

Research on the Innovation of Talent Cultivation Models in Local Applied Universities under the Background of Digital Economy

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Abstract: The rapid development of the digital economy has put forward new requirements for the cultivation of talents in higher education. As an important force in regional talent cultivation, local applied universities need to innovate their talent cultivation models to adapt to the demands of digital economic development. This study analyzes the current situation and problems of talent cultivation in local application-oriented universities under the background of the digital economy, proposes strategies for optimizing training objectives, curriculum systems, teaching methods, faculty teams, practical teaching and school-enterprise cooperation, and constructs guarantee mechanisms for strategies, funds, organizational management and quality monitoring. It aims to provide theoretical and practical guidance for the innovation of talent cultivation models in local application-oriented universities and promote the high-quality development of regional digital economy.

Keywords: Digital Economy; Local Application-Oriented Universities; Talent Cultivation Model; Innovation; Guarantee Mechanism

1. Background and Significance of the Study

With the rapid development of information technology, the digital economy has become a new engine for global economic growth. The development of the digital economy is a new driving force for the new round of technological revolution and industrial transformation worldwide. With its high innovation and wide coverage, it has had a profound impact on the world economy and industrial transformation, facilitating the leap of productivity towards high technology, high efficiency and high quality [1]. In the era of digital economy, society's demand for talents has undergone profound changes.

Talents are not only required to have solid professional knowledge, but also to possess comprehensive qualities such as digital literacy, innovative thinking, and interdisciplinary capabilities. However, the traditional education model is confronted with numerous challenges in cultivating talents for the digital economy, such as a lagging curriculum system, monotonous teaching methods, and insufficient practical teaching. Therefore, how to cultivate high-quality talents that meet the demands of the digital economy in the new era and on the new journey has become an important issue that needs to be urgently addressed. This is not only a new challenge for the cultivation of talents in higher education, but also a new era proposition that higher education must answer.

Local application-oriented universities, as an important force in regional talent cultivation, shoulder the significant mission of providing high-quality professional talents for the digital economy. However, the traditional talent cultivation model has gradually revealed many inadaptability in response to the rapid changes of the digital economy, such as the disconnection between the curriculum system and market demands, the lack of innovation in teaching methods, and the weakness of practical teaching links. These problems seriously restrict the improvement of the quality of talent cultivation in colleges and universities, and further affect the high-quality development of the regional digital economy. Therefore, this study focuses on the innovation of talent training mode in local application-oriented universities under the background of digital economy, aiming to deeply analyze the new requirements of digital economy for talents, comprehensively sort out the shortcomings of traditional models, and on this basis, explore and construct a set of innovative talent training mode to adapt to the development of digital economy, and put forward feasible implementation strategies and security mechanisms. Through this research, it is

expected to provide theoretical support and clear practical guidance for the talent cultivation of local application-oriented universities in the digital economy era, assist in the educational and teaching reform of universities, and promote the vigorous development of regional digital economy. At the same time, it will also explore how to enhance the collaborative cooperation among universities, enterprises and the government, promote the in-depth integration of industry, academia and research, provide strong talent support and intellectual guarantee for the development of the regional digital economy, and help the regional economy achieve high-quality development in the digital economy wave.

2. The Current Situation of Talent Cultivation in Local Applied Colleges and Universities under the Background of the Digital Economy

Under the background of the digital economy, local application-oriented universities, as an important force in talent cultivation, have gradually revealed certain gaps between their talent cultivation models and market demands in the process of adapting to the development of the digital economy. An in-depth analysis of the current status of talent cultivation in colleges and universities under the background of the digital economy is of great significance for optimizing the talent cultivation model and improving the quality of talent cultivation, and also provides an important practical basis for subsequent innovative research.

2.1 The Basic Situation of Local Application-Oriented Universities

2.1.1 School type and educational positioning

Local applied colleges and universities mainly aim to cultivate high-quality applied talents that meet the needs of local economic and social development. Their educational positioning mostly focuses on serving local industries, especially the development of local pillar industries and emerging industries. These universities usually focus on applied disciplines, emphasizing theoretical knowledge, practical teaching and the cultivation of students' vocational abilities. For instance, many local application-oriented universities have clearly defined their educational orientation as "cultivating high-quality application-oriented talents with innovative spirit and practical

ability" to meet the local economy's demand for technical and skilled talents [2].

