



## Study on the Management Dual Education of Vocational College Education in Zhengzhou City, Henan Province

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### Abstract

**Background and Aims:** This article aims to examine the current implementation of the dual system of education in Zhengzhou, analyzing the existing problems and the reasons behind them. By studying successful cases of dual system education from both domestic and international vocational colleges, this research will explore the development of school-enterprise cooperation from various perspectives, including national policy, government, vocational colleges, and enterprises. The focus of the study will be on students from Zhengzhou Railway Vocational and Technical College, using questionnaire surveys and interviews to assess the impact of dual education management on their competitiveness.

**Methodology:** This research employs a mixed-methods approach, combining both qualitative and quantitative techniques, to explore the dual system vocational education model implemented in Zhengzhou, Henan Province. The study primarily focuses on the impact of the dual system on vocational education management and its effect on student competitiveness, with an emphasis on the local economic development of Zhengzhou and the Central Plains region.

**Results:** Proposed Solutions and Recommendations. Based on the analysis of the data collected, the study will propose targeted recommendations for improving the dual education management system in Zhengzhou. These recommendations will focus on enhancing the cooperation between schools and enterprises, improving the role of vocational colleges, and creating supportive policies and frameworks to strengthen the dual education system. Suggestions will also include the establishment of long-term mechanisms, such as the development of special funds and policy incentives, to ensure sustainable growth and development of the dual education model.

**Conclusion:** In conclusion the study highlights the need to improve the dual education management system in Zhengzhou to boost student competitiveness and local economic growth. Recommendations include enhancing school-enterprise cooperation, strengthening vocational colleges, and creating supportive policies. Establishing long-term mechanisms like dedicated funds

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will ensure sustainable development. These solutions aim to create a dynamic, resilient vocational education system benefiting both students and the community.

**Keywords:** Management Dual Education; Vocational College Education

## Introduction

The origin of dual-system education can be traced back to the 19th century, with Germany being the pioneer in developing this model. Rooted in the industrial revolution, the dual education system was established as a response to the growing need for a skilled workforce to meet the demands of a rapidly changing economy (Kis et al., 2013). The system integrates theoretical instruction in educational institutions with practical training in real-world work environments, providing students with hands-on experience while simultaneously learning academic content. This approach ensures that learners acquire the necessary skills and competencies that are directly relevant to the labor market (Ryan, 2011). Germany's dual education model has been widely regarded as a successful blueprint for vocational education systems around the world, influencing numerous countries to adopt similar systems in their education frameworks (Busemeyer & Trampusch, 2012).

It is through the development of Chinese enterprises that the school-enterprise cooperation mode is achieved. This kind of talent training model plays an irreplaceable role in China's career development system and guides the development of China's vocational education (Li, 2019). At present, in the era of China's social and economic development, enterprises have high requirements for the quantity and quality of talents, which objectively stimulates the development process of vocational education in China (Zhao & Liu, 2020). With the rapid development of vocational college teaching, there are also some problems and shortcomings in the vocational education system, including mismatches between educational outcomes and labor market needs, and insufficient integration between schools and enterprises (Liu & Zhang, 2018).

School-enterprise cooperation management lacks clear responsibility, rights, and definitions, with both parties in vocational education development unclear about their roles. The existing regulations on university-enterprise cooperation are not standardized, and the third-party coordination mechanism has not been established, limiting the development of this cooperation to spontaneous efforts (Wang & Liu, 2017). Moreover, there are no relevant laws and regulations to define and constrain cooperation, and it has not become a key objective for the government, vocational colleges, or enterprises (Zhang, 2019). In China's current education system, academic education occupies the principal position, and vocational education has not been given sufficient attention (Chen & Zhao, 2020). Some vocational programs are not aligned with market needs, leading to graduates lacking the practical skills required by enterprises. Additionally, vocational





colleges often lack sufficient funding and resources for faculty development, hindering the advancement of school-enterprise cooperation (Li & Li, 2018).

From the government's perspective, the legal and regulatory framework for school-enterprise cooperation is not fully developed. While China has issued policies like the "Decision on Vigorously Developing Vocational Education" and the "Vocational Education Law," the implementation details are vague, and many local governments fail to provide adequate support (Zhang & Wei, 2020). The absence of concrete policy measures and the lack of third-party institutions to coordinate vocational education services have created bottlenecks in the development of school-enterprise cooperation, with limited efforts confined mostly to verbal support and document issuance (Chen & Li, 2019).

