implications for TCFL. As an integral component of TCFL, cultural instruction can also benefit from this approach, prompting the exploration of new teaching models under the guidance of POA theory ^[5].

2. Overview of the production-oriented approach

2.1. Teaching philosophy

The production-oriented approach emphasizes that teaching activities should be centered on “learning,” ensuring students are provided with ample time to input language materials and participate in language output activities. Cultural learning is advocated to be integrated with language teaching, where Chinese cultural elements are incorporated into Chinese language classrooms. This integration is believed to facilitate mutual dialogue, respect, understanding, and learning among different civilizations ^[5]. It is asserted by POA that learners of Chinese possess varying key abilities. The “key ability theory” is designed not only to ensure effective language use but also to cultivate learners’ ability for independent learning.

2.2. Teaching assumptions

POA is centered on output and prioritizes learners’ ability to apply knowledge, particularly focusing on their communicative competence in Chinese. The Output-Driven Hypothesis proposed by POA is designed to challenge traditional teaching sequences, advocating for a progression of “identifying knowledge gaps” followed by “acquiring new knowledge.” Learning materials are selected by learners based on the requirements of output tasks, which are then completed through diverse training methods. Additionally, significant emphasis is placed on assessment, wherein students are encouraged to evaluate their own work and engage in peer evaluations.

2.3. Teaching phases

POA is structured into three distinct phases: “driving,” “facilitating,” and “evaluating.” This approach is intended to deviate from the traditional teaching sequence of “lesson introduction, vocabulary explanation, text explanation, and practice,” offering new perspectives for TCFL ^[6]. In the driving phase, output tasks are assigned by teachers to assist learners in identifying their output topic. During the facilitating phase, the primary objective is to provide input learning materials, enabling learners to engage in selective learning and transform receptive knowledge into productive skills. The evaluation phase adopts a “teacher-student joint evaluation” mode, where learners participate in self-assessment and peer evaluation under teacher guidance ^[7].

3. Issues in teaching Chinese culture as a foreign language

3.1. Insufficient input of deep culture

The input of deep cultural content in teaching has been found to be insufficient, particularly for intermediate and advanced Chinese learners who are eager to explore deeper cultural dimensions. Classroom content is often focused on superficial aspects such as festivals and dietary habits, while deeper elements, including ways of thinking and aesthetic values, are frequently neglected.

Cultural courses have been observed to emphasize easily comprehensible, intuitive cultural phenomena, while the cultural connotations and historical backgrounds behind them remain unexplored. For instance, the introduction to Confucianism is typically limited to basic concepts such as “benevolence, propriety, righteousness, and honesty,” without delving into their specific connotations or practical applications. As a result, learners are unable to fully grasp the value of concepts like “benevolence,” which hinders their ability to engage in meaningful intercultural exchanges.

3.2. Insufficient cultivation of intercultural communication skills

The cultivation of intercultural communication skills has been found to be inadequate in cultural teaching.

Learners are often provided with fragmented knowledge of Chinese culture without being given a comprehensive understanding, which limits their ability to participate effectively in real-world intercultural communication.

Cultural textbooks have been predominantly designed with input goals in mind, while output goals remain almost negligible^[8]. Teaching methods have been centered on knowledge transmission and theoretical explanations, failing to address the essence of cultural learning—experiencing, understanding, and applying culture. Consequently, students are rarely given opportunities to practice their knowledge in simulated intercultural communication scenarios, leading to a significant gap between theoretical knowledge and practical skills. Furthermore, the absence of cultural experience activities has prevented students from forming profound cultural perceptions and recognitions.

3.3. The routine nature of cultural teaching

Cultural teaching in TCFL has become overly formulaic, failing to meet the diverse needs of students. The organization of cultural teaching has been found to overemphasize the systematic and logical aspects of knowledge, while the uniqueness and contextual nature of cultural teaching is often overlooked.

In terms of methodology, a heavy reliance on teacher-centered lectures has been observed, placing students in a passive learning role. This approach has transformed the classroom into a teacher-dominated “monologue,” resulting in low levels of student engagement and interaction.

4. Feasibility of applying POA to TCFL cultural instruction

4.1. Emphasizing the introduction of deep cultural knowledge

Deep cultural knowledge is understood to include not only aspects such as Chinese aesthetic values, ways of thinking, and worldviews but also the deeper meanings underlying surface-level cultural elements. The theories of cultural exchange and teacher-guided instruction in POA are considered essential for addressing the insufficient input of deep cultural knowledge in TCFL.

The theory of cultural exchange is promoted as advocating mutual respect and equality in intercultural dialogue, emphasizing the integration of linguistic knowledge and cultural connotations in alignment with learners’ actual circumstances. This approach is believed to assist learners in navigating the relationship between the target language culture and their own, thereby fostering bidirectional cultural exchange. The teacher-guided theory posits that teachers are instrumental in selecting materials for cultural input. Materials are suggested to be carefully curated and presented based on learners’ output goals and language proficiency. Simultaneously, teachers are encouraged to employ a variety of teaching activities to engage learners in intercultural interactions with Chinese-speaking peers and instructors.