2.1.2 Professional settings and discipline layout

The professional Settings of local application-oriented universities are closely related to the local industrial structure and cover multiple disciplines such as engineering, management, economics, and literature. In recent years, with the vigorous development of the digital economy, some universities have actively adjusted their professional Settings, adding majors closely related to the digital economy such as big data, artificial intelligence, and e-commerce, aiming to better cultivate compound applied talents to meet the demands of the job market. However, from an overall perspective, the dynamic adjustment mechanism for professional Settings still needs to be improved, and the establishment of some majors lags behind market demand [3].

2.1.3 Teaching staff and teaching resources

As the core force in teaching, college teachers shoulder the important responsibility of imparting professional knowledge, guiding thinking and stimulating students' innovative thinking and ability in the teaching process. The teaching staff is a key support for the talent cultivation system in colleges and universities. At present, although the structure of the teaching staff in local application-oriented colleges and universities has been gradually optimized, the number of teachers related to the digital economy is still insufficient, especially there is a significant shortage of "dual-qualified" teachers who are proficient in both professional knowledge and the application ability of digital technology. In terms of teaching resource construction, although universities have continuously increased their investment, the progress of digital teaching resource construction is relatively lagging behind. Some courses have not yet completed their digital transformation, making it difficult to meet the diversified demands of teaching in the digital economy era [4].

2.2 The Matching Degree between the Talent Cultivation Goals and Market Demands

2.2.1 The alignment point between the current talent cultivation goals and the demands of the digital economy

At present, the talent cultivation goals of local application-oriented universities generally focus on the development of students' practical abilities and comprehensive qualities, which has

a certain basis of alignment with the core demands of the digital economy for talents. However, the rapid development of the digital economy has put forward more precise requirements for talents - there is an urgent need for a large number of compound talents who possess digital technology application capabilities, innovative thinking and interdisciplinary perspectives. Although universities have gradually strengthened the cultivation orientation of such abilities in their training objectives, they still face significant bottlenecks in the specific implementation process: on the one hand, there is a gap in the connection between the training objectives and the actual market demands, and a precise matching dynamic adjustment mechanism has not been formed; On the other hand, the talent cultivation orientation of some universities is still trapped in the shackles of traditional teaching models, failing to respond promptly to the latest demands of industries for talents under the rapid iteration of digital technologies, and is difficult to meet the practical needs in the process of digital industrialization and industrial digitalization [5].

2.2.2 Market requirements for the knowledge, skills and qualities of digital economy talents

With the in-depth advancement of global digital transformation, the market's demand for digital economy talents is becoming increasingly diverse. It not only requires solid professional knowledge but also the mastery of cutting-edge technologies such as digital technology, data analysis, and artificial intelligence. In addition, comprehensive qualities such as innovative thinking, teamwork ability and communication skills are also highly valued by enterprises. For instance, a survey of digital economy enterprises shows that 80% of them believe that employees need to have data analysis capabilities, and 70% of them emphasize the importance of innovative thinking [6].

2.2.3 Analysis of the talent supply and demand gap

Although domestic universities have been continuously optimizing their talent cultivation models for the digital economy to respond to industrial demands, the contradiction between talent supply and demand is still intensifying, which is mainly reflected in two aspects: In terms of quantity, the growth rate of talent supply in colleges and universities is far behind the expansion of market demand. For instance,

the demand for positions in fields such as artificial intelligence and AIGC has exploded, with a significant year-on-year increase in positions related to generative artificial intelligence in a single quarter. However, due to constraints such as the discipline cycle and faculty, colleges and universities find it difficult to fill the vacancies. In terms of quality and structure, the "structural mismatch" between supply and demand is prominent. College teaching lags behind technology and practice. Graduates have shortcomings in data thinking and practical ability, making it difficult to meet the demands of enterprises for compound and practical talents.

According to the "China Digital Economy Talent Development Report (2024)", by the end of 2023, the talent gap in China's digital economy had reached 25 million people, and it is expected that by 2025, this gap will approach 30 million people. Another survey shows that as many as 74% of enterprises are facing a shortage of digital talents, among which 44% of enterprises explicitly state that talents are "extremely scarce". Such a huge gap not only restricts the digital transformation process of enterprises, but also constitutes a key bottleneck for the high-quality development of the digital economy [7].