As the core city and new first-tier city of the Central Plains city agglomeration, Zhengzhou is an important railway hub and commercial center in China, and its superior geographical location has become an important economic cooperation circle. Therefore, at the present stage, Zhengzhou has an increasingly urgent demand for technical skills and applied talents to serve the development of economic quality. This paper focuses on the reality of the dual system education management in vocational colleges in Zhengzhou, and seeks to find the path of improving the dual system education management, to further improve the service ability of vocational education to the economic and social development of Zhengzhou, and promote the integration of industry and education in vocational colleges in Zhengzhou to a higher level.

## Objectives

1. Develop a theoretical framework by summarizing the core competencies in vocational education management and explaining the theory and key elements of the dual education system.
2. Identify and analyze problems in vocational education management in Zhengzhou through interviews, focusing on issues in teaching organization, curriculum, methods, and content, and their underlying causes.
3. Propose targeted solutions based on successful international experiences and the specific context of Zhengzhou to improve dual system education management in vocational colleges.
4. Provide reference experience by comparing dual education system models from different countries and offering recommendations for the development of these systems in various regions.

## Literature Review

1. Human Capital Theory



Human Capital Theory, as developed by Becker (1964), posits that investment in education and training increases the productivity and economic value of individuals. In the context of dual education, vocational colleges and enterprises cooperate to equip students with both theoretical knowledge and practical skills, thereby enhancing their employability and long-term income potential. This theory underpins the rationale for integrating workplace-based learning into formal education, aligning educational outputs with labor market demands.

## 2. Systems Theory

Systems Theory (von Bertalanffy, 1968) views organizations as complex systems made up of interrelated and interdependent parts. The dual education model functions as an educational ecosystem, where vocational colleges and enterprises form subsystems. Effective management of this model requires coordination, communication, and feedback mechanisms between these actors to ensure coherence in educational objectives, quality assurance, and outcome alignment. When one part of the system fails, such as weak enterprise participation or unclear regulatory frameworks, the entire system's efficiency is compromised.

## 3. Stakeholder Theory

Stakeholder Theory (Freeman, 1984) emphasizes the importance of managing relationships among various stakeholders in an organization. In the dual education system, key stakeholders include vocational institutions, enterprises, students, local governments, and regulatory bodies. Effective management involves balancing the interests and expectations of these parties, ensuring that cooperation is mutually beneficial and sustainable. This theory provides a framework for analyzing governance structures and collaborative decision-making in dual education management.

## 4. Shared Responsibility and Learning Organization Concepts

The concept of shared responsibility (Senge, 1990) in learning organizations is particularly relevant to the dual system, where schools and enterprises co-manage educational processes. The effectiveness of the system relies on clearly defined roles, accountability, and joint planning. Building a “learning organization” facilitates continuous improvement and adaptation, especially important in the context of rapidly evolving labor market needs.

## Methodology

### 1. Literature research method

Literature research method mainly refers to the method of collecting, screening, and sorting out the literature, and analyzing the existing conclusions in the literature. Literature research method is of great significance to the research work. In the process of literature research, we can fully understand the data and master the scientific research dynamics and achievements related



to the research subject. This study adopts the literature research method to collect, screen, and sort out relevant literature from books, academic journals, academic research reports, the Internet, and other channels, to think deeply about the research objects and prepare for problem-solving. In this study, in the process of consulting, sorting out, and analyzing a large body of literature, I understood the status of the "dual system" vocational education model in Germany and realized some shortcomings of the existing research. At the same time, I to a large number of domestic and foreign about higher vocational education and its school cooperation literature collection and sorting, university-enterprise cooperation mode, operation mechanism, management system, financing, laws and regulations, etc., study the present situation of higher vocational education cooperation and the existing problems, with the theory to study the countermeasures to solve the problem.

## 2. Interview method

This study was conducted using interviews. In the process of the research, school teachers, school leaders, and enterprise supervisors were taken as the interview subjects, and the above personnel were divided into two periods (the two periods were at the school level and the enterprise level, respectively), and the results were reported for each period. Make the interview outline, through interviewing 1 school leader, 3 teachers, and 1 enterprise management, to understand the existing problems in teaching organization, course construction, teaching content, teaching methods, and other aspects of vocational college education, to provide a scientific basis for dual system teaching.

