

Art Core Competency in Chinese Secondary Vocational Schools: A Systematic Literature Review

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Abstract

The education system greatly emphasises cultivating the students' skills to succeed in the 21st century. The Ministry of Education in China advocates for the developing students' core competencies and has introduced the concept of art core competencies to integrate more closely with the art discipline. Teachers aim to cultivate art core competencies as an educational goal. However, The current literature lacks a scope review of relevant research on the core competencies of vocational art in the context of core competencies. Therefore, researchers emphasize the need for a systematic review of existing studies to gather information on the research regarding art core competencies in Chinese secondary vocational schools. This review identifies three key questions: (1) What are the dominant themes associated with art core competency in secondary vocational schools in China? (2) How do secondary vocational schools cultivate art core competencies in China? (3) What difficulties are encountered in cultivating art core competencies? The literature review on art core competencies in Chinese secondary vocational schools reveals that student-centered approaches, multimedia-assisted teaching, problem-based learning contexts, and diversified assessment strategies are the primary methods art teachers use to implement core competencies. Moreover, the findings also indicate that teachers face challenges in applying new educational methods and assessing students' core competencies. Researchers suggest that the Ministry of Education should introduce training programs to enhance teachers' professional development and improve teachers' abilities to cultivate art core competencies in students. This study provides a comprehensive understanding of the current state of cultivating art core competencies in secondary vocational schools. It will benefit art educators, secondary vocational schools, and educational departments.

Keywords: Art Core Competencies, 21st-Century Skills, Secondary Vocational Schools, Literature Review.

Introduction

This third millennium has been variously characterized by sociologists, economists, and futurists as the Creative Age (Florida, 2002), the Digital Age (Thomas & Brown, 2011), and the Conceptual Age (Pink, 2005), these labels reflect a shared acknowledgement that our twenty-first century social and economic landscape bears distinctive features that sets it apart from preceding historical periods (Tan & Choo, 2017). This significant economic, sociological, and epistemological shift has in turn exerted substantial pressure on the social institution of schooling worldwide to evolve and respond to the new human capital demands of industries and workplaces, and more importantly, to the learning needs and social futures of student lives (Tan & Choo, 2017). What kind of education can cultivate students with lifelong learning capabilities to meet future social needs has become a focus of world education reform (Rieckmann, M. 2018,). Faced with the challenges brought about by this round of education reform, countries have conducted in-depth research on the "Competency" that talents in the 21st century should possess (Ananiadou & Claro, 2009, Chu & Lee, 2021)

In 2003, the Organization for Economic Co-operation and Development (OECD) launched the "Definition and Selection of Competencies: Theoretical and Conceptual Foundations" (DeSeCo) project. The DeSeCo project defines competencies as the ability to meet complex demands in a particular context successfully. This ability includes knowledge, skills, attitudes, values, and behaviours (Rychen, Simone & Hersh). 2006, the European Commission established the "European Framework of Key Competences." This framework was later revised in 2018 to reflect changes in the education and employment environment and to meet the needs of the 21st century better. It includes eight key competences: linguistic communication, mathematical, scientific, and technical competencies, digital competence, learning to learn, and others (Sala, Punie & Garkov, 2020). In 2016, the Chinese Ministry of Education released the "Core Competencies for Chinese Student Development," which centers around the fundamental task of cultivating moral integrity and proposes three dimensions for "cultivating well-rounded individuals": cultural foundation, self-development, and social participation (People's Daily, 2016).

To better align core competencies with specific subjects, Chinese scholars have proposed the concept of "subject-specific core competencies." Subject-specific core competencies are defined as: "the comprehensive qualities exhibited by individuals when they can apply subject-specific concepts, thinking patterns, and inquiry skills, as well as structured knowledge and skills acquired through specific learning methods, to analyze situations, pose questions, solve problems, and communicate results in the face of complex and uncertain real-life contexts." (Yin, 2017).

