

The Connotation, Practical Dilemmas, and Practical Approaches to the High-Quality Development of Application-Oriented Undergraduate Universities

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Abstract: How to achieve high-quality development in application-oriented undergraduate universities is an urgent issue that needs to be addressed in China's higher education system. Starting from the connotation, challenges, and opportunities of high-quality development in applied undergraduate universities, this article explores the path of high-quality development. In order to achieve high-quality development, application-oriented undergraduate universities must firmly adhere to the educational philosophy of "application-oriented", strengthen the construction of "dual teacher" teaching staff, reform the teacher evaluation system, seize the opportunities of industrial upgrading and technological revolution, and promote the integration of industry and education.

Keywords: Application-Oriented; High-Quality Development; Dual Teacher

1. Introduction

Application-oriented undergraduate universities are an important part of the modern higher education system, and their total number currently accounts for more than half of all universities in China. These universities play a crucial role in cultivating application-oriented talents, transforming scientific research achievements, and serving local economic and regional development, and exert an indispensable function in becoming a leading country in education. Against the backdrop of the construction of a modern industrial system and the development of new productive forces, the country's expectations and requirements for application-oriented undergraduate universities have reached a new height. How to adapt to the needs of the times, meet society's demand for high-quality application-oriented and

interdisciplinary talents, and achieve the high-quality development of application-oriented undergraduate universities has become an urgent task. This paper attempts to explore the current situation and existing problems in the high-quality development of application-oriented undergraduate universities, and puts forward countermeasures and suggestions from the aspects of school positioning, faculty team building, specialty construction, industry-education integration, and social services. It also aims to realize differentiated and distinctive development by focusing on connotation construction and internal governance of universities.

2. The Connotation of High-Quality Development of Application-Oriented Undergraduate Universities

The concept of "high-quality development" was first applied in China's economic development field, and later extended to various fields closely related to people's lives. After being introduced into the field of education, high-quality development has attracted the attention of many experts and scholars, who have explored it from different perspectives. There are also many discussions on application-oriented undergraduate universities. For example, Liu Xing believes that the connotation of high-quality development of application-oriented undergraduate education should include four aspects: high-quality educational goals, high-quality educational concepts, high-quality educational models, and high-quality educational characteristics [1]. Fu Boquan focused on the high-quality development of talent cultivation in application-oriented undergraduate universities and studied the practical process of a diversified application-oriented talent cultivation model centered on the "Five Practicalities" education[2]. Based on SWOT analysis, Liu Ping deeply

explored the strengths, weaknesses, opportunities, and challenges of application-oriented undergraduate universities in the new era, and further proposed six school-running strategies: differentiation, demand orientation, industry-education integration, student-centeredness, digitalization, and specialization [3]. From the perspective of audit evaluation, Chen Qixing pointed out the necessity for application-oriented undergraduate universities to clarify high-quality development, analyzed and sorted out existing problems and difficulties, and suggested that universities should address shortcomings in accordance with indicators, highlight their characteristics, and use evaluation to promote strength. He emphasized that audit and evaluation work should be regarded as a driving force for high-quality development to contribute to building a country with strong education[4].

2.1 High-Quality Development Requires Accurate School-Running Positioning

The school-running positioning of application-oriented undergraduate universities should focus on "application-oriented", "local", and "open" characteristics, and achieve differentiated development from research-oriented universities and vocational colleges. These universities should orient themselves to regional economic development and industrial needs, and pursue distinctive development in talent cultivation, scientific research, and faculty team building. Their school-running philosophy should be "not seeking the largest scale, but striving for the best quality and meeting social needs".