4.2. Enhancing intercultural communication competence

The cultivation of learners’ Chinese communication skills is regarded as the fundamental goal. As a teaching approach that emphasizes output and practical application, POA is noted for its focus on enhancing learners’ intercultural communication competence.

According to POA, the aim of cultural teaching is not to compel learners to simply accept Chinese culture but to enable them to understand and respect it, thereby fostering mutual learning and intercultural exchange between Chinese culture and their own. Learners are encouraged to interact with native Chinese speakers through activities such as group discussions, role-playing, and simulated debates. These activities are

recognized not only for improving language expression skills but also for providing learners with opportunities to directly confront and resolve conflicts in intercultural communication. Through such practical experiences, their intercultural communication competence is expected to improve significantly.

4.3. Breaking free from routine cultural teaching models

It is suggested that TCFL requires flexible, diverse, and creative teaching methods to enhance both the practicality and enjoyment of the learning process. POA is promoted as advocating an integrated approach that combines language learning with practical application to improve communication skills through interaction, thereby addressing the limitations of rigid teaching models. Under POA, teachers are encouraged to adjust content and activities based on students' needs, avoiding a one-size-fits-all approach. Selective learning opportunities tailored to students' interests are recommended. In the evaluation phase, diverse assessment methods are proposed to better understand students' progress and needs, facilitating more effective and personalized learning experiences.

5. Cultural teaching design for TCFL based on the POA

Silk culture is recognized as an integral part of traditional Chinese culture, enriched by its historical depth and national wisdom. The Silk Road has been utilized as a bridge for cultural exchange between China and other countries. By incorporating silk culture into Chinese language teaching, greater cross-cultural understanding and communication can be promoted, while the dissemination of Chinese culture is facilitated. In this paper, the POA is introduced into the classroom as a theoretical framework for designing lessons on silk culture, aiming to provide new perspectives for addressing current challenges in cultural teaching.

5.1. Drive phase

5.1.1. Teacher's output activity requirements

A video introducing silk clothing, accessories, and related elements is shown to students through multimedia. Students are then asked to share additional topics or items related to silk culture.

5.1.2. Student's attempt to complete the output task

As students respond to questions, their weaknesses are identified, allowing for selective language input to be provided by the teacher during the lesson.

5.1.3. Teacher's clarification of output goals

The objectives of the lesson are outlined by the teacher: gaining an understanding of silk's raw materials, historical legends, and the Silk Road, sharing aspects of silk culture, and exploring its cultural significance. The ultimate goal is defined as writing a 200-word essay on the topic of "Silk."

5.2. Facilitation phase

During this phase, language materials are provided by the teacher to enable students to transform their input into output, with an emphasis on expressing ideas related to silk in Chinese.

5.2.1. Retelling the history and legends of silk (subtask 1)

(1) A video about the history of silk is shown, accompanied by a Chinese dynastic timeline to aid students

in understanding the development of silk in China.

- (2) A video or narrative of the story of Lei Zu is presented by the teacher.
- (3) Students are instructed to retell the story. Groups of four students collaborate, with each group selecting a representative to present their retelling to the class. This task, while challenging, is designed to help students identify their weaknesses, engage actively, and select more practical materials for their output.

5.2.2. Understanding the raw materials and silk products (subtask 2)

- (1) Words such as “silkworm,” “mulberry silk,” “mulberry leaves,” “silk,” and “spun silk” are written on the board, and their meanings and cultural connotations are explained by the teacher using multimedia tools.
- (2) The texture of silk is experienced by the students. Questions such as “How is a silk handkerchief different from an ordinary one? Is it similar to the handkerchiefs used in your country?” are asked by the teacher. Students are then invited to touch various handkerchiefs and describe the differences.
- (3) Words such as “soft,” “smooth,” “thin,” and “light” are attempted by the students. These words are written on the board by the teacher, additional vocabulary is provided, and students are encouraged to form sentences such as “The silk handkerchief feels smoother.” The sentence structure is summarized by the teacher for reference.

5.2.3. Exploring the silk road (subtask 3)

- (1) Teacher’s questions
 - (a) The question “In ancient times, when transportation was not convenient, how was Chinese silk transported to Europe?” is posed by the teacher.
 - (b) A Treasure Hunt Game is conducted with the question, “Where did Chinese goods go? What items were brought to China?” Maps of the Land Silk Road and images of trade goods exchanged between China and the West are shown, guiding students to “speak based on the images.”
 - (c) A role-playing activity is introduced, with the prompt, “If you were a merchant in Dunhuang, how would you conduct trade?”
- (2) Student’s output attempts
 - (a) Routes are described, such as Chang’an → Hexi Corridor → Western Regions → Central Asia → Western Asia → Europe.
 - (b) Trade items are listed: From China to the West: Silk, tea, porcelain, well-digging techniques, ironworking techniques, etc. From the West to China: Walnuts, grapes, glass, gemstones, fine horses, etc. Assistance is provided by the teacher as required.
- (3) Teacher’s supplementary information

Additional details are provided about silk as a Chinese invention symbolizing Chinese culture. The Silk Road is highlighted as a significant trade route linking China and the West, promoting cultural exchange and fostering friendly relations.

After completing the above tasks, a homework output task is assigned by the teacher: writing a short essay on Chinese silk culture.