The concept of subject-specific core competencies has become the overarching and leading idea in the reform of various subject curricula in China's basic education (Yin, 2017). In 2020, the Art Curriculum Standards for Secondary Vocational Schools stated that the core competencies in the art discipline for these schools primarily include four aspects: artistic perception, aesthetic judgment, creative expression, and cultural understanding (Ministry of Education of the People's Republic of China, 2020). Art education in China has transformed, emphasizing the development of students' core competencies and highlighting the students' central role. This shift moves the focus from subject knowledge to the holistic development of individuals (Ran & Huang, 2018; Rybalko, Li & Zhao, 2023).

In the relevant literature, some educators have begun exploring methods to cultivate core competencies and implement these goals in art education. Achieving the aim of developing students' core competencies through art education is a significant research area. Some studies have started to review the literature in this field. First, in a review of the research hotspots on art core competencies, Zhang Mengmeng and Li Daqi summarized that from 2015 to 2023, the hotspots in art core competencies for primary and secondary schools in China were subject-specific core competencies, art discipline, art teaching, and art education. The top ten keywords, besides "core competencies," were "subject-specific core competencies" (92), "art discipline" (80), "art teaching" (60), "art core competencies" (54), "high school art" (50), "elementary school art" (42), "art subject-specific core competencies" (38), "middle school art" (26), "art" (24), and "art education" (2). In art teaching, developing the subject-specific core competencies of all students is crucial and is currently a research hotspot (Zhang & Li, 2024).

Existing reviews have recognized the importance of cultivating students' core competencies in art education. However, there is a lack of comprehensive reviews on the scope of core competencies in the context of secondary vocational art education within the current literature. Given the need for 21st-century talent development, education in secondary vocational schools is also crucial. Determining how to effectively cultivate students' core competencies is an important task for academia and practice. This paper's primary contribution lies in being one of the first reviews of the literature on core competencies for secondary vocational students. Our analysis will identify the current research hotspots on core competencies in secondary vocational art education, the measures taken to develop students' art core competencies in vocational schools, and the challenges encountered in cultivating these competencies.

Literature Review

Definition of Art Core Competency in Secondary Vocational School

It is well known that the terms "competency" and "skill" have different definitions. In some cases, they are explicit; in others, they are implied through context and usage. Over the past 20 years, various terms have been used, such as key or core skills, key or core competencies, etc. (Partnership for 21st Century Skills, 2006; Engauge, 2003; National Educational Technology Standards (NETS or ISTE), 2007; Organization for Economic Cooperation and Development (OECD), 2005; European Union (EU), 2002; Partnership for 21st Century Skills (P21), 2010).

The core competencies constructed by the Organisation for Economic Co-operation and Development (OECD) in the "Definition and Selection of Competencies" (DeSeCo) project are interrelated and interactive. The project posits that to ensure individuals lead successful lives and contribute to a well-functioning society, they must possess the following three core competencies: "The ability to use tools interactively; The ability to interact in heterogeneous social groups; The ability to act autonomously (OECD, 2003)." The UNESCO released a framework for core competencies that spans seven indicators of early childhood, primary, and secondary education. The specific content of these seven core competencies is as follows: "Physical Health; Social and Emotional Development; Cultural and Artistic Expression; Literacy and Communication; Learning Strategies and Cognitive Skills; Digital and Mathematical

Literacy; Scientific and Technological Literacy (UNESCO,2012).” The core competencies framework proposed by the Partnership for 21st Century Skills (P21) includes three main areas encompassing eleven core competencies. The specific content of these areas and competencies is as follows: “Learning and Innovation Skills; Digital Literacy; Core Subject Knowledge; Life and Career Skills (P21, 2010).”

In 2016, the Ministry of Education of China issued the “Core Competencies for Student Development” which focuses on cultivating “well-rounded individuals.” The core competencies for student development in China are comprehensively reflected in six major areas: Humanistic Literacy; Scientific Spirit; Learning How to Learn; Healthy Living; Responsibility and Accountability; and Practical Innovation (MEC, 2016). Regardless of the naming conventions, all countries strive to equip students with 21st-century skills to address current and future changes, which place high expectations on the entire education system (Whitty & Willmott, 1991). A range of competencies or skills for 21st-century living have been proposed and integrated into educational practices (Corbisero, Reeder & Ricciardi, 2021).

