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VOCATIONAL EDUCATION QUALITY EVALUATION IN CHINA: A COMPARATIVE REVIEW OF INTERNATIONAL MODELS AND DOMESTIC RESEARCH

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Abstract: Vocational education is vital to China's modernization, supporting industrial upgrading, employment, and regional equity. However, current evaluation systems often rely on static outcome indicators and lack dynamic, systematic frameworks. This paper reviews international models, such as HDI, WEFFI, and IEI, to extract insights for constructing a vocational education quality indicator. Additionally, this paper analyzes the evolution of China's evaluation logic, indicator design, and methodological practices, highlighting a shift toward multidimensional, process-integrated, and data-driven systems. By bridging global experiences with local needs, this study provides a theoretical and practical foundation for improving vocational education governance and policy effectiveness.
Keywords: Vocational education quality; Evaluation system; CIPP Model; International comparative frameworks

1 INTRODUCTION

Vocational education has been given an even more crucial strategic position in the context of China's in-depth promotion of education modernization and the construction of a high-quality education system. Vocational education is an important bridge linking training, economy, and society, which not only plays a fundamental supportive role in accelerating the construction of a modern industrial system but also demonstrates its unique value in expanding employment space, promoting educational equity, and facilitating the coordinated development of regions. As the national talent development strategy deepens and new quality productivity orientations emerge in this new era, vocational education is transitioning from a traditional education sub-system to a stage of high-level development, becoming one of the key paths to building a skill-based society and supporting Chinese-style modernization.

The environment and functional boundaries facing vocational education are also evolving with the accelerated advancement of the new round of scientific and technological revolution and industrial change. On the one hand, the increasingly diversified and higher-order demand for technically skilled personnel in modern industries is forcing the quality system of vocational education to shift from quantitative expansion to quality enhancement. On the other hand, the development of vocational education is still faced with structural contradictions, such as a large regional disparity, unbalanced resource allocation, and insufficient depth of integration between industry and education. Therefore, how to assess the quality of vocational education in a scientific, systematic, and dynamic way and build a set of quality evaluation systems that can reflect the whole chain of educational background, process control, and output effectiveness has become an important task to promote the modernization of the education governance system and to enhance the scientific of education decision-making and the efficiency of public resource allocation [1].

At present, the theoretical exploration and technical methods of evaluating the quality of vocational education have gained a certain research foundation. Although a unified vocational education quality index system has not yet been formed, a number of representative international comprehensive development evaluation frameworks have offered methodological recommendations for its construction. The Human Development Index (HDI) proposed by the United Nations Development Programme (UNDP) emphasizes the linkage between education and quality of life. The Worldwide Educating for the Future Index (WEFFI), launched by the Economist Intelligence Unit, focuses on the adaptability of future skills. The International Education Index (IEI) and Legatum Prosperity Index build a multidimensional evaluation perspective from the structure of education governance and social capital, respectively. These index models provide international experience in terms of dimension setting, weight allocation, and data integration.

Initially, China adopted the input-output model for vocational education quality evaluation, focusing on the static measurement of outcome indicators such as graduation rate and employment rate [2]. With the evolution of education concepts, the research paradigm has gradually shifted to the logic of whole-process quality management, and the CIPP model has been increasingly used in vocational education quality evaluation, emphasizing the systematic measurement of the four dimensions of background-input-process-outcome. Meanwhile, the design of the index system shows a trend of stratification and diversification, often constructing a regionally comparable quality index model through the entropy weighting method, AHP method, and TOPSIS method. The measurement gradually realizes the shift from expert-led to data-driven empowerment. However, most current studies still struggle with problems like disorganized design and fixed measurements, and they do not have a complete system for building indexes that includes clear reasoning, all necessary parts, and a consistent method. This deficiency makes it difficult to support long-term and cross-regional quality tracking and policy feedback.