2.2 High-Quality Development Takes Scientific and Technological Innovation as the Primary Driver

Most application-oriented undergraduate universities in China initially took teaching as their main function when they were founded. However, such universities have now entered a period of in-depth transformation, and carrying out application-oriented scientific research has become a strategic choice for them to achieve differentiated competition. Endowed with new scientific research missions by the country, they have entered the exploration stage of application-oriented research. For application-oriented universities, teachers are the key to promoting scientific research development, and the core lies in improving the industry-

university-research cooperation capabilities of "double-qualified and double-competent" teachers, especially their ability in "applied research". This is the most important bridge and link to implement the development of industry-education integration in both concept and practice. Different from traditional research-oriented universities, the scientific research positioning of application-oriented universities emphasizes "application orientation" and "serving the local area". They meet the actual needs of small and medium-sized enterprises through "down-to-earth" research, and contribute to regional industrial development by building a collaborative innovation mechanism of "enterprises putting forward problems, universities solving problems, and the government supporting problem-solving".

2.3 High-Quality Development Relies on Faculty Teams as the Internal Driving Force

For application-oriented universities, teachers are the fulcrum for promoting the development of teaching and scientific research. The core lies in enhancing the industry-university-research cooperation capabilities of "double-qualified and double-competent" teachers, especially their ability in "applied research"—this serves as the most critical bridge and link to implement industry-education integration in both theory and practice. The improvement of the faculty team can drive the upgrading of teaching and scientific research standards in application-oriented undergraduate universities, effectively supporting the development of regional industrial economy. It also provides a basic guarantee for these universities to realize the "industry-education integration" talent cultivation model. By participating in applied scientific research, teachers can keep abreast of the cutting-edge of industrial technology, transform the latest achievements into teaching resources, and significantly improve the quality of application-oriented talent cultivation.

3. Major Challenges Facing the High-Quality Development of Application-Oriented Undergraduate Universities

Guiding some local universities to transform into application-oriented institutions is a major decision and arrangement made by China. China proposed to "guide a group of ordinary undergraduate universities to transform into application-oriented technical universities",

marking the beginning of the transformation and development of application-oriented undergraduate universities.

However, there are still some major challenges facing the high-quality development of Application-oriented undergraduate universities.

3.1 Unclear Positioning and Difficult Development during the Transformation Period

At present, the undergraduate education history of application-oriented universities is relatively short. Many universities were quite concerned about the prospects before the transformation and were mostly in a wait-and-see state [5]. After passing the undergraduate teaching qualification evaluation organized by the Ministry of Education, these universities are all exploring their own "connotative development", and their transformation and development has become a difficult issue to be solved in higher education reform. At present, there are many problems: insufficient understanding of the "application-oriented" positioning, homogeneous development with research-oriented universities, and the phenomenon of valuing academic research over applied research in scientific research [6]. Some universities have outdated concepts and misunderstandings about "how to become stronger", equating high-quality development with the pursuit of indicator data, scientific research development with high-level papers, and talent recognition with academic titles. They overemphasize the upgrading of school-running levels and pursue it blindly.

3.2 Inadequate Industry-Education Integration, Failing to Meet Industrial Needs

In recent years, application-oriented undergraduate universities have attached importance to cooperation with industries, carried out docking in talent cultivation, practical teaching, and scientific research cooperation, and achieved good results. However, there are still some problems. For example, the cooperation between some application-oriented undergraduate universities and enterprises only stays at the stage of signing framework agreements; in-depth cooperation in technical research and technological innovation is insufficient, and the transformation rate of scientific and technological achievements is low. There is a disconnect in talent cultivation: specialty settings and curriculum content are

relatively outdated, and the requirements for students' practical skills and professional quality are not high. Moreover, students' internships usually only involve basic manual labor, with little participation in core fields.

The alignment between discipline development directions and local leading industries as well as strategic emerging industries is not high, failing to form a "discipline-industry" cluster linkage development effect. This leads to weak ability to serve the local area and low visibility. How to gather strength, give full play to the advantages of human resources, carry out independent innovation in an organized manner, make scientific and technological innovation serve local needs in an institutionalized and systematic way, accelerate the effective transformation of scientific and technological achievements, accurately deliver talents to enterprises, and promote the technological upgrading of local industries, enterprises, and key fields has become an important issue for local application-oriented undergraduate universities to achieve high-quality development.