2.3 Curriculum System and Teaching Content

2.3.1 The rationality and adaptability of the curriculum design

The curriculum design of local application-oriented universities is mostly based on the core framework of professional basic and core courses. Some institutions have proactively added course modules related to the digital economy such as big data analysis and the fundamentals of artificial intelligence, actively exploring the integration path of digital technology and professional education, and striving to enhance the adaptability of the curriculum system to the development needs of the digital economy. However, from an overall perspective, there are still significant shortcomings in the construction of the curriculum system, and there is a clear gap compared with the requirements for cultivating digital talents. For instance, some courses are disconnected from the actual demands of the digital economy, and the connections among courses are not tight enough, lacking systematicness. Meanwhile, the update speed of teaching content lags behind. Some courses

remain at the traditional knowledge level and fail to incorporate the cutting-edge technologies and application cases of the digital economy in a timely manner. The construction of digital teaching resources is weak. Although some universities have attempted online courses and virtual laboratories, the overall digitalization level is relatively low, making it difficult to meet students' personalized and scenario-based digital learning needs [8].

2.3.2 The proportion and quality of practical teaching links

Practical teaching, as the core link for application-oriented universities to connect theoretical knowledge with industrial demands and cultivate high-quality application-oriented talents, still has significant shortcomings in its current construction status: In the curriculum system, the proportion of practical teaching is generally low. A survey covering multiple vocational undergraduate colleges shows that over 60% of the institutions have a higher proportion of theoretical courses than practical courses, and in some colleges, the proportion of practical teaching hours is even less than 30% of the total class hours. Meanwhile, the quality of practical teaching varies greatly. Some internship and training bases are not well built, and the content of practical teaching is disconnected from the actual working scenarios, resulting in poor effectiveness in cultivating students' practical abilities. These problems not only expose the deficiencies of colleges and universities in the allocation of practical teaching resources, system design and quality control, but also directly restrict the comprehensive improvement of students' practical operation ability, problem-solving ability and innovative thinking, making it difficult to meet the demand for compound talents in industrial upgrading [9].

2.4 Traditional Teaching Methods and Means

In the current era of vigorous development of the digital economy, it is of vital importance to cultivate talents with innovative and practical capabilities, which can be achieved through methods such as independent exploration and group collaboration. However, the traditional teaching method mainly based on one-way lectures by teachers, due to low student participation and weak interaction, has increasingly obvious limitations in the new era and is difficult to meet the talent cultivation

goals of the digital economy era. Although colleges and universities have intensified the application of information technology in teaching, they still face many challenges. The online teaching platforms of some universities have relatively single functions, and the construction of virtual laboratories lags behind, unable to provide highly realistic learning scenarios. Meanwhile, teachers' proficiency in the application of digital teaching varies greatly. Some teachers have insufficient acceptance and mastery of new technologies, which to some extent affects the teaching effect. In addition, although new teaching methods such as project-based and case-based approaches have been applied in some universities, the implementation effects are not satisfactory. Some colleges and universities lack systematic teaching design, and their projects and cases are often divorced from real scenarios. Some teachers, due to their lack of practical experience, are unable to effectively guide students in autonomous learning and cooperative exploration, which to a large extent restricts the improvement of the quality of applied talent cultivation [10].

2.5 Practical Teaching and School-Enterprise Cooperation

2.5.1 Current situation of internship and training base construction and school-enterprise cooperation

As a key platform for practical teaching in application-oriented universities, the current construction and operation of internship and training bases have many deficiencies. Some bases have outdated equipment and lagging digital upgrades, making it difficult to meet the demands of modern industries for the practical application of digital skills. Meanwhile, the operation and management mechanism is not sound, which leads to a low utilization rate of the base and weakens the effectiveness of practical teaching. Meanwhile, as a key path for talent cultivation, the depth and breadth of school-enterprise cooperation are far from reaching the ideal state. Most of the cooperation still remains at the superficial stage such as short-term internships and visits, and has not delved into the deeper areas of industry-university-research integration such as joint course research, technological breakthroughs, and technology transfer. Due to the lack of a long-term collaborative mechanism featuring "resource intercommunication, benefit sharing

and risk sharing", many cooperation projects are characterized by "emphasizing signing but neglecting implementation", with serious deficiencies in stability and sustainability. These issues are intertwined, creating a barrier between practical teaching and industrial demands, which restricts the quality of cultivating high-quality applied talents [11].

2.5.2 Implementation of industry-university-research cooperation projects

In the current era of vigorous development of the digital economy, industry-university-research cooperation projects, as a key form of school-enterprise cooperation, shoulder the important mission of cultivating high-quality talents that meet the demands of digital economic development. However, the current implementation of industry-university-research cooperation projects in some universities is not satisfactory. Some projects lack clear and definite goals and meticulous and detailed plans at the beginning of their launch, which leads to numerous difficulties during implementation, such as shortage of funds and difficulty in breaking through technical bottlenecks, seriously hindering the smooth progress of the projects. Meanwhile, some universities have not attached sufficient importance to industry-university-research cooperation projects and have failed to establish an effective management and evaluation mechanism. This not only affects the healthy development of the projects but also to some extent restricts the improvement of talent cultivation quality. It is urgent to draw high attention from all parties and make improvements.

