

PERSPECTIVE

The origin and development of vocational education research in China

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Research in vocational education encompasses the description, analysis, interpretation, explanation, critique, and shaping of vocational education and training processes and their influencing factors. Vocational education systems differ across various countries, with distinct histories and research emphases in the field of vocational education.

The origins of organized vocational education research can be traced back to the late 19th century in Sweden, specifically to the "pedagogical Slöjd" reform, which succeeded in presenting the topic education for the world of work at the world fairs. Vocational education scholars in both the United States and Europe have introduced work-oriented education into innovative educational practices, rendering it an important subject in teacher education research. Prominent educators, including J. Dewey, G. Kerschensteiner, and D. Snedden, have significantly contributed to this advancement. In the early 20th century, Columbia University pioneered international comparative research in vocational education, establishing a crucial foundation for this field. Primary research areas included curriculum studies, the development of occupational profiles, and the definitions of specific domains and skills for skilled workers.^[1]

The earliest discussions on vocational education issues in China can be traced back to the pre-Qin philosophers during the Spring and Autumn Period and the Warring States Period. The philosopher Mozi (476-390 BC) had the most substantial influence with his ideas and practices during his time. Mozi viewed the activities of various trades as "great matters for people", promoting

the application of craftspeople's skills to benefit the populace and foster a plethora of practical talents. This idea led to what is known as so-called "disciples flourishing throughout the world" in the history.^[2]

Vocational education in China was formally established in the mid-19th century with the creation of industrial and commercial schools (*shi ye xue tang*) that had characters of vocational schools, *i.e.* having a formal teaching plan and graduation requirements with career orientation. The theoretical underpinnings of vocational education date back to the ideas of reformists from the late Qing Dynasty and the early Republic of China, exemplified by figures such as Huang Yanpei and Tao Xingzhi. Research on vocational education in China did not considerably develop until the late 1970s due to factors such as warfare and political unrest.^[3] Large-scale research into vocational education commenced with the restructuring of secondary education in the early 1980s, which greatly advanced the progress of vocational school education. During this period, theoretical studies distinctively delineated a series of fundamental concepts, including the terminology, significance, system, framework, content, and function of vocational education.^[4] The onset of the 21st century has witnessed a notable expansion in both scope and depth of vocational education research, marking its trajectory toward increasing sophistication. This evolution has culminated in a proliferation of valuable academic contributions to the field.

In China, vocational (and technical) pedagogy is recognized as a scientific discipline that investigates the phenomenon of vocational education and uncovers the

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principles governing its development. It is considered an essential part of the broader educational science system and is a multidisciplinary field closely interlinked with numerous other disciplines. The academic community has proposed different definitions for the research object of vocational pedagogy studies, primarily including: (1) the external relations between vocational education and economic and social development and technological progress, as well as the relations among various internal elements of vocational education (the internal relations of vocational education); (2) issues in vocational education; and (3) the laws and principles of vocational education.^[5]

Owing to the interdisciplinary nature of vocational education, research in this field possesses a multidisciplinary characteristic, extending its scope beyond the traditional boundaries of educational research. A broad range of personnel and institutions involved in vocational education research includes not only dedicated researchers and specialized research bodies but also numerous scholars, consultative entities, and academic collectives from various fields, such as management, economics, and sociology. Vocational education occupies a relatively weak position within the overall educational system in China, and vocational education research holds a comparatively low academic status with limited influence. There is a paucity of vocational education journals indexed in major scientific literature databases, and renowned research universities generally lack focus on vocational education studies. For sustainable development in vocational education research, it is essential to consistently enhance the paradigms, theories, and methodologies employed. This endeavor holds considerable importance for higher education institutions involved in training vocational education faculty, as well as for vocational education research institutions.

Vocational education research is characterized by its practical nature, offering insights into the governing principles of vocational education for management bodies, educational and training institutions, stakeholders (such as businesses), and the public. It encompasses studies focusing on education systems and mechanisms at the macro level, educational institutions and their curricula at the meso level, and learning processes at the micro level. Frequently, the prominent research topics are intimately connected with the prevailing policy environment. The current focal areas of vocational education research primarily include the following.