5.3. Assessment phase

5.3.1. Immediate evaluation

Immediate evaluation is conducted by providing real-time feedback to students, helping them improve their

expression and correct vocabulary and sentence structure during the learning process.

5.3.2. Delayed evaluation

Delayed evaluation is carried out after students have completed their post-class tasks. This evaluation involves three stages:

- (1) Pre-class preparation: Students are instructed to write a short essay based on the output goals, incorporating content learned in class and relevant materials they have researched. Once the essays are submitted, two representative samples are selected by the teacher for further analysis.
- (2) In-class implementation: The selected samples are presented to the entire class, and group discussions are facilitated by the teacher around questions such as: “Are there any inappropriate word or sentence choices?” and “Are there unclear expressions?” Following the discussion, a representative from each group is invited to share the group’s insights, after which the teacher provides a summary evaluation.
- (3) Post-class activities: Students revise their essays based on the teacher’s feedback and resubmit them for review. Outstanding essays are selected and presented to the class as exemplary works.

6. Conclusion

Traditional TCFL cultural teaching has been challenged by issues such as insufficient deep cultural input, inadequate emphasis on cultivating intercultural communication skills, and formulaic teaching methods. Using silk culture as an example, this paper demonstrates a teaching plan designed according to POA, illustrating its practical application in TCFL cultural instruction. The proposed approach serves as a reference for TCFL practices and encourages the adoption of POA to enhance learners’ appreciation of Chinese culture and promote its global dissemination.

Disclosure statement

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Construction of Vocational Education Quality Evaluation Index System from the Perspective of Digital Transformation Based on the Analytic Hierarchy Process of Higher Vocational Colleges in Hainan Province, China

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Abstract: In the context of the digital transformation of vocational education, a quality evaluation index system has been constructed. Based on a questionnaire survey conducted among higher vocational colleges and enterprises in Hainan Province, it has been found that the quality of vocational education generally depends on the talent training program and professional construction at the macro level. At the meso level, the teacher level and teaching environment are critical, while at the micro level, the evaluation of talent training quality cannot be underestimated. Strategies for quality improvement in vocational education are proposed from the perspectives of talent training programs, major construction, teacher development, teaching environment, and talent training quality, all under the lens of digital transformation.

Keywords: Digital transformation; Vocational education; Evaluation index system

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1. Introduction

China's vocational education is currently undergoing a critical period of reform and development, with various regions and colleges actively exploring pathways for digital transformation. The "Vocational Education Quality Improvement Action Plan (2020–2023)" issued by the Ministry of Education emphasizes accelerating the informatization process of vocational education, building intelligent teaching environments, and cultivating high-quality skilled talents to meet the needs of the new era. Establishing a quality evaluation index system for vocational education in the context of digital transformation has become an urgent and important task.

2. Practical exploration of constructing a vocational education quality evaluation index system in the context of digital transformation

2.1. Construction and design of the vocational education quality evaluation index system

In the context of digital transformation, the quality evaluation of higher vocational education is constructed and designed through a rigorous and scientific process. This includes analyzing teaching problems using literature review and theoretical research. The evaluation draws on the Annual Report on the Quality of Higher Vocational Education in Hainan Province, the China Education Monitoring and Evaluation Statistical Index System (2020 Edition), and the Social Adaptability Assessment Report on Higher Vocational Colleges. Expert consultation in Hainan Province further refines this approach. Focusing on macro-level professional construction and talent cultivation, meso-level training processes, and micro-level training quality, the evaluation incorporates digital teaching elements. It aims to reshape and refine indicators, ensuring they are scientific, quantifiable, operable, and verifiable ^[1].

2.2. First-level evaluation index design

Building on an in-depth analysis of existing evaluation systems, consultations with vocational education experts, and principles such as operability, comparability, and importance, a three-level index system is proposed. This system evaluates the quality of digital education in vocational colleges based on macro, meso-level, and micro-level elements.

2.3. Macro secondary index design

The Professional Talent Training Program serves as the foundational document for guiding teaching management. It outlines training objectives, specifications, processes, and modes while providing a basis for resource allocation, task scheduling, and activity organization. Strengthening professional construction is essential to meet diverse talent demands in the new era and improve the quality of vocational education. The macro-level evaluation focuses on the ability of vocational education to contribute to economic development ^[2]. Drawing on theoretical analysis and scholarly research, two secondary indicators are established: (1) Professional construction: This includes tertiary indicators such as professional settings and talent training programs, considering regional talent orientation ^[3]. (2) Talent training program: This encompasses the design and implementation of programs aligned with societal needs.

2.4. Meso secondary index design

At the meso-level, two secondary indicators are proposed: (1) Teacher-level evaluation: This includes factors such as educational background, professional titles, multidisciplinary expertise, “dual-teacher” qualifications, and digital literacy. (2) Teaching environment evaluation: This includes metrics like per capita investment in teaching instruments, equipment, computer ownership, multimedia classroom availability, and the application rate of information technology.

2.5. Micro secondary index design

The micro-level evaluation focuses on the quality of talent training, emphasizing student quality, employment outcomes, stakeholder satisfaction, industry-education integration, societal impact, lifelong learning, and sustainable development ^[4]. According to the indicators of higher vocational education and related connotations,

the “score card” indicators, “student feedback table,” “international impact table,” and “service contribution table” are set as the micro-level indicators.