To build connections with various disciplines, the concept of disciplinary core competencies has been proposed in the field of education (Goldman & Britt, 2016; Yu, 2024). As a branch within these disciplines, art places great emphasis on developing students' abilities, ultimately forming the core competencies of the art discipline. Countries have proposed curriculum standards for developing 21st-century core competencies in students based on the characteristics of the art discipline (Freedman & Stuhr, 2004). New Zealand officially released and published the National Arts Curriculum Standards. These standards detailed the importance of arts education in developing students' comprehensive abilities, covering six key areas:“ Cooperation and Communication Skills; Problem-Solving Skills; Self-Management Skills; Physical Abilities; Information Literacy; Work and Lifelong Learning Skills (New Zealand Ministry of Education, 2000).” In 2014, the United States officially released the National Core Arts Standards on its official website. These standards emphasize the critical skills deemed most important for learning in the arts, which are: “Creativity and Innovation: Critical Thinking and Problem-Solving; Communication and Collaboration (National Coalition for Core Arts Standards, 2014).” In 2011, the Ministry of Education of China issued the Art Curriculum Standards, which further clarified the core competencies of art education based on the existing curriculum framework. These core competencies include: Artistic Creativity: Aesthetic Ability: Artistic Expression, and Communication (Artistic Understanding and Critical Thinking: Ministry of Education of the People's Republic of China, 2011).”

To ensure the effective implementation of art core competencies at each grade level, the Ministry of Education has released an art core competencies framework tailored for different educational stages. Secondary vocational schools are an important level of education, taking on the crucial task of training skilled and applied talents. In 2020, the Ministry of Education of China released the "Art Curriculum Standards for Secondary Vocational Schools," which outlines the core competencies for the art discipline in secondary vocational schools. These core competencies mainly include the following four aspects:

Artistic Perception: Understanding Art Forms: Students should be able to identify and understand different art forms and styles, including painting, sculpture, photography, and more. By engaging with various artworks, students can appreciate art's diversity and

expressive power. **Observation and Analysis Skills:** Develop students' ability to observe art works in detail, enabling them to analyze the forms, content, techniques, and expressive methods of artworks. Students should be able to describe and interpret art's visual effects and emotional expressions.

Aesthetic Judgment: Aesthetic Evaluation: Students need to master the ability to assess the aesthetic value of artworks, including understanding the composition, color, materials, and techniques used. By comparing and evaluating different artworks, students can form their aesthetic viewpoints. **Cultural and Historical Context:** Students should be able to understand the cultural and historical context of artworks, recognizing the relationship between art creation and its time and social environment. Aesthetic judgment involves not only technical aspects but also cultural and historical understanding.

Creative Expression: Artistic Creation: Students should be able to create art using various techniques and materials. Through experimentation and practice, students can produce unique artworks and effectively express their thoughts and emotions. **Innovation Ability:** Encourage students to explore and try new methods and techniques in artistic creation. Cultivate their innovative thinking to enable creative breakthroughs based on traditional art forms.

Cultural Understanding: Art and Culture: Students should understand the forms and functions of art in different cultures. Students can see how art reflects and shapes cultural values by studying artworks from various cultures. **Global Perspective:** Students should have a global perspective, understanding the diversity and mutual influences of art on internationally. Students can broaden their artistic perspectives and cultural understanding by comparing and contrasting art styles from different countries and regions.

These core competencies are designed to comprehensively enhance students' artistic abilities, ensuring that they not only acquire art skills but also gain a deep understanding of art's cultural and historical contexts, and develop creativity and aesthetic judgment. These abilities are crucial for students' future art education and professional development.