Therefore, this paper systematizes and compares the typical models and construction paths of the world's mainstream systems for evaluating the quality of vocational education. This paper presents the main features and evolutionary trends of current research in structure setting and method practice by focusing on the core elements of index system design, evaluation dimension logic, empowerment method selection, and practical application scenarios. We summarize and contemplate global experiences like the Human Development Index (HDI), the Worldwide Educating for the Future Index (WEFFI), and the International Education Index (IEI), while also charting the development of China's vocational education quality evaluation system. It helps to better understand the current state and practical issues of evaluating the quality of vocational education by looking at both theory and technology, and it offers useful references and guidance for future research on adapting, combining, and innovating evaluation methods for different regions.

2 IMPLICATIONS OF INTERNATIONAL COMPOSITE INDEX SYSTEMS

The Vocational Education Quality Index (VEQI) is a tool designed to assess the quality of vocational education. However, due to the scarcity of contemporary research on this topic, other comprehensive indices, such as the Human Development Index (HDI), the Worldwide Education for the Future Index (WEFFI), the International Education Index (IEI), and the Legatum Prosperity Index, can provide insights and direction regarding the objectives and frameworks of the VEQI.

2.1 The Human Development Index

In 1990, the United Nations Development Programme first introduced the Human Development Index. Based on the three core dimensions of life expectancy, education level, and quality of life, the index uses a set of standardized calculation methods to make a comprehensive assessment and was officially released in the Human Development Report of that year. Since then, the HDI has gradually become an important tool for measuring the level of human development of countries and has been widely used in the formulation of development strategies and policy assessment, especially in developing countries, with important reference value. By combining three indicators—health (measured by life expectancy), knowledge (measured by average and expected years of schooling), and quality of life (measured by gross national income per capita)—the HDI rankings attempt to provide a comprehensive picture of a country's overall level of basic human development.

Within this framework, vocational education, as a key pathway for upgrading the skills and employability of nationals, has a direct impact on the dimensions of education and quality of life. The development of vocational education not only enhances the professional ability and productivity of workers but also raises their income level and effectively promotes the integration of people in poor areas into the labor market and improves their economic and social situation. Therefore, because of the dual objectives of educational equity and economic development, the construction of a vocational education quality index can serve as a powerful complement to the HDI and is particularly suitable for assessing the role of vocational education in promoting sustainable development and social inclusion.

2.2 The Worldwide Educating for the Future Index

In September 2017, the Economist Intelligence Unit (EIU) of the United Kingdom developed and published for the first time the Worldwide Educating for the Future Index (WEFFI), which seeks to systematically measure the commitment and performance of governments in the formulation and implementation of education policies for future skills development and to provide a comparative reference framework for global education reform. The WEFFI is an attempt to systematically measure the commitment and performance of governments to future skills development in the process of education policy formulation and implementation and to provide a comparative reference framework for global education reform. The WEFFI evaluates various countries' education systems comprehensively across three core dimensions: the policy environment, the teaching environment, and the socioeconomic environment, reflecting their overall ability to satisfy future skill needs, ensure educational quality, and build supportive social mechanisms. The WEFFI evaluates national education systems through three core dimensions: policy environment, teaching environment, and socio-economic environment.

The policy environment is an important basis for determining whether future education can be successfully implemented and is given a weighting of 30% by WEFFI. The WEFFI assesses the policy environment of each country through several dimensions, including whether the government is fully supportive of future skills education and how the existing curriculum structure and assessment system support the development of these skills. Future skills mainly refer to the critical thinking, cooperation, and adaptability that individuals should possess in a rapidly changing technological and social context. An effective policy environment should be able to ensure that these emerging skills are incorporated into the existing education system through institutional implementation.

The teaching and learning environment is one of the most important dimensions of WEFFI, with a weighting of 50%. It focuses on the quality of teacher education and its ability to impart future skills, including the qualification of teachers for secondary and tertiary education, the level of teacher salaries, and government investment in tertiary education. In addition, the teaching and learning environment focuses on career counseling services offered within the school, industry-academia collaboration, and opportunities for collaboration outside the classroom to provide more support for students in their career development and social resilience. Industry-academia partnerships are particularly important

because they help students integrate classroom learning with real-world needs, enhancing practical skills and employability.