3. The weight calculation of the vocational education evaluation index system using the hierarchical analysis method

3.1. Source of sample data

Based on the Quality of Higher Vocational Education in Hainan Province (2023), Hainan Province has established 14 independent higher vocational institutions, with a total of 116,705 full-time vocational students. This represents an increase of 17,106 students compared to the previous year, reflecting an annual growth rate of 17.17%. These statistics highlight the significant achievements in talent training within Hainan’s higher vocational education system. The sample data for this study is divided into three parts: (1) Evaluation index scale and questionnaire for evaluation indicators: Thirty questionnaires were distributed to management staff and experts from higher vocational colleges in Hainan, with 29 valid responses collected. (2) Questionnaires for students: A total of 193 questionnaires were distributed to students within three years of study. (3) Talent training quality satisfaction survey: A total of 270 questionnaires were distributed, with 221 valid responses obtained.

3.2. Evaluation indicators

Building on a review of relevant literature and the distribution of questionnaires regarding the vocational education evaluation index scale for higher vocational colleges, the study developed an evaluation framework consisting of three first-level indicators, 15 second-level indicators, and 17 third-level indicators (**Table 1**).

Table 1. Evaluation index system of vocational education quality in the context of digital transformation

Level 1 indicators	Level 2 indicators	Level 3 indicators	Meaning
Macro: A1	Evaluation of talent training program: B1	Talent training program: C1	The coordination degree of regional economic development and vocational education layout, the matching degree of regional talent demand and professional level construction, etc.
		Regional talent positioning: C2	The matching degree of specialty setting with regional economy and industrial demand; whether it is a national key industry, emerging industry, and regional pillar industry, etc.
	Professional construction: B2	Specialty settings: C3	Digital literacy into the curriculum system; talent training objectives and specifications of applicability; talent training programs, etc.

Table 1 (Continued)

Level 1 indicators	Level 2 indicators	Level 3 indicators	Meaning
Meso: A2	Teacher level evaluation: B3	Academic degree: C4	Student-teacher ratio, double-teacher quality full-time teachers ratio, senior professional and technical position full-time teachers ratio, interdisciplinary teacher team construction, digital teaching, digital collaborative education.
		Title: C5	
		“Double-qualified type”: C6	
		Multidisciplinary background: C7	
	Evaluation of the teaching environment: B4	Digital literacy: C8	Every 100 students have teaching terminals, the proportion of schools with campus network established, the proportion of schools with export bandwidth of more than 100Mbps, etc
		Student average teaching and research instrument investment fund: C9	
		Investment in teaching equipment per student: C10	
		Computer ownership per birth: C11	
		Multimedia classroom is better: C12	
		Information technology application rate: C13	
Micro: A3	Evaluation of talent training quality: B5	The “points card” index: C14	Employment rate, monthly income, correlation of science, industry, agriculture and medicine, satisfaction of Alma mater, employer satisfaction, and promotion ratio of three years after graduation.
		The “student feedback form” indicator: C15	Classroom education satisfaction, ideological and political course teaching satisfaction, student work satisfaction, student community participation.
		The “international impact table” indicator: C16	Number of full-time (overseas) foreign students (more than one year), part-time (overseas) personnel training, etc.
		The “service contribution table” indicator: C17	Graduate employment direction, horizontal and vertical technical services, achievement conversion, non-academic training, public welfare training services.

3.3. Model building

3.3.1. Overview of the AHP model

The Analytical Hierarchy Process (AHP) is a systematic approach to multi-criterion decision-making and evaluation. The primary goal of AHP is to assist decision-makers in making rational choices when faced with complex problems involving multiple criteria. The core concept involves breaking down a complex decision problem into smaller, more manageable sub-problems, conducting hierarchical comparisons, allocating weights to these sub-problems, and finally arriving at a comprehensive decision. This study employed the AHP to assign weights to the evaluation index system, utilizing the 1–9 scale method (Table 2).

Table 2. Scoring criteria for the hierarchical analysis matrix

Degree of importance	Scale assignment	Degree of importance	Scale assignment
Two factors are equally important	1	Two factors are equally important	1
Factor A is slightly more important than factor B	3	Factor A is slightly less important than factor B	1/3
Factor A is significantly more important than factor B	5	Factor A is significantly less important than factor B	1/5
Factor A is strongly more important than factor B	7	Factor A is strongly less important than factor B	1/7
Factor A is extremely more important than factor B	9	Factor A is extremely more unimportant than factor B	1/9
Between the above levels of importance	2, 4, 6, 8	Between the above levels of importance	1/2, 1/4, 1/6, 1/8

3.3.2. Establishing a hierarchical structure model

This study adopts a decision-making goal-oriented approach. Using factor analysis, the study organizes the elements listed in **Table 1** into a three-level hierarchical structure: the three primary elements constitute the criterion layer, the 12 secondary elements form the factor layer, and the 17 tertiary elements comprise the scheme layer. This framework results in the establishment of a comprehensive three-tier hierarchical structure model.