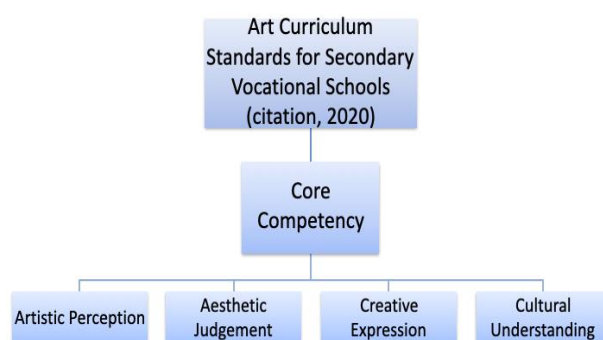


Figure 1: Art Core Competency in Chinese Secondary Vocational School, 2020

Methodology

Systematic Literature Review

To address the research questions, a systematic literature review was performed using four-phases in Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009) as shown in fig. 1. The systematic literature review was conducted by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach (Moher et al., 2015). RISMA is not intended to be a quality assessment tool but aims to ensure clarity and transparency when reporting systematic literature reviews. The PRISMA checklist and four-phase flow diagram were used to report our results.

Search Terms

The search action was conducted using CNKI, WOS, and Google Scholar. The search terms included those related to core competencies in art. In CNKI, Chinese keywords such as "美术核心素养" (art core literacy) and "中等职业学校" (secondary vocational school) were used. Due to possible differences in translation for each word, we adopted different English expressions for the same term. In WOS and Google Scholar, English keywords such as "core competency," "key literacy," "21st-century skills," "twenty-first-century skills," "secondary vocational school," "vocational high school," and "China" were used.

Inclusion and Exclusion Criteria

Before screening the studies found in the database search, we established the following exclusion criteria, similar to those used in related research (Aguilar & Turmo, 2019). duplicate studies, studies on topics outside our research area, books and book chapters (Table 1). The criteria for inclusion are: Focus on development students' core competencies and 21st-century skills through art education. This is a prerequisite due to the limited research on developing students' core competencies. The student level is secondary vocational schools, and the context is within China. This is because the primary aim of the study is to focus on education for students in secondary vocational schools in China. Published in peer-reviewed journals. This criterion is used because journals are considered the most reliable source of scientific information.

Table 1

Inclusion and Exclusion Criteria

Criterion Type	Criterion	Include	Exclude
Publication Type	Journal Articles	x	
	Conference Proceedings		x
	Reports	x	
	Core Competency Framework	x	
	Theses		x
	Books		x
Access	Online	x	
	Print		x
Publication Period	2014-2024	x	
Publication Location	Global	x	

Prisma Flowchart

Given the constraints on document type, language, and period, we obtained 811 articles from CNKI, WOS and Google Scholar, 26 duplicate articles were removed, so 785 the study proceeded to the next stage. In the screening phase, the search was narrowed down to a few criteria; articles that had published relevant studies from 2014 to 2024, and the context of these past studies was China, Only 60 articles were included for further research. Next, after reviewing abstracts and full texts, 41 articles were retained. The final sample for our review comprised 46 articles. The PRISMA flowchart is shown below (Figure 2).

