Orientation and Practical Exploration of Key Competence Training in China's Higher Vocational Education -- Based on Recent Research Findings

Abstract

Cultivating key competencies among higher vocational students enhances their employment prospects and long-term career competitiveness. As a result, competency training has become central to vocational education, serving as a key measure of training quality. Scholars differ in their classifications of key competencies, but most emphasize curriculum design, teaching methods, assessment strategies, and support systems as critical to competency development. Findings suggest that an integrated approach, combining theory and practice, is essential for strengthening vocational students' competencies. This study provides insights into how key competencies are conceptualized, structured, and cultivated in China's vocational education system, offering guidance for improving teaching practices and institutional support to better meet graduates' professional development needs.

The findings highlight the importance of integrating theoretical knowledge with practical skills in vocational education to enhance students' employability and adaptability. By focusing on comprehensive training strategies, institutions can better prepare students for the evolving demands of the modern workforce.

In conclusion, China's vocational education system is playing a crucial role in preparing skilled workforce for the nation's economic development and social progress. The emphasis on competency-based education offers promising avenues for improving student outcomes and aligning educational programs with industry expectations.

Key words: key competency, higher vocational students,strategies for improvement

1.Introduction

With China's rapid economic development and industrial upgrading, vocational education has become increasingly vital. According to the Ministry of Education (2024), China has 1547 higher vocational colleges, with more than 17million currently studying. Vocational education plays a key role in driving economic growth and social progress. For higher vocational college students, the cultivation of key competency is not only limited to better and more choices in employment, but also provides sustainable competitiveness for the development of their entire career on this basis, including the competence of knowledge transfer and rapid adaptation in the process of changing work environment, work content and promotion to management. Therefore, the key competency training has become a new mission and practice, and the key competency has gradually become an index to measure the quality of

vocational education personnel training. Based on existing literature, this study systematically combs and analyzes the definition and dimension of students' key competence in Chinese higher vocational colleges and proposes strategies to improve students' key competence.

2.The Conception of Key Competency of Students in Higher Vocational Colleges

Zhou Minjuan et al. (2021) indicated that key competencies were required in all career fields, but key competencies were not direct professional competencies and play a key role in the process of personal career development. Tian Yuanxun et al. (2022) stated that key competence refers to cross-disciplinary knowledge skills and abilities, which are not easily obsolete or eliminated due to scientific and technological progress due to their universal applicability. Niu et al. (2023) stated key competency was the requirements of professional talent literacy for career development and change, which is directly related to the professional environment and post ability. The necessary qualities and key abilities related to an individual's social adaptability, job competitiveness and career development, and refer to the set of knowledge, abilities, emotions, attitudes and values necessary for an individual to enter a job, be competent in the job, adapt to social development and personal career development.

The key competency had been defined as comprising ‘knowledge + skills + dispositions + task’, based on a broad conception of competency as effective professional performance in a relevant setting (Tony, 2023). The 2020 European skills agenda, Council recommendation on Vocational Education and Training (VET) and Osnabrück declaration on VET emphasise the importance of key competences that lay the foundation for resilience, lifelong learning, employ ability, social inclusion, active citizenship and personal development, and support green and digital transition (Cedefop, 2024).

Pálsdóttir et al.(2021) examined key competencies for sustainability in the curriculum of the University of Iceland, aiming to address pressing sustainability challenges. Venn et. al. (2022) presented an empirical study on key competencies for sustainable development, emphasizing the importance of competencies for sustainability professionals. Key competencies are essential for vocational education and training (VET) learners. These skills go beyond occupation-specific knowledge. They help learners adapt to new life situations and career shifts. Key competencies enable them to manage change with confidence. They also encourage taking initiative and embracing risks. Innovation thrives through these abilities. Lifelong learning becomes possible with key competencies at the core (Cedefop, 2024).

Scholars have reached a consensus on the importance of key competencies. International scholars' cognition and conception of key competency in vocational education are very clear, while Chinese scholars' cognition of key competency is still oriented to the public, and the connotation of key competency of students in vocational colleges is not clear, and Chinese scholars' cognition of key competency is still biased toward vocational key competency. The purpose of this study is to improve the key competence of higher vocational students and clarify the connotation of their key competence.