3. Strategies and Guarantee Mechanisms for the Innovation of Talent Cultivation Models in Local Applied Universities under the Background of the Digital Economy

3.1 Strategies for Innovating Talent Cultivation Models

Against the backdrop of the accelerated development of the digital economy, local application-oriented universities, as the core carriers of regional talent supply, shoulder the important mission of cultivating high-quality, compound and applied talents that meet the demands of the digital economy. To accurately meet the diverse and high-quality demands of the market for digital economy talents, universities need to make efforts from multiple

dimensions and systematically promote the innovation of talent cultivation models. Specifically, the following aspects can be carried out.

3.1.1 Optimize the goals of talent cultivation

Colleges and universities should clearly define the core training direction as "cultivating high-quality compound applied talents with digital literacy, innovative thinking and practical ability". On the one hand, by strengthening digital literacy education, students' understanding, application and integration abilities of digital technologies can be systematically enhanced. On the other hand, relying on the innovative thinking training system, students' innovative consciousness and problem-solving ability were stimulated to help them form a thinking mode adapted to the dynamic development of the digital economy. At the same time, by focusing on enhancing practical abilities and establishing multi-level practical training paths, we ensure that students can quickly adapt to job requirements and become the backbone force driving the development of the digital economy.

3.1.2 Optimize the curriculum system and teaching content

Colleges and universities need to establish a dynamic adjustment mechanism for curriculum design, closely focusing on the development trends of the digital economy and changes in market demand. They should promptly integrate cutting-edge knowledge modules such as big data analysis, artificial intelligence applications, and the principles of blockchain technology into the curriculum system, accelerate the update and iteration of teaching content, and incorporate the latest technological achievements, industry development trends, and application logics in the field of the digital economy into the teaching scope. Ensure that the teaching content is highly consistent with the practical scenarios of the digital economy. In addition, further strengthen the practical teaching link, reasonably increase the proportion of practical teaching in the curriculum system, and consolidate students' professional practical ability by building a "theory-practice-feedback" closed loop.

3.1.3 Innovate teaching methods and means

Colleges and universities should actively promote new teaching methods such as project-based and case-based approaches, taking real work tasks or typical industry scenarios as the orientation, and guide students to master key

knowledge points and skill methods through practical exploration. Strengthen the deep integration of information technology and teaching, build a fully functional online teaching platform and virtual simulation experimental environment, create highly realistic digital learning scenarios for students, and expand the breadth and depth of learning. At the same time, a diversified teaching evaluation system should be established, highlighting process evaluation and ability-oriented evaluation. Industry experts and enterprise representatives should be introduced to participate in the teaching evaluation process to enhance the scientificity, objectivity and industry adaptability of the evaluation results.

3.1.4 Strengthen the construction of the teaching staff

Colleges and universities should incorporate the improvement of teachers' digital literacy into the core tasks of the construction of the teaching staff. By carrying out systematic digital teaching ability training, digital technology special topic research and other projects, they should comprehensively enhance teachers' ability to conduct teaching and research using digital technology. Strengthen the recruitment and cultivation of professional talents in the digital economy field, attract digital economy professionals with industry practical experience to join the teaching staff, and infuse teaching with cutting-edge industry knowledge and practical perspectives. Establish a regular mechanism for teachers' practical training, regularly arrange for teachers to go to digital economy-related enterprises for on-the-job training and participate in actual project research and development, promote teachers to transform industry practical experience into teaching resources, and enhance the practicality and pertinence of teaching.

3.1.5 Deepen practical teaching and school-enterprise cooperation

Colleges and universities should accelerate the digitalization and modernization of internship and training bases, jointly build high-level internship and training platforms with enterprises in the digital economy field, ensure that the equipment and facilities of the bases are in line with the technical level of the industry, and meet the diverse needs of students for digital skills practice. Promote the transformation of school-enterprise cooperation from superficial connection to in-depth collaboration. Centering

on key areas such as curriculum development, technological research and development, and technology transfer, carry out regular industry-university-research cooperation projects to achieve efficient integration of educational resources and industry resources. Establish a long-term collaborative mechanism featuring "resource intercommunication, benefit sharing and risk sharing", clarify the rights, responsibilities and benefit distribution of both schools and enterprises in talent cultivation, and ensure the stability and sustainability of cooperative projects.