3.3 Bottlenecks in Faculty Team Building, and the Need to Improve the Construction of "Double-Qualified" Faculty Teams

In recent years, the number of teachers in application-oriented undergraduate universities with practical experience in industries and enterprises has continued to increase, and the average proportion of "double-qualified and double-competent" teachers among full-time teachers has reached 24.52%. However, this still cannot meet the requirements of faculty team construction. Some teachers have a vague understanding of the school-running positioning of application-oriented universities, and their research directions are misaligned with the school's development goals, resulting in their inability to understand and accept the "application-oriented, local, and open" school-running positioning of application-oriented undergraduate universities. Especially in recent years, many application-oriented undergraduate universities have introduced a large number of teachers with doctoral degrees. However, most of these newly recruited teachers are academic doctors who graduated from research-oriented universities, moving directly from campus to campus. As a result, they often remain in the mindset shaped by the academic atmosphere of research-oriented universities. The simple

orientation training provided by schools usually only focuses on the training of theoretical knowledge and rules and regulations. Some young teachers have a vague understanding of the scientific research positioning of application-oriented universities, and their research directions are misaligned with the school's development goals, leading to their inability to understand and accept the "application-oriented, local, and open" school-running positioning. How to help young teachers transform from "academic" doctors to "application-oriented" researchers and focus on local industrial needs and school positioning to carry out applied research has become one of the difficulties.

3.4 Weak Support System and Low-Level Platform Construction

Compared with research-oriented universities, application-oriented undergraduate universities generally have a shorter school-running history. The long-term insufficient investment from local governments has led to relatively weak basic conditions such as teaching and research equipment, databases, funds, further study opportunities, and platforms. The update of equipment in laboratories and training bases is slow, and the experimental equipment in a large number of universities is already backward compared with the current technical level of enterprises. In addition, application-oriented undergraduate universities often have problems such as scattered discipline directions and lack of scientific research characteristics. Industrial development requires interdisciplinary and compound knowledge, but there are strict disciplinary barriers within universities, with resources divided among different departments. The construction of interdisciplinary teams, courses, and platforms faces numerous obstacles. Teachers lack the guidance and support of stable teaching and research teams; there are insufficient interdisciplinary cooperation platforms, a weak scientific research atmosphere, and a lack of academic exchange mechanisms. As a result, young teachers find it difficult to make progress in an environment of "working alone".

3.5 Imperfect Teacher Evaluation System and the Need to Stimulate Teachers' Enthusiasm

Many application-oriented undergraduate universities lack a reasonable evaluation standard for teaching, scientific research, and

social service performance. They simply apply the scoring system of research-oriented universities, which focuses on papers, projects, and awards. This evaluation system is disconnected from applied research and industrial needs, making it difficult to correctly guide young teachers. The assessment and evaluation mechanisms of many application-oriented undergraduate universities are seriously inclined to teaching, with low weight assigned to scientific research indicators. They only set the minimum requirement for teaching workload but do not set the minimum requirement for scientific research workload. As a result, teachers spend the first few years after joining the university "competing for courses" and "giving lectures".

4. Opportunities for the High-Quality Development of Application-Oriented Undergraduate Universities

In May 2014, China started to guide a group of ordinary undergraduate universities to transform into application-oriented technical universities", sounding the clarion call for the transformation and development of application-oriented undergraduate universities. Since then, China has issued a series of policies and measures to promote the construction and development of application-oriented undergraduate universities. In 2015, China emphasized that "university scientific research should align with industrial needs, cultivate application-oriented talents, and serve regional economic development".