According to scholars' conception of key competency，in this study, key competency can be defined as a holistic set of knowledge, skills, and attitudes that enable individuals to succeed in personal development, career growth, lifelong learning, and technological adaptability.

3.The Dimension of Key Competency of Students in Higher Vocational Colleges

Chinese and foreign scholars have focused on the dimensions and framework of the key competencies required for student development.

In China, key competency is also translated as core literacy, or core competences. *The Core Literacy of Chinese Students' Development* (2016) provides a foundational framework with three main aspects—cultural foundation, independent development,

and social participation—further divided into six qualities and 18 basic components. This framework emphasizes a holistic approach to student development, integrating cultural, personal, and social dimensions.It reflects the essential requirements of Marxism about the social nature of people and the comprehensive development of people. At the same time, it is closely echoing with the value concept of self -cultivation, governance, and the world in the traditional Confucian culture in my country. Internal requirements for student development.Kang (2020) build upon this foundation, proposing competency frameworks tailored to vocational education in China. Kang's framework includes cultural literacy, knowledge and skills, communication, learning management, and moral responsibility, Wang Min (2021) proposed a professional key competency model comprising common, key, and development competitiveness dimensions.

Table 1: The Dimension of Key Competency in China

The Core Literacy of Chinese Students' Development（2016）	Cultural Foundation	Humanistic Connotations	Humanistic Accumulation
			Humanistic Feelings
			Aesthetic Taste
		Scientific Spirit	Rational Thinking
			Critical Questioning

		Dare to Explore
Independent Development	Learning to Learn	Enjoy Learning and Be Good at It
		Diligent in Reflection
		Information Consciousness
	Healthy Life	Cherish Life
		Sound Personality
		Self-Management
Social Participation	Responsibility	Social Responsibility
		National identity
		International understanding
		consciousness
	practice and innovation	Labor Consciousness
		Problem Solving
		Application of Technology
Humanistic Connotations		The Accumulation of Basic Knowledge and Achievements
		People-Oriented Sense

Key competence of higher vocational college students: concept, elements and basic characteristics (Kang,2020)		Appreciate Culture and Art Ability
	Knowledge and Skill	Understand Knowledge Ability
		Use Information Technology Ability
		Problem-Solving Ability
		Foreign Language Level
	Communication and Expression	Understand Multicultural Differences Ability
		Communication Skills
		Teamwork Skills
	Learning Management	Awareness of Lifelong Learning
		Awareness and Independently Ability
		Self-manage Ability
	Moral Obligation	Professional Ethics Awareness
		Globalization and Sustainable Development Awareness
		Service Business

		Social Responsibility and Awareness
Core vocational literacy model construction and cultivation path of higher vocational students from the perspective of professional teaching standards (Wang, M. 2021).	Common literacy	Ideals and beliefs
		all-round development
		rational thinking
		sense of responsibility
		civilized self-cultivation
	Key literacy	Communication
		Innovation
		Cooperation
		learning and learning
	Development literacy	International vision
		Leadership
		cultural heritage
		professional temperament

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113 Internationally, the UNESCO Education Research Institutes Network for Asia and the

114 Pacific (2016) and the *Organization for Economic Co-operation and Development*

(OECD) (2019) offer global perspectives on key competencies. United Nations Educational, Scientific, and Cultural Organization (UNESCO)'s research on "horizontal competencies" consists five areas, while the OECD identifies three transformative competencies for students. Maria et al. (2023) provide an extensive analysis of over 180 national and international frameworks, highlighting the diversity and complexity of competency definitions. Sung-Youn Choi (2024) shifts the focus to industry perspectives, identifying key competencies and educational strategies for adapting to rapid technological and societal changes. The study emphasizes problem-solving skills, cognitive flexibility, and strategic thinking as crucial for future adaptability.