The socio-economic environment measures how well the education system operates within the broader social context and is weighted at 20%. This indicator includes cultural diversity and inclusion, free and open social environments, gender diversity, environmental performance, and the country's participation in multilateral agreements. It reflects the extent to which the openness and inclusiveness of a society support the education system. A diverse and inclusive society provides a wider range of learning and development opportunities for students from different backgrounds, while environmental performance and multilateral agreements reflect the country's performance in sustainable development and international cooperation, which affect the global perspective and implementation of future education. (Table 1)

Table 1 Primary Indicators of the Global Future Education Index

Dimension	Core Indicators
Policy Environment	Comprehensive future skills education
	Support of current curriculum structure for future skills education
	Support of current assessment framework for future skills education
Teaching Environment	Quality of teacher education
	Qualifications of secondary and higher education teachers
	Average salaries of higher education teachers
	Government expenditure on higher education
	Career counseling services provided within schools
	Opportunities for students to engage in collaboration outside the classroom
	Industry-academia collaboration
Socioeconomic Context	Cultural diversity and inclusion
	Free and open society
	Gender diversity
	Environmental performance
	Participation in multilateral agreements

The development of vocational education has a direct impact on a country's ability to adapt to future labor market demands. Vocational education can provide students with the practical skills they need to cope with the rapidly changing socio-economic environment through measures such as the transfer of technology, digital skills, and the promotion of industry-academia collaboration. The Vocational Education Quality Index (VEQI) is therefore relevant to WEFFI in assessing how vocational education can help students adapt to the future job market. The development of vocational education not only helps to improve the professional competence of workers but also enhances their creativity, cooperation, and flexibility, which are the categories of future skills that WEFFI focuses on.

2.3 The International Education Index

Clark et al. (2023) [3] constructed the International Education Index (IEI), which aims to provide an operational, comprehensive, and universal tool for the assessment of education systems on a global scale. The IEI framework includes 9 main indicators and 54 specific questions, including institutional frameworks, education strategies, digital skills and infrastructure, twenty-first century skills, access to basic social services, adherence to international standards, legal frameworks, data gathering and availability and international partnerships. The IEI aims to define the essential components of a quality education system for the 21st century and to offer a framework for national education reforms within the context of multicultural education.

The index has multiple advantages as a highly integrated assessment tool. Firstly, it has a broad assessment system that reflects the overall development of a country's education system at multiple levels, from strategic policy to practical implementation. Secondly, the index emphasizes key educational competencies that are in line with future development, such as critical thinking, digital literacy, intercultural communication and cooperation, etc., clearly highlighting the value of future-oriented education. In addition, the index is highly flexible and adaptable and can be adapted to the differences in the stages of education development, institutional structures, and resource bases of different countries, which makes it common and comparable on a global scale.

However, the IEI still faces several challenges in its practical application. First, the applicability of some of its indicators may vary in different national contexts. For example, some developed countries have a complete legal system and technological foundation, while in developing countries, these elements may still be in the construction stage, which may affect the effectiveness of the interpretation of the relevant indicators and the fairness of the results. Secondly, in the process of constructing the indicator system, some of the weighting and selection of questions may be subject to the subjective judgment of the research team, and it is difficult to completely avoid the impact of cultural bias and differences in value orientation. Such subjectivity may, to a certain extent, weaken the neutrality and broad applicability of the index. In summary, while the IEI is a valuable new framework for international education assessment in theory and practice, it still needs to be tailored to fit the specific needs of different countries to improve the reliability of the assessment results and the effectiveness of policy guidance.

