

Research on the Construction Model of Industry School in Local Universities Based on Maslow's Hierarchy of Needs Theory

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Abstract: The establishment of Industry School serves as a crucial platform for local universities to advance the construction of emerging engineering disciplines and effectively enhance their capacity to serve regional economic development. One pressing issue for universities is how to motivate enterprises to actively participate in the construction of Industry School. Drawing on Maslow's Hierarchy of Needs Theory, this paper analyses the diverse needs of different stakeholders in the construction of Industry School and constructs a "Four Pillars of Needs" model involving government (local), industry (enterprises), academia (local universities), and research (R&D institutions). This model clearly depicts the relationships among the needs of these four stakeholders, providing insights for local universities to better stimulate the enthusiasm of enterprises in participating in the construction of Industry School. Additionally, the targeted construction strategies proposed in this paper offer practical guidance for Industry School to better serve regional industrial development.

1. Introduction

Local universities are pivotal forces in higher engineering education, tasked with supporting regional economic development and promoting regional industrial upgrading. Against the backdrop of emerging engineering disciplines, Industry School, as a new form of industry-education integration, are crucial for the transformation and development of local universities and their capacity to serve regional development. However, how to construct Industry School and stimulate the enthusiasm of enterprises is a challenge faced by local universities. Traditional university-enterprise cooperation models exhibit shortcomings such as "enthusiastic universities but indifferent enterprises", necessitating further exploration to overcome these issues and find convergence points for the interests of all parties to achieve deep industry-education integration. Currently, although universities have established a large number of Industry School, universal experience has yet to be formed, and academic research largely remains theoretical. This paper innovatively adopts Maslow's Hierarchy of Needs Theory as a model to construct a "Four Pillars of Needs" model involving government^[1], industry, academia, and research, providing new ideas for local universities to stimulate the

participation of enterprises in the construction of Industry School and fostering deeper integration and benign interaction between Industry School and regional industrial development.

2. The Urgent Need for Industry Academy Construction as a Driver of Local University Transformation

In 2015, the Ministry of Education issued the Guiding Opinions on Guiding Some Local Ordinary Undergraduate Universities to Shift Towards Application-Oriented Education, pointing out the direction for local universities to develop into application-oriented universities and emphasizing the importance of industry-education integration. In 2020, the Ministry of Education and other departments released the Guidelines for the Construction of Modern Industry School (Trial), proposing that application-oriented universities should establish a batch of modern Industry School to form replicable and scalable new models. Evidently, the construction of Industry School has become an effective path for the transformation of local universities^[2].

2.1 The Inevitable Requirement for Adapting University Talent Cultivation to New Economic and Business Formats

Constructing Industry School in alignment with industrial chains is imperative as the economy enters a new normal and the demand for talent in emerging industries undergoes profound changes, necessitating rapid responses from local universities. Through the establishment of Industry School, local universities can actively connect with local characteristic industries, achieving deep integration between professional settings and industrial development. The platform of Industry School facilitates the alignment of technological and talent needs between local universities and enterprises, addressing the technological and talent challenges of regional economic development, enhancing the market competitiveness of regional enterprises, and supporting local governments in leading the development of regional characteristic industries^[3].

2.2 Effective Upgrade of Traditional University-Enterprise Cooperation Models

While traditional university-enterprise cooperation models have achieved certain results, their depth and breadth of cooperation are limited, failing to meet the demands of industrial upgrading. Industry School employ a "1×n×n×n" three-dimensional and cross-cutting cooperation model, fostering tight integration of government^[4], industry, academia, research, and application, and promoting deep fusion in professional settings, talent cultivation, and technological services. This cooperation model helps local universities consolidate quality resources within the region, providing robust talent and technological support for regional economic development^[5].

2.3 Facilitating the Formation of Advantageous Emerging Engineering Discipline Clusters in Local Universities

In the context of emerging engineering disciplines, local universities need to set up emerging professions around new economies, technologies, and industries, strengthen cooperation with enterprises, optimize the layout of disciplines and professions, and enhance interdisciplinary and cross-border integration. Through the platform of Industry School, local universities can leverage their "late-mover advantage," narrow the gap with research universities, achieve key breakthroughs and distinctive development, and elevate the overall quality of talent cultivation and their capacity to serve the national industrial economy.

In summary, constructing Industry School oriented by industrial needs is an urgent requirement for the transformation of local universities. By aligning with industrial chains, upgrading university-enterprise cooperation models, and forming advantageous emerging engineering discipline clusters, local universities can enhance the quality of talent cultivation and their capacity to serve regional economic development, successfully transforming into application-oriented universities.