VOCATIONAL EDUCATION SYSTEM

The establishment of a modern vocational education

system is one of the main research topics. Vocational education is an integral component of the lifelong education system. It is characterized by its broad scope and complexity, encompassing the structure of vocational institutions, the training process, the preparation of teachers, and associated administrative frameworks. The development of legal frameworks for vocational education is one of the focal points of theoretical and political research. Following the implementation of the Vocational Education Law of the People's Republic of China in 2022, the research focus has shifted to the empirical investigation of the implementation of the legal system and the behaviors of key stakeholders. Other focal points of research are the promotion of high-quality development in vocational education and the enhancement of its attractiveness to students. Scholars are exploring solutions from institutional, sociocultural, and educational development perspectives, investigating practical countermeasures, such as the integration of general and vocational education, and strategies to facilitate graduate employment. The integration of industry and education, as well as school-enterprise collaboration, also constitute domains of research and innovation in practice. Context-specific solutions are explored through various avenues, including institutional development. The primary focus of management research lies in the development of industry-education integration communities and the academic preparation of teaching staff, with particular emphasis on building a cadre of double-qualified teachers. Current research predominantly centers on policy formulation and qualification standards. Moving forward, there is a need to strengthen empirical research on teacher education and training programs.

CURRICULUM AND INSTRUCTION RESEARCH

Since the 1990s, curriculum and instruction research has emerged as a central theme in vocational education studies. This period has witnessed the successive appearance of numerous research projects characterized by their broad experimental scope, extensive influence, and long-term sustainability. These studies attempt to address the key issue of narrowing the gap between training outcomes and labor market demands. The research mainly focuses on three areas: (1) integrated talent cultivation models spanning secondary, higher vocational, and undergraduate education; (2) curriculum development aligned with the developmental patterns of technical and skilled personnel; (3) effective instructional organization. Moving forward, there is a need to strengthen the disciplinary development of the vocational education curriculum and instruction theory. It is crucial to enhance communication between

theoretical researchers and practitioners and to reinforce the establishment of academic communities in this field. Currently, only a limited range of teaching methods in instructional practice effectively reflects the distinctive characteristics of vocational education. Future research should prioritize the study of specialized pedagogical approaches used in vocational education. These include various work-based and work process-oriented teaching methods, efficient skill-training techniques, and student-centered instructional strategies. Current research on practical instruction is shifting its focus from hardware infrastructure to software development. Scholars are beginning to address issues such as effectively fostering craftsmanship and occupational ethics, as well as achieving digital transformation in practical training. Current research priorities also include the scientific and effective utilization of modern digital technologies—optimizing the functionality of public practical training bases—and studies on skill competitions and the vocational education college entrance examination. Specific areas of focus encompass how to refine the existing college entrance examination system and skill competitions by drawing on advanced experiences, as well as investigating the impacts of diverse learning outcome assessment methods on curriculum design, course implementation, and student competence development.^[1,6]

In response to dramatic economic and social transformations, Chinese vocational education frequently witnesses the emergence of periodic ideological trends and research focal points. Past examples include the integration of agriculture, research, and education; the development of higher vocational education; and the establishment of vocational education groups and modern vocational education systems. Currently, the predominant research themes are the integration of industry and education, the application of artificial intelligence and digital transformation, the development of undergraduate-level vocational education, as well as discussions surrounding the issues of vocational-academic streaming and the ratio between vocational and general education. Rural vocational education has been a persistent focus in the development of Chinese vocational education. Topics such as the development of rural vocational schools, vocational education in western regions and ethnic minority areas, and vocational education's role in new rural development initiatives have been emphasized. With the passage of time and the evolution of society, a growing body of research has centered on students in vocational institutions. These studies encompass various aspects, including student management, mental health, and career guidance. For instance, some research focuses on how to effectively guide students based on the unique characteristics of vocational school learners, as well as how to provide scientific, highly practical mental health assessment,

counseling, and support services. Furthermore, significant value lies in researching and analyzing the career selection and employment perspectives of today's young generation, including concepts such as flexible employment and delayed employment. Equally important is the establishment of mechanisms that promptly relay employer demands to vocational education administrative departments and institutions.