2.4 The Legatum Prosperity Index

In 2010, the Legatum Institute of the United Kingdom released The Legatum Prosperity Index, which provides a comprehensive assessment of the overall development status of countries through a system of multidimensional indicators. The index covers 110 countries and 89 specific indicators, covering a wide range of economic, political, social, and cultural areas. The index is based on a wide range of data sources, including Gallup Polls, the World Trade Organization (WTO), the World Bank, the Human Development Report, the Organization for Economic Co-operation and Development (OECD), the World Values Survey (WVS), and so on, and is characterized by high data quality and representativeness. By averaging the subordinate indicators in each field, a system of sub-indicators is constructed and further synthesized to form a prosperity score at the national level, thus assessing the relative levels of different countries around the world in terms of integrated economic and social development.

The strength of the index lies in its multidimensional and systematic approach to data integration, which is able to provide a more comprehensive picture of a country's prosperity and has favorable policy reference value. Its results have been widely used in the policymaking process of international organizations and countries. However, the Global Prosperity Index also has certain limitations. On the one hand, the setting of some indicators and their weights may be influenced by the value preferences and analytical frameworks of the organizations that formulate the index, and it is difficult to completely exclude subjectivity; on the other hand, in the fast-changing global political and economic environments, there is a lag in the updating of some of the indicators, which may result in the assessment results failing to reflect the latest developments accurately.

From an educational perspective, vocational education plays a key role in improving the quality of the national economy and social capital. By providing skills training and enhancing the productivity and employability of workers, it directly contributes to economic growth and industrial upgrading. At the same time, vocational education also plays a significant role in promoting social equity, enhancing individual economic independence, and improving social mobility, which in turn helps to expand individual freedom and accumulate social capital. Therefore, the improvement of the quality of vocational education is not only related to the internal governance of the education system but also has a long-term and far-reaching impact on the overall prosperity of a country. In this sense, the Vocational Education Quality Index is relevant to the Global Prosperity Index in measuring development results and sending policy signals and can serve as an effective complement to and deepen its path.

3 DEVELOPMENT OF CHINA'S VOCATIONAL EDUCATION QUALITY INDEX

Supporting and leading Chinese-style modernization with the construction of a strong education country has become a key proposition and requirement of the times for the development of education in the new era. The research on China's vocational education quality index is still in the stage of exploration and development, which is mainly reflected in the continuous advancement and theoretical evolution of evaluation logic, index system, empowerment method, and empirical application.

3.1 Evolution of the evaluation logic: from outcome-oriented to process-integrated

Early vocational education quality evaluation systems in China mostly used the input-output model, which is derived from the production function theory in economics, with resource inputs (e.g., funds, teachers, equipment, etc.) as inputs and educational outcomes (e.g., graduation rate, employment rate, skill assessment pass rate, etc.) as outputs. They evaluated the efficiency and effectiveness of the education system through the relationship between the two. This evaluation method has the advantages of being quantifiable and easy to operate and can reflect the output level of the use of educational resources in a more direct way, so it has been widely used in the performance appraisal system for early education.

Subsequently, some studies have further introduced the analytical perspective of Total Factor Productivity (TFP), which is an important indicator to measure the degree of output improvement under the given input conditions, emphasizing the efficiency improvement brought about by technological progress, management optimization, or institutional improvement in addition to the traditional factors (e.g., labor and capital). It emphasizes the efficiency improvement through technical progress, management optimization, or system improvement in addition to traditional factors (such as labor and capital) [4]. In the field of vocational education, the TFP method is usually used to measure the comprehensive educational output that can be brought about by a unit of educational resources, such as the number of high-quality technical and skilled talents produced per unit of faculty or financial expenditures, which in turn reflects the rationality of the allocation of educational resources and the efficiency of operation. With its econometric rigor, the method provides an important reference for vocational education performance evaluation.

However, the single outcome-oriented evaluation gradually exposes its shortcomings in paying insufficient attention to the education context, process quality, and structural factors as education concepts continue to update and the governance system modernizes. For example, this model struggles to capture key variables such as educational equity, the quality of the teaching process, student development potential, and regional structural differences [5]. So, researchers are now shifting to a framework that looks at the whole process and gives systematic feedback, focusing on assessing vocational education quality from background-input-process-output to create a more flexible and complete evaluation system.