3. Realizing Industry Academy Construction: Insights from Maslow's Hierarchy of Needs Theory

Conducting needs analysis is the premise and crux of industry academy construction. The success of industry academy construction hinges on accurately grasping and effectively satisfying the diverse needs of different construction stakeholders, including government, industry, academia, and research. Maslow's Hierarchy of Needs Theory offers valuable insights into analysing this issue. By applying this theory to industry academy construction, we can clearly discern the construction needs of different stakeholders such as universities, enterprises, governments, and research institutions, providing effective guidance for industry academy construction.

3.1 Construction of the Hierarchical Needs Model for Industry Academy Construction

Maslow's Hierarchy of Needs Theory classifies human needs into five levels from low to high: physiological needs, safety needs, social needs, esteem needs, and self-actualization needs. In the context of industry academy construction, these five levels of needs can respectively correspond to basic needs, safety needs, cooperation needs, recognition needs, and excellence needs.

1) Basic Needs. Primarily encompassing the cultivation and provision of technically skilled talents, these are the foundation for local universities to serve regional economic development and the basic needs of enterprises to fulfil their production and operation. To satisfy this need, Industry School should focus on aligning curriculum settings with industrial needs, ensuring that students meet the basic employment demands of enterprises.

2) Safety Needs. Mainly manifested in the expectations of various stakeholders for stable cooperation. Governments hope that Industry School can provide stable talent and technological support for regional economic development. Enterprises aspire for long-term technological and talent guarantees through cooperation with Industry School. Therefore, Industry School need to innovate in cooperation mechanisms, such as establishing stable university-enterprise cooperation relationships and signing long-term cooperation agreements, to enhance trust and security among stakeholders.

3) Cooperation Needs. As industry academy construction deepens, the cooperation needs among stakeholders gradually emerge. Governments expect to promote regional industrial upgrading and economic structural optimization through Industry School. Enterprises aim to enhance technological innovation capabilities and market competitiveness through cooperation with Industry School. Research institutions seek rapid transformation and application of scientific research achievements through Industry School. At this level, Industry School need to actively build cooperation platforms, facilitate effective integration and sharing of resources among parties, and drive deep integration of industry, academia, research, and application.

4) Recognition Needs. As industry academy construction progresses, the recognition of stakeholders will directly impact its subsequent development. Governments hope that Industry School can become crucial supports for regional economic development. Enterprises aspire for Industry School to become important partners in technological innovation and talent cultivation. Research institutions expect Industry School to be vital channels for the transformation of scientific research achievements. Therefore, Industry School need to focus on improving teaching quality, strengthening

scientific research innovation, and promoting social services to gain widespread recognition and support from all parties.

5) Excellence Needs. These are primarily embodied in the expectations of stakeholders for Industry School in strategic planning, brand building, and the cultivation of international talents. This requires Industry School to establish a global perspective, strengthen exchanges and cooperation with internationally advanced educational institutions and enterprises, continuously elevate their educational standards and international influence, and make greater contributions to regional and national economic development.

3.2 Construction of the Interactive Relationship between Industry School and Regional Industrial Needs

After clarifying the hierarchical needs for industry academy construction, we can further explore the interactive relationship between Industry School and regional industrial needs.

1) Interaction at the Basic Needs Level. At this level, the interaction between Industry School and regional industries mainly manifests in the cultivation and supply of technically skilled talents. Universities should adjust and optimize professional settings and curriculum structures based on the development trends and needs of regional industries, ensuring that students meet the employment demands of enterprises. Meanwhile, enterprises should actively participate in the talent cultivation process of Industry School, providing support such as internship and training bases and employment opportunities.

2) Interaction at the Development Needs Level. As regional industries continuously upgrade and develop, the demand for technological innovation and research and development capabilities becomes increasingly urgent. At this level, universities should strengthen research and development cooperation with enterprises, jointly promoting technological innovation and industrial upgrading. For example, they can jointly establish research and development centers or laboratories to carry out joint research and technological innovation activities. Meanwhile, governments should also increase support for scientific research innovation in Industry School, providing policy and financial guarantees.

3) Interaction at Higher-Level Needs. At the higher-level needs stage, the interaction between Industry School and regional industries becomes more complex and profound. Universities should focus on the cultivation of internationally oriented talents and the enhancement of strategic planning capabilities to meet the demand for high-end talents and strategic planning requirements of regional industries. For instance, they can introduce advanced international educational concepts and methods, launch international cooperative education and talent cultivation projects; simultaneously, it is essential to strengthen communication and collaboration with governments, enterprises, and research institutions to jointly plan regional industrial development strategies, thereby promoting the sustainable and healthy development of the regional economy.

4. Research on Construction Strategies for Industry School in Local Universities

Local universities should formulate corresponding construction strategies for Industry School based on the characteristics and needs of different stages during the construction process. By clarifying target orientations, optimizing curriculum settings, strengthening the construction of the teaching staff, deepening scientific research cooperation, enhancing social service capabilities, and building brand images, they can promote the development of Industry School to a higher level and make positive contributions to regional economic development and social progress.