3.3.3. Hierarchical single ranking and consistency testing

The index elements of this level are the ranking weight of the relative importance of adjacent index elements, which is the hierarchical single ranking result. After calculating the feature vector W is normalized, the maximum feature root value is calculated, and the calculation formula is

$$\gamma_{max} = \frac{1}{n} \sum_{k=0}^n \frac{(AW)_i}{W_i} \quad (1)$$

Consistency checks are conducted. The CI calculation formula is:

$$CI = \frac{\gamma_{max} - n}{n - 1} \quad (2)$$

where CI is the consistency ratio and RI is the random consistency index. Generally, if the CR value is less than 0.1, the judgment matrix satisfies the consistency test.

3.3.4. Hierarchical sorting and consistency testing

By using hierarchical single sorting to calculate the results, the total ranking weight of the factor layer can be obtained, and further comprehensive calculation of the order of superiority and inferiority relative to the higher layer can be carried out. The consistency test formula for hierarchical total sorting is:

$$CR = \frac{\sum_{i=1}^n a_i CI_i}{\sum_{i=1}^n a_i RI_i} \quad (3)$$

Among them, a_i is the total ranking weight of the criterion layer, CI_i is the consistency index of the judgment matrix in the factor layer corresponding to a_i , and RI_i is the random consistency index of the judgment matrix in the factor layer corresponding to a_i . $CR < 0.1$ is obtained. At this point, it is considered that the hierarchical sorting results meet the consistency testing requirements. From this, the same level weights and global weights of each indicator are obtained (**Table 3**).

Table 3. Evaluation index system of vocational education quality in the context of digital transformation

Level 1 indicators	Weight value	Level 2 indicators	Weight value	Level 3 indicators	Weight value	Combined weight
Macro: A1	0.392	Evaluation of talent training program: B1	0.578	Talent training program: C1	0.164	0.027
				Regional talent positioning: C2	0.297	0.0674
		Professional construction: B2	0.422	Specialty settings: C3	0.539	0.1221
				Academic degree: C4	0.103	0.027
		Teacher level evaluation: B3	0.652	Title: C5	0.056	0.015
				“Double-qualified type”: C6	0.251	0.066
				Multidisciplinary background: C7	0.169	0.044
				Digital literacy: C8	0.421	0.110
Meso: A2	0.402	Evaluation of the teaching environment: B4	0.348	Student average teaching and research instrument investment fund: C9	0.389	0.054
				Investment in teaching equipment per student: C10	0.268	0.037
				Computer ownership per birth: C11	0.157	0.022
				Multimedia classroom is better: C12	0.134	0.019
				Information technology application rate: C13	0.051	0.007
Micro: A3	0.206	Evaluation of talent training quality: B5	0.206	The “points card” index: C14	0.261	0.011
				The “student feedback form” indicator: C15	0.514	0.022
				The “international impact table” indicator: C16	0.063	0.003
				The “service contribution table” indicator: C17	0.162	0.007

3.3.5. Result interpretation

The analysis results in **Table 3** reveal differences in the weight of each dimension within the criterion layer: the meso dimension holds the highest weight at 0.402, followed by the macro dimension at 0.392, and the micro dimension at 0.206. Differences are also observed within the actor and decision layers. Studies indicate that vocational colleges in Hainan place greater emphasis on teaching staff development and the teaching environment in their evaluation of the quality of digital transformation in vocational education. These factors have a significant impact on educational quality. Professional development and talent training plans are also valued but to a slightly lesser extent. However, the element of talent training quality evaluation appears to receive insufficient attention.

4. Quality improvement strategies for vocational education under the evaluation index system

4.1. Optimizing talent training programs, strengthening professional development, and ensuring scientific and cutting-edge practices

Talent training programs should be continuously optimized and updated to meet the new demands of digital transformation. This includes integrating professional courses with digital technologies, utilizing virtual simulations, online training, and other innovative methods to cultivate students’ digital vocational skills. Talent training goals should be established with practical and reasonable positioning to align with the needs of regional economic and social development.

Professional development is a critical component in enhancing the quality of vocational education. In the context of digital transformation, vocational colleges must stay aligned with the digital advancements of industries and enterprises by dynamically adjusting their program offerings and reinforcing the relevance and foresight of professional development. Vocational colleges should deepen their integration with industrial enterprises, establish long-term school-enterprise cooperation mechanisms, jointly design talent training programs, optimize curriculum systems, and achieve precise alignment between professional programs and industry needs.

4.2. Promoting teacher digitalization to facilitate the high-quality development of vocational education

In the era of digital transformation, the competency level of teachers is a key factor influencing the quality of vocational education. Teachers equipped with robust theoretical knowledge and practical skills are essential for cultivating high-quality technical and skilled professionals. Digital teaching introduces new demands, requiring educators to effectively utilize modern information technology and innovate teaching methods and models. Firstly, the training of professional teachers should be prioritized. Efforts must be made to improve their academic qualifications, expand pathways for professional title promotions, strengthen foundational teaching skills, and update professional knowledge and practical expertise. Secondly, employment and career promotion mechanisms should be enhanced to attract high-caliber talent with interdisciplinary backgrounds to join teaching teams. By doing so, vocational education can achieve sustainable and high-quality development.