Under this trend, research based on the CIPP model (Context, Input, Process, Product) has gradually emerged and has been widely used in the domestic academic community. The CIPP model was proposed by Stufflebeam in the 1960s,

aiming to provide the whole process of diagnosis and feedback paths for educational decision-making. The model emphasizes a systematic analysis of the interaction between resource allocation, educational process, and final results from the perspective of policy environment and educational background. It not only expands the logical dimension of the indicator system but also provides a more scientific theoretical basis and operational path for the governance and continuous improvement of vocational education quality [6-7].

3.2 Design of the indicator system: dimensional stratification and structural optimization

The development of China's vocational education quality evaluation system has experienced a shift from single-level and result-oriented to multidimensional structure and system integration. Early research focused on the direct measurement of educational outputs, and the design of the indicator system was relatively simple, with single indicators such as employment rate, graduation rate, and certification rate as the core assessment content. This type of design emphasizes operability and data availability and focuses on the end benefit of the education system but largely ignores the structure of educational resource allocation, the quality of the teaching process, and the constraints of the educational environment, resulting in an evaluation system that is difficult to comprehensively reflect the whole process of educational activities.

With the continuous expansion of the connotation of education quality and the introduction of the concept of modern education governance, the construction of the current domestic vocational education quality index has gradually shifted to a multi-level and multi-dimensional index system. The first-level indicators are usually set as macro dimensions, such as environmental foundation, resource allocation, educational process, output effect, and sustainable development ability. The second-level and third-level indicators are further refined into observable core variables, such as the number and structure of teachers, curriculum system construction, completeness of practical training facilities, degree of enterprise participation, and graduate tracking feedback, thus realizing a comprehensive horizontal coverage in terms of structure. The framework of the evaluation system is clear in the vertical hierarchy.

In constructing the modern vocational education development index, Wang Jingjie et al. (2023) [8] proposed five first-level indicators, including environment, input, process, output, and sustainable development. Quantitative measurement and regional comparison of the development level of vocational education based on provincial statistical data were conducted, reflecting the relative differences in the development of vocational education between different regions. Based on the CIPP model, Qin Fengmei et al. (2022) [6] constructed an evaluation index for vocational education quality that focuses on integrating industry and education through the four logical links of Context, Input, Process, and Product, emphasizing the inherent logical correlation between the evaluation dimensions.

It is noteworthy that in recent years, some researchers have begun to try to introduce cross-field and cross-level integrated indicator designs to enhance the adaptability of the indicator system to regional development conditions and future-oriented capabilities. For example, some studies have added outside factors like technology use, local economic structure, industry growth trends, and shifts in skill needs into the evaluation system to better align vocational education with the local economy, workforce needs, and technological progress. Such explorations reflect the trend of structural transformation of the vocational education quality evaluation system from a self-circulation within the education system to an education-industry-society linkage system.

3.3 Weighted and technical approaches: from subjective decisions to objective integration

In terms of weight setting, early studies mostly relied on expert experience assignment with subjective methods such as the Delphi method and the hierarchical analysis method (AHP). However, as data technology evolves and empirical research gains prominence, an increasing number of studies have started to explore objective assignment or a combination of subjective and objective assignment. Objective methods mainly include the entropy weight method, coefficient of variation method, TOPSIS, and gray correlation analysis, which focus on the amount of information and differences between the indicators to reduce personal bias and enhance the consistency and reliability of evaluation results. Zhu Dequan et al. (2013) [9] used hierarchical analysis and mathematical statistics to measure the balanced development status of vocational education in Beijing, Tianjin, Shanghai, and Chongqing and realized the regional comparison of evaluation results. Ma Shuchao et al. (2011) [10], on the other hand, constructed a model of the secondary vocational education development index and dynamically analyzed the level of secondary vocational development in the national provinces on the basis of empirical evidence, reflecting the problems of uneven development and imbalance of resource allocation among regions. In addition, some studies try to combine multiple methods, such as the integration of the AHP and entropy weight method and the integration of CIPP logic and the TOPSIS model, in order to enhance the scientific and explanatory power of the index system and to provide more powerful support for policymaking.