4.1 Construction Strategies for Emerging Industry School

In the nascent stage of Industry School, local universities should prioritize solidifying the foundation, clarifying the development direction, and gradually establishing preliminary cooperative relationships with the industrial sector. Specifically, the following strategies can be adopted:

1) Local universities should clarify development goals and orientations. Based on their disciplinary strengths, regional characteristics, and the needs of regional industrial development, they should define the construction goals and orientations of Industry School, ensuring these academies effectively serve regional economic development.

2) They should optimize curriculum settings and teaching content. Through market research and industrial needs analysis, local universities should promptly adjust curriculum settings, integrate industrial needs into teaching content, and ensure talent cultivation aligns with actual demands. Meanwhile, they should establish a dynamic adjustment mechanism to quickly respond to changes in industrial development.

3) They should strengthen the construction of the teaching staff. Local universities should introduce and cultivate dual-qualification teachers to enhance their practical experience in the industry. Simultaneously, they should actively invite enterprise mentors to participate in teaching, jointly cultivating high-quality talents with practical abilities and innovative spirits.

4) They should establish a school-enterprise resource sharing mechanism. Local universities should initially build a school-enterprise resource sharing platform to realize the sharing of hardware resources such as laboratories and equipment. By strengthening resource integration and improving resource utilization efficiency, they can provide robust support for the development of Industry School.

5) They should strengthen social service functions. Local universities should encourage teachers and students to participate in social service activities, such as technical consultation and technical training, gradually enhancing the social service capabilities of Industry School. Through practical project experience, they can enhance teachers' and students' sensitivity and adaptability to industrial needs.

4.2 Construction Strategies for Innovative Industry School

When Industry School enter the innovative stage, local universities should focus on promoting innovation in talent cultivation models, deepening scientific research cooperation, and enhancing social service capabilities. The specific strategies are as follows:

Local universities should innovate talent cultivation models. They should fully integrate the concepts of emerging engineering disciplines into the curriculum system, emphasizing the cultivation of students' innovative and practical abilities. Through project-based learning and practical teaching, they can stimulate students' interest in learning and creativity.

They should deepen scientific research cooperation. Local universities should strengthen scientific research cooperation with the industrial sector, jointly apply for scientific research projects, and promote the transformation and application of scientific research results. Through scientific research cooperation, they can promote the in-depth integration of industry, academia, and research, enhancing the scientific research strength and social influence of Industry School.

They should enhance social service capabilities. Local universities should actively expand social service areas and improve service quality and levels. Through cooperation with enterprises, governments, and other departments, they should jointly carry out social service activities such as technical consultation, technology transfer, and talent cultivation, providing strong support for regional industrial development.

They should optimize resource allocation and management. Local universities should improve the school-enterprise resource sharing mechanism and enhance resource utilization efficiency. By establishing sound management systems and processes, they can ensure resources are effectively utilized and reasonably allocated.

They should strengthen brand construction. Through activities such as academic forums and scientific research achievement exhibitions, local universities can increase the popularity and influence of Industry School. At the same time, they should strengthen cooperation with media and online platforms to expand brand dissemination and establish a good brand image.

4.3 Construction Strategies for Excellent Industry School

After reaching the stage of excellence, local universities should focus on building brand effects, leading industrial development, and enhancing international influence. The specific strategies include:

1) Local universities should build brand characteristics. By combining regional industrial characteristics and disciplinary advantages, they should create brand projects or research directions with distinct characteristics. Through continuous innovation and breakthroughs, they can form a brand effect with extensive influence in the industry.

2) They should lead industrial development. Local universities should actively participate in regional industrial development planning and policy formulation, providing intellectual support and decision-making references for industrial development. Simultaneously, through technological innovation and result transformation, they can promote industrial technological progress and upgrading, leading regional industries to higher-level development.

3) They should strengthen international cooperation and exchange. Local universities should expand international cooperation channels and establish close cooperative relationships with well-known universities, research institutions, and enterprises at home and abroad. Through international exchanges, joint research, and other means, they can enhance the international influence of Industry School and introduce advanced international educational concepts and resources.

4) They should deepen education and teaching reform. Local universities should continuously optimize the curriculum system and teaching content, emphasizing the cultivation of students' comprehensive qualities and humanistic literacy. By introducing advanced teaching methods and technological means, they can improve teaching quality and effectiveness, laying a solid foundation for the long-term development of Industry School.

5) They should strengthen social service and innovation. On the basis of maintaining existing social service functions, local universities should continuously expand new service areas and methods. By providing high-quality social services, they can enhance the social responsibility and mission of Industry School, making greater contributions to regional economic development and social progress.

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