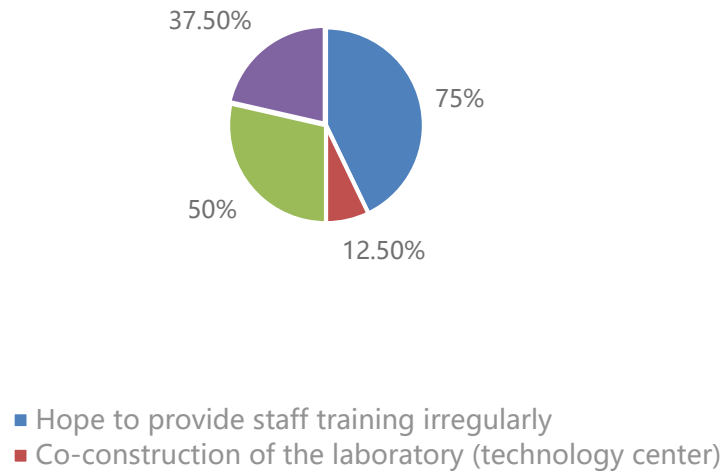
**There are problems in the dual system education management of Zhengzhou vocational colleges**

### 1. Vocational school level

1.1 The specialty setting of the university is disconnected from the needs of the industrial transformation and upgrading of the enterprises

The enterprise expects to carry out order training and regular training. This can reflect the real demand of enterprises for talents, what talent cultivation plans should be set for enterprises, and try to cultivate talents in line with the development of enterprises, which is also the main purpose of both sides to carry out dual system education.





**Figure 1** The company hopes that the school can provide help to your company.

### 1.2 Vocational colleges do not fully grasp the needs of enterprises

Many vocational colleges focus on cultivating traditional labor-intensive and capital-intensive skills, which do not align with the industrial transformation trends. Additionally, some colleges fail to consider the local economic development and the specific talent needs during industrial transformation. They also set up too many specialties without considering educational conditions, leading to a lack of focus on quality talent development. These issues result in low education quality and an inability to meet employer demands. Vocational colleges do not align their programs with regional economic trends, and the majors offered are often similar, leading to inefficient use of teaching resources and failure to produce a skilled workforce suitable for industrial transformation.

1.3 The talent training specifications that meet the needs of employers have not been fully formed

Many graduates fail to meet the employment standards of recruitment units, making it difficult for companies to find suitable talent. This contradiction arises because the talent training approach of vocational colleges does not align with the needs of businesses. The main issue is that graduates' work abilities do not apply to the workplace. To improve their operational skills, companies must invest more in training, often requiring long-term practical activities to achieve good results. However, long-term thinking habits discourage businesses from investing heavily in students. Additionally, due to the wide range of majors offered by some vocational colleges, the institutions lack sufficient resources, resulting in graduates who do not meet the specific needs of enterprises.

## 2. Enterprise level

2.1 Enterprises play a relatively passive role in the dual system of education and lack initiative

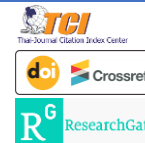
In the dual system of education, most colleges and universities hold a relatively strong position, while enterprises are in a weaker position. This is mainly due to the lack of alignment between the two parties' goals and interests. Enterprises prioritize market benefits and public welfare, while schools focus more on talent quality and social recognition from students. Schools hold the dominant position, and enterprises mainly offer advice, which limits their full involvement. The current university-enterprise cooperation operates in a "seller's market," where the number of enterprises significantly exceeds that of vocational colleges, giving schools more options. Due to the shortage of skilled labor in the current job market, many companies view dual education as a means to develop human resources, further strengthening the schools' dominant position in these partnerships.

2.2 In the dual system of education, the enthusiasm of enterprises is not high, and there is a phenomenon of "hot schools and cold enterprises".

Specifically, 35% of the research subjects have engaged in dual education, with the cooperation mode primarily involving student internships and employment. While some enterprises and vocational colleges engage in deeper cooperation through joint training, entrusted training, specialized classes, and research projects, 58% of enterprises believe the current cooperation remains relatively superficial. The reason for this is that many enterprises view dual education mainly as an internship and employment opportunity, or as a means to enhance their reputation, without fully understanding its potential to optimize human resource structures, improve technological innovation, or enhance management. This limited understanding significantly reduces their enthusiasm for participating in dual education. Additionally, 63% of enterprises believe communication is insufficient, and 55% feel that the costs of dual education do not align with its benefits, leading some companies to question the need for cooperation with schools. Others recognize the importance of dual education but are unsure how to implement it effectively.