Through the coordinated implementation of the above strategies, local application-oriented universities can more accurately adapt to the development needs of the digital economy, continuously improve the quality of talent cultivation, and cultivate more high-quality compound application-oriented talents with digital literacy, innovative thinking and practical ability, providing solid talent support and intellectual guarantee for the high-quality development of the regional digital economy.

3.2 Guarantee Mechanism for Innovation in Talent Cultivation Models

To ensure the smooth progress and effective implementation of the innovation work on talent cultivation models, local application-oriented universities need to establish a systematic, complete, collaborative and efficient guarantee mechanism to provide all-round support for innovative practices. Specifically, it can be improved from the following dimensions.

3.2.1 Policy support and guarantee

Colleges and universities should establish an "internal and external collaborative" policy support system. Externally, we actively align with the national and local strategies for cultivating digital economy talents, strive for policy preferences and resource support, and promote the in-depth integration of the school's innovative layout with the regional digital economy development. Internally, targeted incentive policies should be formulated, focusing on core areas such as teaching reform, scientific research innovation, and school-enterprise collaboration. Incentive measures for teachers' participation in innovation should be clearly defined, such as giving priority in commendation and awards, increasing performance rewards, and establishing special channels for professional title evaluation. At the

same time, a fault-tolerance and error-correction mechanism should be established to encourage teachers to explore new teaching models and fully unleash their innovative vitality.

3.2.2 Capital investment and guarantee

Colleges and universities need to establish a financial guarantee mechanism featuring "diversified fundraising, precise allocation and efficient supervision". Expand the sources of funds, integrate government grants, school-enterprise cooperation funds, social donations and other resources, and establish a special fund. Clarify the priorities for fund allocation and give priority to supporting key areas such as the construction of courses related to the digital economy, teacher training, and the upgrading of practical platforms. Establish a performance evaluation and dynamic supervision mechanism for fund utilization, regularly verify the flow and utilization efficiency of funds, achieve a closed-loop management of "input - effectiveness", and ensure the scientific and reasonable use of funds.

3.2.3 Organizational management and assurance

Colleges and universities should establish an organizational management structure that is "clear in rights and responsibilities and collaborative and interactive". Establish a leading group headed by school leaders to coordinate and plan the direction and progress of innovation. It has established a special working group, clearly defined the boundaries of responsibilities, and avoided overlapping functions and responsibility gaps. Strengthen multi-subject collaboration, enhance horizontal interaction among departments within the school and vertical connection with enterprises and the government outside the school, establish a regular communication and coordination mechanism, promptly solve problems, and ensure the efficient advancement of innovation work.

3.2.4 Quality monitoring and assurance

Colleges and universities need to establish a quality monitoring system that covers the entire process, conducts multi-dimensional evaluations, and makes dynamic adjustments. Centering on the goal of cultivating talents for the digital economy, quality standards and assessment indicators covering the teaching process, course construction, practical teaching and talent output should be formulated. Conduct regular evaluations through multiple channels and form detailed reports. Establish a closed-loop mechanism of "assessment - feedback -

rectification - optimization", adjust teaching strategies in a timely manner based on assessment results, improve the curriculum system, optimize practical arrangements, and ensure that the quality of talent cultivation continuously meets the needs of digital economic development.

Through the improvement and implementation of the above-mentioned guarantee mechanisms, local application-oriented universities can provide solid support for the innovation of talent cultivation models, ensure the steady progress and effective implementation of innovation work, and cultivate more high-quality, compound and applied talents for the high-quality development of regional digital economy.

4. Conclusion

The development of the digital economy is the key to promoting the innovation of talent cultivation models in local applied colleges and universities, establishing a new education governance system, and creating new growth points for the economy. It has pointed out a new direction for talent cultivation in local applied colleges and universities. Under the leading role of the digital economy in talent cultivation, local applied colleges and universities should cultivate more outstanding talents who are of high quality, compound and innovative. In response to the current problems existing in aspects such as talent cultivation goals, curriculum systems, teaching methods, practical links, faculty teams, and international perspectives, this study proposes to align with the demands of the digital economy industrial chain, reconstruct the cultivation goals of application-oriented innovative talents, build a new model of "digital economy + talent cultivation", and create a digital ecosystem for talent cultivation in local application-oriented universities. Measures such as enhancing the digital technology innovation capabilities of local application-oriented universities and students, and deepening the construction of mechanisms and systems for integrating science and education and industry-education integration, are aimed at providing useful references and inspirations for the transformation of talent cultivation in local application-oriented universities and effectively improving the quality of education.

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