3.4 Extension of empirical research: regional comparisons and analysis of trend evolution

In recent years, more and more studies have been conducted to carry out regional or stage-by-stage empirical measurement and comparative analysis based on the constructed evaluation system. Such studies not only focus on the overall level of vocational education but also explore in depth its spatial distribution characteristics, evolutionary trends, and regional heterogeneity. Based on the cross-section data of higher vocational education in China in 2020. Jiang Mingsheng et al. (2024) [11] measured the comprehensive development index of vocational education in each province

and analyzed its correlation with the regional economic level and the intensity of policy support. In addition, in terms of the dynamic dimension, some studies have begun to analyze the development trend of vocational education retrospectively using time-series data, revealing the influence mechanisms of policy-driven technological evolution and demographic changes behind the changes in the quality of vocational education. Some scholars have also focused on specific regions, specific types, or specific groups of people to carry out stratified analyses, further enhancing the relevance and policy value of the research.

4 FUTURE DEVELOPMENT DIRECTIONS

As global industries change and education becomes more digital, vocational education is increasingly seen as crucial for connecting skilled workers to economic growth, making its quality evaluation system an important area of study. In the future, whether in the international community or in the local Chinese academia, the research on the quality index of vocational education shows the trend of extending from result-oriented to process evaluation, evolving from single indicator to composite system, and upgrading from static measurement to dynamic tracking.

The first is the articulation and localization compatibility of global standard frameworks. At present, although international mainstream evaluation frameworks such as HDI, WEFFI, and IEI are widely used in macro-education, their adaptability in the field of vocational education still needs to be improved. In the future, international research will pay more attention to the construction of vocational education quality evaluation models with cross-cultural adaptability and local operability and promote the formation of a standard index system with global comparative significance. In addition, vocational education is not only a part of the educational system but also closely related to the labor structure, social inclusion, and economic competitiveness. Therefore, international research will gradually move towards cross-sectoral indicator integration, building a multi-dimensional index reflecting the level of education-employment-social integration. This approach aligns with the broader positioning of education—particularly higher education—in the Sustainable Development Goals (SDGs) framework, where education is not only a standalone goal but also a foundational enabler of inclusive, equitable, and sustainable development [12].

In the future, the construction of China's system for evaluating the quality of vocational education needs to be synergistically promoted in the direction of unity, adaptability, and intelligence. First, a clear and consistent evaluation system should be created at the national level, with specific guidelines for setting standards, determining importance, and collecting data, along with a way to regularly update the system so it can keep up with changes in policies, technology, and social needs. On the other hand, in view of the significant differences in the economic foundation and educational resource allocation among regions, the design of regional adaptive systems should be strengthened in the future, and the method of subregional weight setting or subsystem construction should be explored to realize differentiated management and locally adapted policy guidance. Meanwhile, as the policy of integrating industry with education and science continues to be implemented in depth, determining how to accurately measure vocational education's support for new productivity and the degree of talent adaptation will become a key focus of quality evaluation. We should focus on indicators such as the depth of enterprise participation, the degree of job skill matching and the employment quality of graduates so as to improve the evaluation dimensions that reflect the external adaptability of vocational education. Additionally, given the growing advancements in intelligent education and data governance, the evaluation system must implement platform-based data collection, conduct intelligent analysis and visualization, and establish a big data-driven quality evaluation system that utilizes learning behavior data, job competency, and employment feedback to enhance the timeliness of evaluations. The evaluation system should also use a platform to gather data, analyze it smartly, and present it visually, while creating a quality system driven by big data from learning behaviors, job skills, and employment feedback to enhance the speed, accuracy, and strategic support of evaluations.