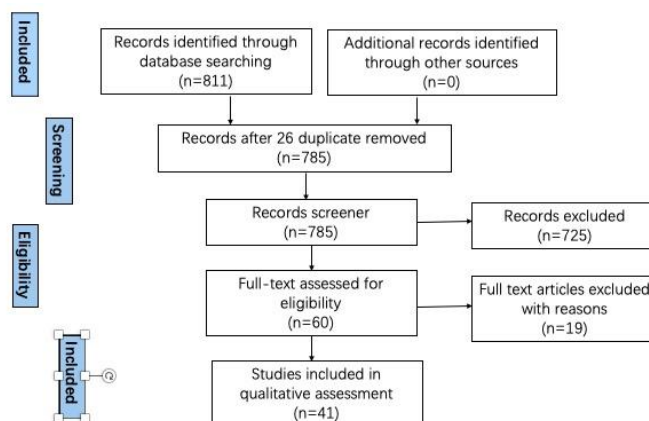


Figure 2: PRISMA flowchart

Data Coding and Analysis

To answer our research questions, the following information was extracted from the 41 chosen studies and coded: (1) core competencies in the art for secondary vocational schools. (2) methods for developing art core competencies in secondary vocational schools, and (3) difficulties or challenges encountered in developing art core competencies in secondary vocational schools. We employed a narrative synthesis approach to code the data, identify research challenges, and determine key themes (Aguilar & Turmo, 2019; Davis et al., 2009). This method is particularly suited for emerging research fields as it is based on a conceptual, iterative, and interpretative approach, emphasizing the importance of assessing the literature based on its relevance and contribution rather than strict methodological requirements (Davis et al., 2009). Following the narrative synthesis procedures used in previous scope reviews (e.g., Aguilar & Turmo, 2019; Davis et al., 2009), we (1) independently read the articles, (2) analyzed and categorized the articles, and (3) discussed and reached a consensus on the core competencies in art for secondary vocational schools, methods for developing these competencies, and the difficulties or challenges encountered in this process.

Finding

Findings Obtained for the First Research Question

This review examined research on art core competencies in secondary vocational schools in China, published from 2014 to 2021. Although the inclusion criteria allowed for analysis of publications from 2014 to 2024, the database search returned results only from 2017 onwards, with most texts published in 2020 (24%), as shown in Table 2.

Table 2

Table of the Article Selection Procedure

year	2017	2018	2019	2020	2021	2022	2023	2024
n	1	6	8	10	6	4	5	1

Research on art core competencies in secondary vocational schools discussed various themes in China. The theme of teaching strategies dominated the educational research, followed by the connotation and value of art core competencies. Secondary topics included cultivation measures, curriculum development, and the professional development of art teachers (Figure 3).

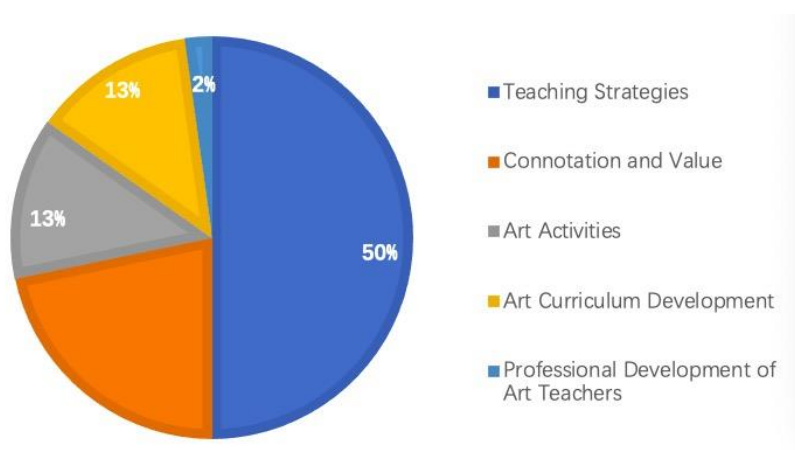


Figure 3: Distribution of Themes in Research on Art Core Competencies in Secondary Vocational Schools

Findings Obtained for the Second Research Question

This study indicates that four main methods are used to cultivate students' art core competencies in secondary vocational schools in China, resulting in four main themes and eleven sub-themes (Table 3).

Table 3

Distribution of Methods for Cultivating Core Art Competencies in Secondary Vocational Schools

Theme	Sub-theme	Frequency	Percentage
Improving teaching strategies	Multimedia-assisted teaching	10	17.8%
	Creating problem-based learning	8	14.2%
	Student-centered teaching	5	8.9%
	Diverse assessment methods	8	14.2%
Organizing Art Activities	School-hosted art exhibition	3	5.3%
	Visiting external art exhibitions	8	14.2%
	Art club activities	1	1.7%
	Outdoor sketching activities	4	7.1%
Art Curriculum Development	Interdisciplinary curriculum design	3	5.3%
	Project-based curriculum design	5	8.9%
Enhancing Teacher Competence	developing teachers' teaching skills	1	1.7%

Improving Teaching Strategies

The literature mentions four teaching strategies to cultivate the core artistic literacy of vocational school students. Firstly, multimedia-assisted teaching improves the effectiveness of classroom teaching and enhances the attractiveness of art classes to students (Wei, 2024; Chen, 2022; Zhao, 2020). Chen Xiuli points out that in porcelain appreciation classes, teachers can use multimedia equipment to collect extensive porcelain-making materials, especially relevant video materials, to present them to students vividly. This greatly enhances the artistic appeal of the works (Chen, 2022).