Table 2: The Dimension of International Key Competency

2015 ERI-Net Regional	Critical and innovative thinking	Creativity
		Entrepreneurship
		Resourcefulness
		Application ability
		Reflective thinking
		rational decision making
	Interpersonal skills	Communication skills

Study on Transversal Competencies in Education Policy and Practice(:UNESCO, 2016)		Organizational skills
		teamwork collaboration
		Social skills
		cooperation spirit
		Empathy
		compassion
	Introspection ability	Self-discipline
		Independent learning ability
		Flexibility and adaptability
		Self-awareness
		perseverance
		Self-motivation
		integrity
		self-esteem
	global citizen	Awareness
		Tolerance,
		openness,

		responsibility, respect for diversity, ethics, intercultural understanding, democratic participation conflict resolution, respect for the environment national identity belonging
	Media and Information Literacy	Ability to access or analyse information Ability to critically evaluate information and media Ethical use of ICT
OECD Future of Education and Skills 2030 (OECD ,2019)	Use tools interactively	The ability to use language,symbols and text interactively The ability to use knowledge and information interactively The ability to use technology interactively ·

Interact in heterogeneous groups	The ability to relate well to others The ability to co-operate The ability to manage and resolve conflicts ·
Act autonomously	The ability to act within the "big picture" The ability to form and conduct life plans and personal projects The ability to assert rights, interests, limits and needs.

While Chinese and foreign scholars have made substantial contributions to defining and elaborating on the dimensions and frameworks of key competencies required for student development, several gaps and areas for improvement are evident. Each framework, while valuable in its context, may not be directly applicable or transferable to other educational settings, particularly in vocational education where industry-specific skills are paramount. Moreover, the emphasis on theoretical constructs often overshadows practical implementation, many frameworks lack detailed strategies for integrating these competencies into the curriculum and assessing their development in students. This gap hinders the effective translation of theoretical knowledge into practical educational outcomes.

4.Strategies for Enhancing Key Competencies and Teaching Practices

4.1 Identify Training Objectives

According to *Ministry of Education's Opinions on Comprehensively Improving the Quality of Higher Vocational Education Teaching* (Ministry of Education of the People's Republic of China,2006),the higher vocational education should cultivate "high-quality and technical skills" talent .This statement emphasized that the talents cultivated by higher vocational education not only need to have a higher skill level, but also need to have high quality, including good professional ethics, professional literacy and comprehensive ability.Zhao et al. (2024) stated that the ultimate training objective of vocational education is the development of students' key competency.*U. S. Department of Education*(2012) emphasized that global competence was an important indicator of the key competency of talents in the 21st century, which not only involved the ability to develop understanding, dialogue and cooperation in a global and cross-cultural environment, but also involves the deep-seated consciousness and value orientation of the community of human destiny.

In higher vocational education, it is very important to clarify the training objective of key competency, which is the basis of improving students' keycompetency. The cultivation of key competency should not be limited to vocational ability, but also include cognitive ability, cooperation ability, innovation ability and lifelong learning ability. When formulating training objectives, educators should fully consider the requirements of national policies and the actual needs of social and economic

development, and closely combine key ability training with the overall goal of higher vocational education.

Education reform should focus on cultivating students' key competencies that can support their lifelong development and adapt to the demands of The Times, according to a guideline on deepening the reform of the education system and mechanism issued by The General Office of the State Council. Therefore, when formulating training goals, educators need to combine the characteristics of the major and the actual situation of students to formulate specific and operable training goals to ensure that key competency training is closely combined with professional education to form an organic whole.

In the process of objective orientation of talent training, educators should not separate professional specific ability, industry general ability and key core ability, but should integrate these abilities together to comprehensively train students. We should not only make students become professionals with high quality and strong skills, but also pay attention to cultivating their innovation ability and self-learning ability. Through this training method, students will be able to become compound talents with multiple abilities, so as to better adapt to the needs of future social and career development.

4.2 Improve the Quality of Teachers

Teacher quality is a key educational resource that affects the success or failure of education.

Ekmekci et al. (2022) examined the impact of teacher quality on student motivation, achievement, and persistence in science and mathematics, emphasizing that teachers' motivation, qualifications, and instructional practices significantly influence student outcomes. Similarly, Casian and Claire (2021) argued that teacher qualifications determine the effectiveness of content mastery, ultimately contributing to improved student performance.Leino et al. (2022) analyzed data from the Nordic PIRLS 2016 study and found that teacher quality influences not only student test scores but also their learning interest and future growth potential. Goodwin and Low (2021) compared teacher quality frameworks in Singapore and Hong Kong, highlighting that both education systems have shifted from solely improving student achievement to fostering well-rounded education by prioritizing instructional quality and student ability development.