To date, research outcomes have preliminarily created a basic framework for vocational education theory with Chinese characteristics. This framework primarily draws from two models: the disciplinary system of pedagogy and the practical work of vocational education. However, both models have their respective limitations. The former approach, which simply adopts the existing system of pedagogical studies, has been subject to criticism. It lacks sufficient research on the unique characteristics and logical structure of vocational education, thereby constraining research perspectives to some extent. The latter approach tends to diminish the theoretical depth of vocational education as an academic discipline, consequently affecting the explanatory potential of research findings regarding vocational education phenomena. Vocational education intersects with industrial development and changes in the world of work, extending beyond the traditional scope of pedagogical studies. In recent years, from perspectives such as knowledge types and domains of human activity, scholars have proposed that vocational education should not be subsumed under general pedagogical studies. They argue that it should be recognized as an independent discipline on par with general pedagogy.^[7]

Since the economic reform and the implementation of opening-up policy in the late 1970s Chinese vocational education has continuously explored new approaches in a complex practical context. The strategy of "crossing the river by feeling for stones", proposed by Chinese leader Deng Xiaoping, has become a norm in this process. The relation between theory and practice is considerably more complex in vocational education than in other forms of education. For instance, governments at various levels have invested substantial funds in implementing multiple innovative vocational education development projects centered on reforming training models. These include many initiatives, such as the project of construction of exemplary higher vocational education institutions. However, investigations have revealed that despite achieving numerous outcomes, these projects have had limited lasting impact on knowledge innovation in the entire field of vocational education. Moreover, the mechanism for leveraging project construction to elevate overall quality has yet to be established.^[8] This drawback indicates that beyond factors such as policy and funding, methodological and technical issues remain in the innovation and

development of vocational education.

The collaborative formulation, implementation, and supervision of vocational education policies and measures through consultations among the government, vocational institutions, and stakeholders serve as a crucial guarantee for the healthy development of vocational education. From a research methodology perspective, many reform and development measures in vocational education require small-scale experimentation to gain experience before their broader implementation. This approach essentially practices the design-based research (*Modellversuch* in German) method.^[9] In design-based research, researchers and practitioners from various disciplines and institutions involved in vocational education management and practice engage in equal exchange and mutual learning. This process yields more knowledge to guide action, thereby optimizing action design and refining innovative practices in vocational education. This aspect holds particular significance for the development of vocational education. Future development of vocational education as a discipline should pay special attention to developing research methods unique to vocational education and strengthen the cultivation of young researchers in this field. Achieving these research goals will enable vocational education to truly become a mature "de facto discipline" that meets the criteria for an academic discipline.^[4]

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Conflict of interest

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REFERENCES

1. Rauner F, Maclean R. Vocational Education and Training Research—an Introduction. In: Rauner F, Maclean R. eds. *Handbook of Technical and Vocational Education and Training Research*. Springer; 2008.
2. Zhao ZQ. [*Vocational and Technical Pedagogy*]. China Renmin University Press; 2024.
3. Li SF. [*Introduction to Vocational Education*]. Beijing Normal University Publishing Group; 2002.
4. Zhou M, Liu X. [Outline of the Development and Construction of Chinese Vocational Education Disciplines]. *Educ Vocat*. 2008;(2):5-8.
5. Huang Y. ed. [*Vocational Education: Principles and Applications*]. Higher Education Press; 2009.
6. Jiang D, Yu Z, Yao S. Research in China's Technical and Vocational Education. In: Rauner F, Maclean R. eds. *Handbook of Technical and Vocational Education and Training Research*. Springer Dordrecht; 2008.
7. Jiang DY. [*Essentials of Vocational Education*]. Beijing Normal University Publishing Group; 2017.
8. Guo JR, Zhou ZG. [Organizational Learning, Capability Generation and Organizational Change in Higher Vocational Education Under the Project System]. *Peking Univ Educ Rev*. 2014;12(2):141-164+192.
9. Rauner F, Grollmann P, eds. [*Handbook on vocational education and training research*]. wbv Publication; 2018.