4.3. Promoting the development of new educational infrastructure and building a high-quality education support system

In the context of digital transformation, establishing a high-quality teaching environment is critical for enhancing the quality of vocational education. Schools should develop advanced, technology-driven teaching platforms to offer teachers and students a variety of digital learning methods, such as cloud classrooms, online courses, and virtual simulations ^[4]. Leveraging modern information technology can create immersive, situational teaching environments that enrich students' learning experiences and enhance the effectiveness of professional skill training. Efforts should be made to comprehensively improve campus network infrastructure, ensuring full wireless network coverage and enabling students to access high-quality connectivity anytime, anywhere. Additionally, investments in modern information facilities, including intelligent classrooms and virtual training rooms, should be increased. These initiatives provide robust hardware support for digital teaching and foster independent learning.

4.4. Improving the talent training quality evaluation system in the context of digital transformation

Amid digital transformation, improving the quality of talent training remains a core goal of vocational education. Digital education necessitates the establishment of clear evaluation standards for talent training quality in vocational colleges ^[5]. A multi-dimensional evaluation system should focus on key indicators such as students' campus performance, societal growth within three years of graduation, and satisfaction levels among students, schools, and employers. These include the "student feedback table" and the "point card" index. The integration of advanced information technology offers unprecedented opportunities and enduring momentum for the high-quality development of education. Sophisticated technological tools can significantly enhance talent training quality and act as a catalyst for sustainable development.

5. Conclusion

Digital transformation presents both new opportunities and challenges for vocational education. Information technology enables innovative teaching methods, enriches educational resources, broadens teaching spaces, and provides students with personalized, flexible, and diversified learning experiences. Simultaneously, digital transformation demands that vocational colleges accelerate their informatization processes, improve teachers' technological proficiency, and update teaching content and training models. These efforts aim to cultivate high-quality, skilled talent equipped to master emerging technologies and adapt to evolving industrial landscapes.

Disclosure statement

The author declares no conflict of interest.

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The Development Path of Small Rural Schools: Appropriate Curriculum Design and Professional Implementation from the Perspective of Natural Education Practice in Simin Primary School, Zhuji City

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Abstract: Rural education in China faces significant challenges, including limited resources, declining student enrollment, and frequent school closures. This paper examines the educational leadership and management strategies employed by Simin Primary School, a century-old rural institution in Zhuji City, which has successfully revitalized its community and attracted students through the innovative practice of nature education. By leveraging local cultural and environmental resources, the school has established a sustainable model for small rural schools.

Keywords: Rural education; Nature education; Educational leadership; Sustainable school development

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1. Introduction

Education in rural China is often constrained by limited resources, a shortage of qualified teachers, and a lack of innovative teaching approaches. However, Simin Primary School in Zhuji City has transformed these challenges into opportunities through its implementation of nature education, emerging as a model of hope and innovation. This paper investigates the role of educational leadership and management in supporting the development and sustainability of rural schools, with a particular emphasis on the curriculum design and practices adopted at Simin Primary School.

2. Background and context

Simin Primary School, situated in the culturally and ecologically rich village of Si Zhai, faces the risk of closure

due to a decline in student enrollment. However, an increasing number of urban families seeking alternatives to mainstream academic trends have brought new students to the school. These parents value innovative educational approaches, and nature education, which emphasizes environmental interaction, experiential learning, and emotional well-being, has become the school's distinctive feature.

3. Challenges addressed by nature education

Nature education has emerged as a vital response to the challenges posed by the rapid urbanization of the 21st century. The swift expansion of cities has significantly transformed the lifestyles and developmental environments of children, giving rise to several pressing concerns that nature education seeks to address.

One of the primary issues is nature deficiency, which stems from the increasing detachment of children from their natural surroundings. Urbanized living environments, dominated by concrete landscapes and limited green spaces, have drastically reduced opportunities for children to interact with nature. This disconnection deprives them of the sensory, cognitive, and emotional benefits that natural settings provide. The absence of such experiences can lead to a diminished understanding of ecological systems, reduced environmental awareness, and adverse effects on mental and physical health. Children who lack regular exposure to nature may face challenges with stress management, creativity, and overall emotional well-being. These issues highlight the importance of integrating nature-based education into their lives to foster a deep and lasting connection with the natural world.

Simultaneously, the phenomenon of parental absence has intensified the emotional and social difficulties faced by children in urbanized areas. Many parents relocate to distant cities in pursuit of better economic opportunities, leaving their children in the care of extended family members or guardians. This physical and emotional separation can lead to behavioral and emotional challenges, including feelings of neglect, low self-esteem, and difficulties in forming secure relationships. These challenges significantly affect children's social and emotional development, underscoring the need for alternative frameworks like nature education to address these gaps. Nature-based programs provide students with a nurturing environment for exploration and learning, fostering a sense of stability and belonging. Such programs often include activities that promote teamwork, empathy, and self-discovery, helping children manage their emotions and build resilience in the face of parental absence. Through these experiences, children develop a sense of autonomy and interconnectedness that counterbalances the emotional challenges of modern urban lifestyles.