Secondly, Creating problem-based learning is an important teaching method that stimulates students' thinking and enhances their ability to apply knowledge by presenting real-world problems and contexts (Hung, Jonassen & Liu, 2008). In vocational art appreciation teaching, teachers can set corresponding art problems based on art themes and create teaching scenarios to stimulate students' interest in art learning. This is significantly helpful in internalizing the appreciation of knowledge from art textbooks into core subject competencies (Du, 2020).

Thirdly, Several studies have proposed that student-centered learning (SCL) can significantly enhance students' active participation and autonomy in the learning process (Starkey, 2019). In art education, teachers should consider students' individual circumstances, knowledge levels, and artistic backgrounds. By adhering to educational principles and focusing on student growth, teachers can meet diverse learning needs, thereby enhancing students' overall quality and developing their core competencies (Xu, 2023). Teacher Zhang emphasizes the importance of recognizing students as the main actors in the classroom, ensuring that every student can showcase their abilities. Teachers should encourage students to express their ideas from various perspectives and create artistic works, thereby genuinely fostering the development of core competencies (Zhang, 2019).

Fourthly, some studies suggest that it is important to shift from traditional, single-method evaluation approaches to diversified assessment methods (Meylani, 2023). Teaching evaluation is indispensable in secondary vocational art courses. Through evaluation, teachers can better reflect students' learning status, using formative assessment to identify and correct deviations and issues during the teaching process, thereby gaining a comprehensive and systematic understanding of students' actual conditions (Wei, 2024).

Teachers should adopt diverse evaluation methods, transforming one-way judgment of students into a combination of self-analysis, peer evaluation, and teacher encouragement, thereby achieving a multifaceted evaluation system. Students can confidently articulate their drawing processes and ideas through self-assessment demonstrating their learning situation. Teachers can organize students to observe and evaluate each other's work, analyze the strengths and weaknesses of the artwork, identify the highlights and shortcomings in assignments, and stimulate students' enthusiasm for learning (Zhang, 2019).

Organizing Art Activities

Schools host art exhibitions: By holding school exhibitions, not only can students' works be displayed, but it also provides a platform for students to learn from and communicate with each other (Wang, 2021; Li, 2020). During the exhibition activities, students can see their

peers' creations, learn from each other, and improve their own creative skills. Such exhibition activities can stimulate students' enthusiasm for creation, making them more engaged in art learning, thereby achieving the goal of cultivating students' core literacy skills (Liu,2018).

Visiting external art exhibitions: Visiting external art exhibitions: Some studies suggest that teachers can regularly organize students to participate in a variety of extracurricular art activities, making full use of local historical and cultural resources, museums, and exhibitions (Wu, 2022; Cui, 2020). By appreciating ancient paintings, centuries-old bronzes, and pottery, students can develop their ability to interpret art, increase their art knowledge, and gradually form an aesthetic appreciation.

Moreover, teachers can regularly organize students for extracurricular independent practice and exploration activities. For example, in the "Discover Folk Art Around You" activity, students can collect various folk art works such as clay sculptures, paper cuttings, and carvings. During the collection process, students can analyze the color expressions and spatial structures of these art pieces, carefully observe and feel the emotions conveyed by the works (Du, 2020; Deng, 2018). These diverse extracurricular art activities can broaden students' horizons, enrich their knowledge, and enhance their art appreciation and creative abilities through practice, fully developing their art core competencies.