4.1 High Attention from the National Level and Society

The economic and social development of the country not only needs research-oriented talents but also urgently requires a large number of high-quality application-oriented talents as support. Application-oriented undergraduate universities have become the main force in delivering talents to the country and society. At present, these universities are in a critical period of building a modern vocational education system. They play a key role in promoting the integration of vocational and general education, industry-education integration, and science-education integration, and also assume the responsibility of opening up the upward channel for vocational education. Therefore, they have the opportunity to obtain more policy and financial support from the state and local

governments. Application-oriented undergraduate universities bear important responsibilities in scientific and technological innovation and talent cultivation during the process of national and regional strategic development. In the context of unprecedented changes in the world unseen in a century, strengthening the high-quality development of universities is not only a strategic choice to cope with global scientific and technological competition but also an inevitable path to realize national rejuvenation.

4.2 Enterprises Urgently Need Talents and Technology from Application-Oriented Undergraduate Universities

With industrial upgrading and technological innovation, there has been a huge gap in talent and technology demand in society. Enterprises' demand for application-oriented talents has undergone new changes: they require talents to have both a solid theoretical foundation and excellent practical capabilities, both professional depth and professional quality as well as cross-boundary potential. Enterprises not only need scientists to break through scientific research bottlenecks but also require a large number of engineers and technical personnel to realize the application and industrialization of science and technology. They also need talents with excellent practical and application abilities. Compared with research-oriented universities, enterprises have closer connections with application-oriented undergraduate universities. More and more enterprises have realized the importance of industry-university-research cooperation with application-oriented undergraduate universities and hope that these universities will provide them with outstanding talents. Therefore, application-oriented undergraduate universities should update their talent cultivation programs, discipline and specialty settings, and training and practical courses more efficiently according to industrial and sectoral needs. They should provide "tailor-made" talent supply and technical services for regional economies and local areas, and become a talent engine supporting local economic development.

5. Analysis of Paths for the High-Quality Development of Application-Oriented Undergraduate Universities

At present, the development of application-

oriented undergraduate universities has entered a critical period of transformation. The development of such universities meets the requirements of the popularization of higher education and is also an important part of the country's efforts to build a country with strong education, which is of practical significance. To truly realize the high-quality development of application-oriented undergraduate universities, it is necessary for the state, local governments, enterprises, and universities to work together. It is essential to clarify the connotation of high-quality development of such universities, identify existing problems, and find solutions. It is expected that through the reform of the university's internal management mechanism and the transformation of ideas and concepts, the enthusiasm of teachers will be stimulated, and the universities will give full play to their advantages to achieve distinctive development.

5.1 Firmly Adhere to the "Application-Oriented" and "Local" School-Running Positioning to Achieve Distinctive School Development

Application-oriented undergraduate universities should firmly adhere to the "application orientation", concentrate teaching and research resources, adhere to innovation based on their inherent advantages, unswervingly base themselves on the local area, rely on industries, and deeply integrate into the industrial ecosystem. They should focus on social services in the application-oriented field and form their own specialties and characteristics. They should improve the demand docking mechanism, establish a "enterprises putting forward problems - universities solving problems" model, and identify needs through platforms such as university-enterprise joint laboratories and industrial technology research institutes. They should shift from focusing on "scale" to focusing on "quality" improvement, and from the perspective of industrial needs brought by national strategies and scientific and technological innovation, actively understand the difficulties and pain points of local industries and enterprises. They should provide "tailor-made" talent cultivation and technical services for characteristic industrial clusters and become a talent pillar supporting local economic development.