In addition to addressing nature deficiency and parental absence, nature education plays a critical role in mitigating cultural disconnection, another significant issue for children in urbanized communities. Urban migration has led to demographic shifts, bringing an influx of non-local families into cities. For children of these families, integrating into new communities can be daunting. They often struggle to connect with the cultural traditions, practices, and values of their new surroundings, hindering their ability to develop a sense of belonging and shared identity. This cultural disconnection can result in feelings of alienation and isolation, further affecting their relationships with peers and the community.

Nature education provides an inclusive and innovative platform to bridge these gaps by fostering a shared connection to the environment that transcends cultural differences. Through activities such as gardening, wildlife observation, and conservation projects, nature education instills a sense of common purpose and collective responsibility. These experiences encourage children to see themselves as integral members of a community that values collaboration and mutual respect, fostering a deeper appreciation for the cultural and

natural diversity around them ^[1].

4. National background and policy support

In April 2019, the National Forestry and Grassland Administration of China issued a notice promoting nature education, highlighting its crucial role in advancing the construction of ecological civilization. The notice emphasized that with the rapid development of modern society, the relationship between humans and nature has gradually become more distant, exacerbating ecological and environmental issues. To address this challenge, the state proposed that nature education should be one of the key strategies to enhance public ecological awareness and promote sustainable development ^[2]. Nature education not only focuses on protecting the ecological environment but also aims to cultivate students' sense of environmental responsibility, environmental awareness, and the concept of sustainable development. By integrating natural elements into education, the goal is not only to reconnect students with nature but also to guide them in understanding the harmonious coexistence between humans and nature, thus laying a solid foundation for the construction of ecological civilization.

In this context, in July 2021, President Xi Jinping further emphasized China's rich plant diversity and cultural heritage in a speech, calling for the integration of these precious resources into educational practice. He highlighted that China possesses a wealth of plant species and profound cultural traditions, all of which are essential components of education, particularly in rural areas. The concept of nature education aligns closely with China's vision for ecological civilization, aiming to disseminate the principles of ecological civilization through education, promote green development, and simultaneously preserve and advance national culture ^[3].

Driven by this policy, nature education has garnered increased attention and support, gradually becoming mainstream, especially in rural schools, where it has received a positive response. For example, Simin Primary School has innovatively implemented nature education courses by utilizing its unique ecological resources and cultural heritage. The school integrates local plant resources and traditional culture, exploring sustainable development paths tailored to rural schools. This initiative not only provides students with opportunities to engage closely with nature but also fosters their emotional, cognitive, and cultural development. The success of Simin Primary School has offered valuable insights for other rural schools, showcasing the significant potential of nature education.

With guidance from policies and proactive responses from local schools, nature education has become widely applied in China's rural schools ^[4]. Through these policy supports, nature education has gradually emerged as an effective means of improving the quality of education in rural schools and advancing rural revitalization. As more rural areas adopt nature education, the concept of ecological civilization will become more deeply ingrained in people's hearts, contributing to China's sustainable development.

5. The unique advantage of Simin Primary School

The success of Simin Primary School can be attributed to its unique ecological environment, profound cultural heritage, and strong ties with scientific research institutions, which together provide solid support for the school's natural education model.

First and foremost, Simin Primary School benefits from its distinctive location. Situated in the Dongbai Mountain Nature Reserve, the school is surrounded by a rich and diverse array of flora and fauna. This ecological setting serves as a valuable field for the school's natural education curriculum. Students not only learn about plants and animals in the classroom but also enhance their environmental awareness and ecological

responsibility through hands-on observation in nature. By interacting with these natural resources, students gain a more intuitive understanding of the ecosystem's workings, fostering respect for and protection of the environment. This experience promotes the concept of sustainable development, taking root and flourishing within their hearts.

Secondly, the village where Simin Primary School is located has a long history of education and a rich cultural heritage, providing a strong cultural foundation for the school's educational approach. The village has long prioritized the development of education, producing many distinguished individuals, such as the famous paleontologist Si Xingjian and other notable alumni. This cultural atmosphere plays a positive role in students' development, allowing them to draw wisdom from the area's rich history and cultivating a sense of pride and identity in their cultural roots. By integrating local cultural elements into the natural education curriculum, the school not only teaches students about the natural world but also helps them appreciate the deep connection between humanity and nature from a cultural perspective ^[5]. Nourished by this cultural legacy, students enhance their awareness of traditional culture while acquiring new knowledge, further promoting their all-round development.

Additionally, Simin Primary School enjoys strong support from scientific research institutions, particularly the Nanjing Institute of Geology and Paleontology. Through close cooperation with this institute, the school has been able to combine natural education with cutting-edge scientific research, offering deeper and more expansive teaching activities. The Nanjing Institute provides the school with research support and educational resources, allowing the introduction of the latest scientific findings into the curriculum. This collaboration enables students not only to be inspired by the natural environment but also to engage with advanced scientific knowledge, sparking their curiosity and innovative abilities ^[6]. The integration of scientific research and education enriches students' learning experiences and supports the continuous improvement and development of the school's natural education model.

6. The development and goals of nature education courses

The nature education curriculum at Simin Primary School focuses on fostering environmental awareness, cultural connection, and emotional well-being. A key component of this program is the course on Recognizing the Plants in the Book of Songs. This course encourages students to engage with local plants through the lens of classical Chinese poetry, blending natural observation with literary appreciation ^[7]. The goals are to:

- (1) Reconnect children with nature to enhance emotional resilience and cognitive development.
- (2) Address psychological challenges stemming from parental issues by creating a supportive community.
- (3) Strengthen cultural identity and a sense of belonging among non-local students through contextualized learning experiences.