Art club activities: Actively organizing a variety of art club activities allow students to participate in the art creation process, personally gather various on-site information, and enhance their art experience and practice. These activities effectively improve students' hands-on skills and self-learning abilities and help them actively solve various problems encountered in art creation, thereby deeply tapping into their potential. This practice-oriented learning approach can comprehensively enhance students' artistic literacy and innovation capabilities (Deng, 2018).

Outdoor sketching activities: the ability to apply knowledge to practice is a key component of the core literacy for secondary vocational students. Art teachers can take students out for sketching trips during weekends and holidays to help them accumulate creative materials and stimulate their artistic inspiration (Liu, 2019; Wang, 2021). During regular teaching, teachers can organize on-campus and off-campus sketching and fieldwork activities, allowing students to enhance their aesthetic expression and innovation abilities further thereby fostering their art core competencies (Lu, 2019).

Art Curriculum Development

Integrated Curriculum design: Integrated curricula are highly effective for academic learning, bringing about deeper learning. "Deep learning" refers to the transition from surface learning and content coverage to a profound understanding of a subject, where students lead in their own learning (Fullan, 2013). Additionally, interdisciplinary approaches can increase student engagement and motivation, reduce absenteeism, and improve attitudes towards school (Zhang, 2021). Integrating art with other disciplines can enhance students' overall competencies, particularly creativity, critical thinking, and problem-solving abilities. Designing interdisciplinary courses that combine art with science, technology, engineering, and mathematics (STEM) to form a STEAM education model helps develop students' core competencies. Zhang Lei incorporated STEAM education concepts into vocational high school

computer courses, achieving significant teaching outcomes (Zhang, 2021). Gu Xiaoya proposed integrating moral education into art instruction to develop students' abilities fully (Gu, 2020).

Project-based curriculum design Project-Based Curriculum Design (PBCD) is an approach that enables students to learn and apply knowledge and skills through the implementation of real projects (Martinez, 2022). This method not only focuses on knowledge transmission but also emphasizes the development of students' core competencies, including creativity, critical thinking, problem-solving abilities, and collaboration skills. Some studies have demonstrated through specific teaching cases that PBCD has effectively enhanced students' overall qualities and core competencies (Zhang, 2017; Wang & Li, 2019). Additionally, research has analyzed the application effects of PBCD in vocational high school art courses. By observing student works and teaching feedback, it was found that this method positively contributes to the cultivation of students' core competencies (Liu, 2021).

Enhancing Teacher Competence

Art teachers play a crucial role in implementing core competencies. Therefore, it is essential to actively conduct teacher training to improve their ability to cultivate students' art core competencies. Xu Leilei emphasizes that teacher training is a crucial means for implementing and translating core competencies into practice. It is essential to develop a valuable training curriculum system for intern teachers to enhance their ability to implement core competencies effectively (Xu, 2024).

Findings Obtained for the Third Research Question

This review has found that secondary vocational schools need help cultivating art core competency because educators need more resources and skills. Since 21st-century skills are not discrete abilities but are integrated with all subjects and activities in school, fundamental reforms in school and teaching culture are necessary (Bani-Amer, 2022). Therefore, teachers' ability to achieve these goals in practice is crucial, and reforms in teacher education are also necessary. Educators know much more about how to teach subjects like art than they do about how to teach these skills (Voogt & Roblin, 2012). There is almost no professional development focused on the ability or knowledge of innovative teaching practices (Wang, 2010). For some teachers, the lack of training on implementing teaching methods that develop core art literacy leads them to continue using traditional teaching methods and large-scale lectures. As a result, students' core literacy skills are not adequately developed (Liu, 2024).