Teachers are the key factors in the development of key competency for students. First, strengthen the training of teachers to improve their ability. In view of the shortcomings of current higher vocational teachers in core literacy training, higher vocational colleges should focus on the connotation of core literacy, training paths and teaching methods to carry out special ability improvement training, so as to ensure that teachers can deeply grasp the cutting-edge concepts and practical

strategies of core literacy training, and constantly update their educational concepts in order to cultivate high teachers with comprehensive core literacy Lay a solid foundation for skilled personnel. Second, teachers should be encouraged to participate in industry practice and enterprise cooperation. Practice is an important way to improve teachers' core cultivation ability. Vocational colleges should encourage teachers to actively participate in industry practice and enterprise cooperation, understand the industry frontier trends and technological development trends, and enhance teachers' practical experience and professional quality. In this way, teachers can integrate the latest industry knowledge and technology into their teaching, making the course content more timely and practical. In order to improve the effect of core literacy cultivation, higher vocational colleges should focus on strengthening core literacy cultivation team construction. Through the selection and training of backbone teachers with high professional quality and enthusiasm for education, we will build a reasonable structure and efficient collaboration team. At the same time, encourage knowledge sharing and experience exchange among team members to improve the whole teaching level and core literacy training ability.

4.3 Innovative Teaching Methods

Innovative teaching methods are an important way to improve the key competency of higher vocational college students. First of all, abandon the traditional crammer teaching, and adopt project-driven, case analysis, scenario simulation and other

diversified teaching methods to stimulate students' learning interest and initiative. Through diverse teaching, students can master knowledge in practical operation, cultivate problem-solving ability, in-depth understanding of theory, improve analysis and judgment ability, and enhance the ability to deal with practical problems. Secondly, the use of "Internet +" means to build a mixed online and offline teaching model, give play to the role of teachers in guiding, inspiring and monitoring, and take students as the main body to improve their cognitive ability. This model can not only break through the limitations of time and space, but also allow students to learn independently through network resources after class and improve learning efficiency. In addition, the establishment of "school + enterprise" double tutorial system research group, the group as a unit to carry out curriculum learning discussions and exchanges, improve students' exploration and cooperation ability. The dual tutorial system enables students to better understand the combination of theory and practice and cultivate the ability to solve practical problems under the guidance of academic tutors and corporate tutors. At the same time, strengthen practical teaching links, use practical training resources to carry out project-style action-oriented practical training teaching, organize students to carry out practical learning in off-campus practical training bases, so that students can master vocational core skills in real situations. Through practical operation, students can combine theoretical knowledge with practice, improve practical ability and vocational skills, and lay a solid foundation for their future career.

5.Conclusion

Under the background of the increasing demand for high-quality and technical skills talents in today's society, it is particularly important to improve the key competencies of students in higher vocational colleges. The key starting point to achieve this goal is to define the training objective, deeply integrate students' vocational ability, professional quality and professional knowledge, and lay a solid foundation for students' future career development. The curriculum should closely focus on this goal, accurately meet the needs of the industry, and take into account the cultivation of students' interests and practical ability, so as to make the teaching content more practical and attractive. As the core force of teaching, the improvement of teachers' quality is very important. Teachers should deeply understand the core of the training objectives and effectively translate them into specific teaching practices. At the same time, they should actively participate in the research and development and application of innovative teaching methods, such as project-based learning and case analysis, so as to enhance classroom interaction and improve students' learning results. In addition, it is indispensable to pay attention to the cultivation of innovative thinking and practical ability. Through diversified teaching methods and rich practical links, students are helped to connect theoretical knowledge closely with practical work needs, so that they can better adapt to the diversified needs of career development. In short, only on the basis of clear training goals and coordinated promotion of teaching system optimization, teacher quality improvement and teaching method innovation,

higher vocational college students can steadily move forward on the path of personal career development, realize their own value, and contribute more to social and economic development.

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