5.2 Strengthen the Construction of "Double-

Qualified" Faculty Teams and Reform the Teacher Evaluation System

Promote the restructuring of scientific research teams, establish interdisciplinary teams, and strengthen the ability of technology integration. Support the transformation of scientific and technological achievements, establish technology transfer centers, and provide supporting services such as intellectual property protection, pilot test bases, and incubators. Reform the evaluation system by increasing the weight of indicators such as horizontal projects, technology transfer income, and social service cases in professional title evaluation. At present, there are practical dilemmas such as the mismatch between individual teachers' free exploration and the requirements of organized scientific research, the structural contradiction between traditional academic evaluation and application-oriented positioning, and the time-space conflict between teachers' teaching load and scientific research input. Universities should improve the teacher evaluation system and include social services and horizontal scientific research capabilities in the evaluation index system [7]. This will help solve prominent contradictions such as low enthusiasm for scientific research, narrow career development channels, weak ability to serve the region, and low participation of scientific research teams, and enhance teachers' enthusiasm for teaching and scientific research. Secondly, it is necessary to strengthen teacher training: invite experts from industries and enterprises to the university for exchanges, discussions, and lectures; introduce experts in a flexible manner to provide guidance to teachers. It will help teachers to possess the ability of "applied academia" and "integrated academia"[8].

5.3 Seize the Opportunities of Industrial Upgrading and Technological Revolution to Further Promote Industry-Education Integration

Application-oriented undergraduate universities should take the promotion of industry-education integration as a systematic project for school development, and realize in-depth reform through the synergy of the government, industries, enterprises, and universities. First of all, it is necessary to carry out a full-process systematic restructuring of industry-education integration, integrating it into talent cultivation, teaching practice, scientific research, and social

services[9]. At the university level, it is necessary to strengthen publicity and policy support to ensure that both management departments and teachers understand the necessity and importance of industry-education integration. In addition, adjust the score weight of academic papers and national-level projects in professional title evaluation and performance assessment, and increase the weight of indicators such as the transformation of scientific and technological achievements, the arrival of funds for horizontal projects, and enterprises' satisfaction with graduates. Thirdly, regularly evaluate the effect of industry-education integration, such as graduate quality, enterprise satisfaction, and the effectiveness of cooperative projects, and continuously adjust and optimize the cooperation model based on the evaluation results. Finally, establish a long-term cooperation mechanism for industry-education integration, and deepen the depth of cooperation and expand the scope of cooperation by jointly applying for projects with enterprises.

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References

- [1] Liu Xing, Liu Ting, Research on the Connotation and Innovation Path of High Quality Applied Undergraduate Education. *Journal of Changchun Institute of Education*, 2022, 38 (01): 14-23
- [2] Fu Baiquan, He Jiangying, Research on the Diversified Application oriented Talent Training Model with the "Five Realities" Education as the Main Line. *Higher Education Journal*, 2024, 10 (31): 172-175+180
- [3] Liu Ping, Zhang Lijian, Hua Bin, Research on the High Quality and Characteristic Development of Applied Undergraduate Universities in the New Era. *Journal of Chengde Petroleum College*, 2023, 25 (05): 1-4+23
- [4] Chen Qixing, New round of review, evaluation, and construction strategies for local applied undergraduate universities from the perspective of high-quality

- development. Journal of Fujian University of Education, 2023, 24 (10): 99-102
- [5] Chen Xianzhe, Peng Xinhong Convergence or Diversion: Application oriented Undergraduate and Vocational Undergraduate in the Process of Optimizing the Education System. "China Higher Education Research, 2025, (02):75-82.
- [6] Pan Maoyuan, the car is like a mountain A Brief Discussion on the Positioning of Applied Undergraduate Colleges. Higher Education Research, 2009, 30 (05): 35-38
- [7] Yang Jiapeng, Huang Hui, Xu Yuanyuan, et al. Reform and Practice of Application oriented Undergraduate School Enterprise Collaborative Education Mechanism from the Perspective of Industry Education Integration. Journal of Higher Education, 2024, 10 (11): 147-150+155.
- [8] Liu Xing, Li Xuan, Fang Zeqiang Development of Vocational Undergraduate and Applied Undergraduate Programs: Challenges and Solutions. Vocational and Technical Education, 2022, 43 (07): 53-58
- [9] Li Chunping, Zhang Shurong, Feng Weiwen, et al. Research and Practice Exploration on the Reform of Industry Education Integration and Collaborative Education in Applied Undergraduate Universities: Connotation and Approach. Education Observation, 2023, 12 (19): 85-88+110.