Another challenge in cultivating core competencies in art is the assessment of these competencies. Reliable competency assessment creates conditions for providing feedback on learning outcomes, educational process technologies, student performance, and learning management policies (Efremova, Shapovalova & Huseynova, 2020). Additionally, the assessment process can identify issues in organizing and conducting training, laying the foundation for teachers to correct and improve the educational process, and fostering students' self-esteem and self-directed learning motivation (Lubbe, 2020). In the era of core competencies, diversified evaluation methods are advocated. Through various methods such as authentic situational assessment, portfolio assessment, self-assessment and peer assessment, observation records, and comprehensive competency assessment, art teachers

can understand students' academic achievements and personal development from different perspectives (Cao, 2015). However, teachers face multiple difficulties and challenges when implementing art core competency assessments.

Although diversified and authentic assessment methods can more comprehensively reflect students' overall abilities, their implementation process is complex and time-consuming, requiring more time and resources. These assessment methods often involve extensive task design, detailed scoring criteria, and frequent feedback loops, making them more time and resource-intensive than traditional paper-and-pencil tests (Beck & Hatch, 2010). Due to heavy teaching tasks and other administrative burdens, vocational school teachers usually lack sufficient time and energy to design and implement complex diversified assessment methods (Cao, 2015; Zhang, 2018; Li, 2020). Furthermore, many teachers have not yet fully mastered how to effectively design and implement diversified and authentic assessments, thus affecting the practical application of these methods in teaching (Li, 2019; Lu & Wang, 2020).

Discussion

To contribute to 21st-century society, individuals should be able to learn quickly to acquire knowledge, skills, creativity, and innovation (AlHariri, 2019). Therefore, a high-quality education system is needed to adapt to the socio-economic nature of this century and provide students with the skills to meet the demands of life and work (Hofny, 2015). Research from the Massachusetts Institute of Technology shows that students' brain activity while listening to lectures in the classroom is lower than their brain activity while sleeping (Fullan & Langworthy, 2014). Teachers need to focus on teaching and learning methods and change the role of students to become active learners who master critical thinking, teamwork, creativity, communication, and innovation. This review found that art teachers in Chinese vocational high schools recognize the importance of cultivating core competencies and are beginning to shift from traditional lecture-based teaching methods to student-centred teaching approaches.

Teachers face challenges when implementing new teaching methods. Due to a lack of relevant training, using new teaching methods can be difficult for teachers. Any educational reform should start with teachers. In other words, the quality of education is closely related to teachers performance (Alkhalili, 2006). Education departments can formulate appropriate policies to enhance teachers' capabilities. For example, Finland has developed a clear strategy to promote education, focusing on improving teachers' educational thinking skills, enabling them to manage education according to educational backgrounds and modern practices (Urbani, Roshandel, Michaels & Truesdell, 2017). Finland has successfully established teacher training programs that include training in teaching and educational theory, substantial funding, professional development, and the creation of supportive environments (Mora & Wood, 2014). To develop 21st-century skills, Malaysia has also adopted a comprehensive teacher training program that includes curriculum development, providing collaborative learning environments, school-based enterprises, emotional intelligence skills, information and communication technology, scholarships, and research and development (Jamil, Razak, Raju & Mohamed, 2010). The Chinese education department should consider formulating a set of training measures for teacher professional development to cultivate 21st-century teachers.

Although teachers are key to implementing the learning process, all educational institutions share equal responsibility in improving the country's education system. Research findings also indicate that there are challenges in assessing core competencies. The government and education experts should find ways to address this issue. Therefore, it is necessary to conduct socialization and teacher training to clarify the methods and standards for assessing core art competencies for teachers.

Conclusion

This study comprehensively reviews of the current state of cultivating art core competencies in secondary vocational schools. that art teachers implement them. Educators worldwide have been called upon to prepare students for the 21st century in recent decades. The Ministry of Education in China introduced the concept of art core competencies and mandated that art teachers implement them in their teaching. As the backbone of the educational process, teachers need to focus on teaching and learning methods, transforming students into active learners who master art core competencies. Teachers are actively exploring various strategies, such as student-centered teaching, creating problem-based learning contexts, integrating art courses, and employing diversified assessment methods. However, challenges still need to be addressed when implementing art core competencies. Therefore, the education department should formulate appropriate policies to enhance teachers' abilities and cultivate students' core competencies in art.

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