Additionally, given the growing advancements in intelligent education and data governance, the evaluation system must implement platform-based data collection, conduct intelligent analysis and visualization, and establish a big data-driven quality evaluation system that utilizes learning behavior data, job competency, and employment feedback to enhance the timeliness of evaluations. At the same time, it is essential to embed an equity-oriented perspective in these technology-enabled systems. As Farley & Burbules (2022) [13] emphasize, promoting engagement and success for all learners in digital learning environments requires careful attention to equity and inclusion, especially to avoid unintentionally reinforcing participation gaps. The evaluation system should also use a platform to gather data, analyze it smartly, and present it visually, while creating a quality system driven by big data from learning behaviors, job skills, and employment feedback to enhance the speed, accuracy, and strategic support of evaluations.

5 CONCLUSION

This paper systematically reviewed international evaluation frameworks and examined their methodological logic and structural features, providing valuable reference for constructing quality evaluation systems for vocational education in China. At the same time, it organized the development of local research from focusing on input and output to more process-focused methods like the CIPP model and highlighted important trends in how indicators are designed, how power is given, and how they adapt to different regions. This paper offers a comprehensive theoretical foundation for understanding current challenges and future directions. In particular, we emphasize the value of a unified yet flexible

index system that reflects the full educational process, supports differentiated regional governance, and aligns with national strategies such as the construction of an education-strong nation. By bridging international experience and domestic research, this study contributes to the ongoing efforts to modernize China's vocational education evaluation system, improve policy decision-making, and enhance the effectiveness of public resource allocation.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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REFERENCES

[1] Lu Y, Wang T. Quality Evaluation Model of Vocational Education in China: A Qualitative Study Based on Grounded Theory. Education Sciences, 2023, 13(8): 819. DOI: 10.3390/educsci13080819.
[2] Li H. Evaluation system of vocational education construction in China based on linked TOPSIS analysis. Heliyon, 2024, 10(21): e39369. DOI: 10.1016/j.heliyon.2024.e39369.
[3] Clark S, Gallagher E, Boyle N, et al. The International Education Index: A global approach to education policy analysis, performance and sustainable development. British Educational Research Journal, 2023, 49(2): 266-287. DOI: 10.1002/berj.3842.
[4] Wang W, Feng S. The evolution and influencing factors of total factor productivity in China's secondary vocational education: An empirical analysis based on panel data from 31 provinces. Educational Science, 2016, 32(4): 76–84.
[5] Nie W, Wang J. On the logic and internal consistency of vocational education quality monitoring indicators. China Higher Education Research, 2020(07): 98–102. DOI: 10.16298/j.cnki.1004-3667.2020.07.16.
[6] Qin F, Mo K. Evaluation of the quality of industry-education integration in vocational education based on the CIPP model. Journal of Southwest University (Social Sciences Edition), 2022, 48(3): 194–203. DOI: 10.13718/j.cnki.xdsk.2022.03.017.
[7] Zhang W, Zhou H. Building a strong education nation: Indexes and policy orientations [in Chinese]. Educational Research, 2022, 43(1): 146–159.
[8] Wang J. Modern vocational education development index and orientation under the vision of building a strong education nation. Vocational Education Forum, 2023, 39(10): 31–41.
[9] Zhu D. Balanced measurement and comparative analysis of vocational education development in China: An empirical study based on Beijing, Tianjin, Shanghai, and Chongqing. Educational Research, 2013, 34(08): 70–82.
[10] Ma S, Guo Y, Zhang J. Theoretical reflections and regional efforts on the balanced development of vocational education. Education and Vocation, 2011(29): 5–9. DOI: 10.13615/j.cnki.1004-3985.2011.29.066.
[11] Jiang M, Fan Q, Kuang Y. Measurement and comparison of the comprehensive development level of provincial higher vocational education in China: An analysis based on the CIPP evaluation model. Education and Vocation, 2024(10): 30–38. DOI: 10.13615/j.cnki.1004-3985.2024.10.012.
[12] Owens T L. Higher education in the sustainable development goals framework. European Journal of Education, 2017, 52(4): 414-420. DOI: 10.1111/ejed.12237.
[13] Farley I A, Burbules N C. Online education viewed through an equity lens: Promoting engagement and success for all learners. Review of Education, 2022, 10(3): e3367. DOI: 10.1002/rev3.3367.