7. Strategy implementation

7.1. Curriculum integration

The natural education curriculum at Simin Primary School has created an innovative educational model by combining traditional subjects with experiential learning. This curriculum not only covers traditional subject knowledge but also emphasizes enhancing students' hands-on experience through practical activities, stimulating their interest in learning and fostering their spirit of exploration. Specifically, the school's natural education curriculum includes professional courses, seasonal experiential activities, and interactive learning,

forming a diversified approach to education.

Firstly, professional natural education courses play an essential role in Simin Primary School's natural education program ^[8]. The weekly natural education course focuses on the plants mentioned in the Book of Songs. Through this, students not only learn about plant knowledge within traditional culture but also gain an in-depth understanding of plants in nature from a poetic perspective. This curriculum integrates traditional literature with natural knowledge, which not only enriches students' cultural depth but also stimulates their interest and love for nature. For example, students explore the symbolic meanings of plants in poetry by interpreting plant images from the Book of Songs and then observe real-life plants to connect with the mysteries of nature. This approach blends literature with cross-disciplinary integration, helping students understand the natural world from multiple perspectives while cultivating their critical thinking and cultural literacy ^[9].

Secondly, seasonal experiential activities provide students with opportunities for close contact with nature. Simin Primary School organizes a series of seasonal events, such as "Exploration of Awakening," "Summer Splash Festival," "Autumn's Gift," and "Winter's Plum Blossom," to help students perceive the changes in nature and experience the beauty of the four seasons. Each seasonal activity is closely tied to the natural environment, allowing students to understand the characteristics of different seasons. For instance, during the "Summer Splash Festival," students explore the aquatic ecosystem through water activities, while in the "Autumn's Gift" activity, they collect autumn plants to experience the harvest and changes of nature ^[9]. These activities enhance students' environmental awareness and hands-on learning through sensory experiences ^[10].

Finally, interactive learning is also a key feature of Simin Primary School's natural education program. Through interactive forms such as poetry recitation, plant observation, nature-inspired games, and creative arts, students can learn and grow in a relaxed and enjoyable atmosphere ^[11]. Poetry recitation not only helps students understand plant images in literature but also cultivates their language expression skills. Nature-inspired games increase students' intuitive understanding of natural phenomena through hands-on activities and teamwork, stimulating their creativity and imagination. Creative art activities, including painting and crafts, transform students' connection with nature into concrete works of art, tapping into their artistic potential.

7.2. Multidisciplinary collaboration

The course features a teaching team from various disciplines:

- (1) Language arts: Guides the interpretation and recitation of poetry.
- (2) Science: Teaches plant knowledge and ecological principles.
- (3) Arts: Promotes creativity through painting and crafts.
- (4) Physical education: Organizes nature-based games and outdoor activities.

7.3. Community and external partnerships

Collaboration with local experts, non-governmental organizations, and academic institutions ensures the availability of resources and enhances the overall quality of the project ^[12].

8. Challenges and suggestions

8.1. Current challenges

- (1) Limited consensus: Internal resistance due to varying levels of awareness and acceptance of natural education among teachers.
- (2) Lack of expertise: A shortage of trained natural science and outdoor education teachers.

- (3) Resource constraints: Reliance on external funding and volunteer support to sustain the program.
- (4) Cultural shift: The impact of digital entertainment and lifestyle trends is weakening students' engagement with nature.

8.2. Suggestions

- (1) Professional development: Establishing training programs to enhance teachers' professional capabilities in natural education.
- (2) Funding mechanisms: Creating dedicated funds or securing sponsorship to support natural education projects.
- (3) Community engagement: Promoting greater participation from parents and local stakeholders to foster a sense of collective ownership^[13].
- (4) Expansion: Broadening the scope of nature-based education to include more interdisciplinary projects and real-world applications.

9. Conclusion

The natural education program at Simin Primary School exemplifies how rural schools can leverage their unique resources to address systemic challenges^[14]. By combining ecological awareness with cultural heritage, it promotes holistic development and rekindles community engagement. The continued success of such initiatives depends on strategic leadership, resource mobilization, and strong community support.

Disclosure statement

The author declares no conflict of interest.

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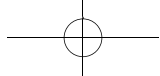
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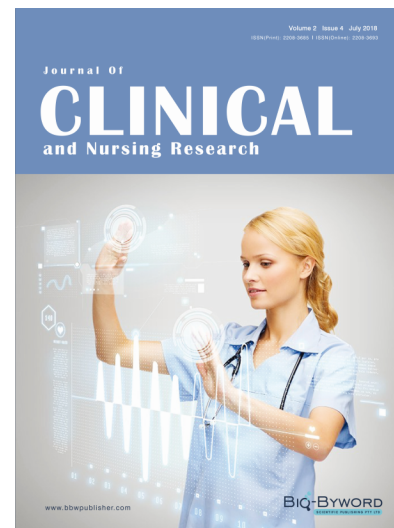
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