## Conclusion

This study on the management of dual education in vocational colleges in Zhengzhou, Henan Province, highlights the significant potential of the dual education system in enhancing the local educational framework and supporting economic development in the region. The findings indicate that while there is considerable enthusiasm for the dual education model among



students and educators, challenges remain, particularly in providing sufficient opportunities for student participation and in the consistency of implementation across different institutions.

The research revealed that the dual education management system in Zhengzhou has a notable impact on enhancing students' competitiveness, particularly in terms of their practical skills, adaptability, and overall professional readiness. However, the study also identified key issues that need to be addressed to improve the system's effectiveness. These include the lack of coordinated efforts between schools, enterprises, and government entities, as well as the need for a more structured approach to student participation and resource allocation.

Drawing from successful international models and aligning them with the local context, this study proposes several solutions aimed at strengthening the dual education system in Zhengzhou. These include fostering deeper school-enterprise cooperation, enhancing policy support, and creating a long-term, sustainable operational mechanism for dual education. The study also emphasizes the importance of improving the professional development of educators and establishing a more robust framework for student recruitment and employment opportunities.

Ultimately, the research provides valuable recommendations for the future development of vocational education in Zhengzhou, offering a clear roadmap for improving dual education management and contributing to the broader economic development goals of Henan Province. The insights gained from this study will serve as a reference for the sustainable growth of dual education systems not only in Zhengzhou but across other regions of China.

## Discussion

This study on the management of dual education in vocational colleges in Zhengzhou, Henan Province, reveals important insights into the potential benefits and challenges associated with implementing a dual education system. As highlighted in the findings, the dual education model holds substantial promise in enhancing the educational framework of the region and supporting local economic development by aligning academic training with industry needs. The emphasis on practical skills, adaptability, and professional readiness of students is a strong testament to the model's effectiveness in increasing student competitiveness in the labor market (Xie et al., 2020).

However, despite the clear advantages, challenges persist, particularly with the inconsistency in implementation and limited opportunities for student participation across various institutions. These findings align with research by Zhang and Liu (2021), who also identified disparities in the depth and breadth of dual education programs across vocational institutions in China. While some schools have successfully integrated the model, others face barriers such as a lack of resources and insufficient collaboration between educational institutions and enterprises. This inconsistency undermines the overall effectiveness of the dual education model and prevents it from reaching its full potential.





Moreover, the lack of coordinated efforts among schools, enterprises, and government entities was another significant challenge highlighted in this study. This issue reflects a broader trend observed in vocational education research, where the roles of various stakeholders are not clearly defined, leading to fragmented implementation and reduced outcomes (Wang & Li, 2020). In Zhengzhou, the need for more structured student participation and better resource allocation further compounds these problems. Effective coordination between stakeholders is essential for creating a cohesive and efficient dual education system that can meet both educational and industrial demands (Chen et al., 2019).

To address these issues, this study proposes several solutions, many of which are inspired by successful international models. For instance, fostering deeper school-enterprise cooperation, particularly in curriculum design and internship opportunities, is crucial for bridging the gap between educational theory and industry practice. This is consistent with findings from international studies, such as those conducted by Kersh (2020), which underscore the importance of robust partnerships between schools and industries for successful dual education systems.

Additionally, enhancing policy support and establishing long-term, sustainable operational mechanisms for dual education are key recommendations in this study. These policy changes could include providing incentives for enterprises to participate in dual education and ensuring that educational institutions have the necessary resources to implement the model effectively. The creation of a well-structured framework for student recruitment and employment, along with the professional development of educators, will also contribute to the long-term success of the system. These recommendations align with the broader vision of strengthening vocational education in China, as outlined in the national educational reform agenda (Ministry of Education, 2021).

In conclusion, this study offers valuable insights into the management of dual education in Zhengzhou and provides a clear roadmap for improving the system's effectiveness. The recommendations presented will not only enhance the local educational framework but also contribute to the economic development goals of Henan Province. By addressing the challenges and adopting the proposed solutions, the dual education system in Zhengzhou can serve as a model for other regions in China seeking to align vocational education with the evolving demands of the labor market.

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