

# Research and Practice on Application Oriented Undergraduate Colleges Serving Local Economic Development: A Case Study of Guangxi Normal University of Science and Technology

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**Abstract:** Local applied undergraduate colleges, as an important component of regional economic development, have played an irreplaceable role in serving local economic development. This article takes Guangxi Normal University of Science and Technology as an example to systematically explore how applied undergraduate colleges can enhance their ability to serve the local economy from three aspects: current situation, problems, and countermeasures. Research has shown that strengthening collaborative cooperation with local economies, improving talent training models, and enhancing technological innovation capabilities are key paths for universities to better serve local economic development.

**Keywords:** Application-Oriented Undergraduate Colleges, Local Economic Development, Guangxi Normal University of Science and Technology, Present Situation, Problem, Countermeasure.

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## 1. Current Situation Analysis

### 1.1. Talent Cultivation Meets Local Needs

In the context of the new era, the integrated development of higher education and local economy has become an important engine for promoting regional social progress. Guangxi Normal University of Science and Technology actively responds to the national call and explores new paths for the deep integration of education and industry. By continuously optimizing its disciplinary structure and accurately matching the needs of local characteristic industries, it has injected strong talent power into local economic development. Based on the regional characteristics of Guangxi, the college has focused on building a number of advantageous majors that serve local economic development, such as agricultural technology, intelligent manufacturing, and information engineering. These majors not only cover traditional advantageous industries in Guangxi, but also closely follow the development trend of emerging industries, providing solid talent support for local industrial upgrading. By deepening educational and teaching reforms, the college continuously improves the quality of teaching, ensuring that students' knowledge and skills are seamlessly aligned with market demand. In order to further enhance students' practical abilities, the college actively cooperates with local enterprises and jointly establishes more than 50 off campus training bases. These bases not only provide students with a real professional environment, but also give them the opportunity to participate in practical projects of enterprises, thereby deepening theoretical knowledge and enhancing professional skills in practice. This talent cultivation model of "school enterprise cooperation and integration of industry and education" greatly enhances students' employment competitiveness. According to statistics, over 70% of graduates trained by Guangxi Normal University of Science and Technology choose to stay and work locally. With solid professional skills and good

comprehensive qualities, they have quickly become a driving force for local economic development. These high-quality applied talents shine in their respective positions and make positive contributions to local industrial upgrading, economic development, and social progress.

### 1.2. Significant Achievements in Technology Services

In the journey of promoting local economic and social development, Guangxi Normal University of Science and Technology not only focuses on talent cultivation, but has also achieved significant results in the field of scientific and technological services. The school is well aware that the transformation and application of scientific research achievements are the key to promoting local industrial upgrading and high-quality economic development. Therefore, the school actively integrates scientific research resources, establishes multiple research teams, and is committed to deep cooperation with local enterprises to jointly overcome technical difficulties and promote the transformation of scientific and technological achievements. The transformation and application of these scientific research achievements have not only brought technological innovation and industrial upgrading to local enterprises, but also won a good social reputation for the school. Guangxi Normal University of Science and Technology is becoming an important force in promoting local economic and social development with its outstanding scientific research capabilities and significant achievements in scientific and technological services. In the future, the school will continue to deepen cooperation with local enterprises, constantly expand the field of scientific and technological services, and contribute more wisdom and strength to the local economic and social development.

### **1.3. Actively Participate in Cultural Services and Social Governance**

While committed to talent cultivation and technological services, Guangxi Normal University of Science and Technology also actively engages in cultural services and social governance, demonstrating its responsibility and commitment as a local university. Guangxi Normal University of Science and Technology also fully leverages its intellectual advantages to provide think tank support for local governments. The school organized a team of experts to conduct in-depth research on the current situation of local economic and social development, and based on the actual situation, completed multiple regional economic development planning reports. These reports not only provide scientific basis for local government decision-making, but also point out the direction for local economic and social development. In the practice of cultural services and social governance, Guangxi Normal University of Science and Technology has not only enhanced its social influence, but also made positive contributions to the local economic and social development. In the future, the school will continue to explore new paths for cultural services and social governance, contributing more wisdom and strength to building a harmonious society and promoting local economic and social development.

## **2. Existing Issues**

### **2.1. Insufficient Matching between Talent Cultivation and Local Industries**

In the talent cultivation work of Guangxi Normal University of Science and Technology, although the school has actively responded to local economic development needs and established a discipline system guided by local needs, there are still some majors that do not match local economic needs. This issue is particularly prominent in rapidly developing emerging fields, among which the new energy industry is a typical representative. In recent years, with the transformation of the global energy structure and China's emphasis on the new energy industry, the new energy industry has rapidly developed domestically and become an important force in promoting local economic growth. However, in this context, the professional settings of Guangxi Normal University of Science and Technology in the field of new energy appear relatively lagging behind. At present, schools have not yet established majors closely related to the new energy industry, such as new energy science and engineering, photovoltaic technology and application, which has led to a significant disconnect between talent cultivation and industrial development. This disconnect not only affects the quality of talent cultivation in schools, but also restricts the further development of local new energy industries. Due to the shortage of relevant professional talents, local new energy enterprises often find it difficult to find high-quality talents with professional skills and practical experience when recruiting, which affects the innovation ability and market competitiveness of the enterprise.

### **2.2. Insufficient Depth of Industry University Research Cooperation**

In promoting industry university research cooperation, although Guangxi Normal University of Science and Technology has established cooperative relationships with

multiple enterprises, these collaborations are mostly limited to short-term project cooperation and lack long-term, institutionalized research and development platforms. Although this cooperation model can promote technological exchange and resource sharing to a certain extent, it is difficult to form a sustained and stable innovation synergy, which limits the deep transformation and application of scientific and technological achievements. In addition, the lack of motivation for some enterprises to participate in industry university research cooperation is also an important reason for the low conversion rate of scientific and technological achievements. Some enterprises may adopt a wait-and-see attitude towards participating in industry university research cooperation due to financial, technological, or market reasons, lacking the willingness and motivation to actively participate. This not only affects the timely transformation of technological achievements, but also restricts the improvement of enterprises' technological innovation capabilities and market competitiveness.

### **2.3. Insufficient Support for Innovation and Entrepreneurship Education**

In the process of promoting innovation and entrepreneurship education, Guangxi Normal University of Science and Technology is facing a series of challenges. Firstly, the innovation and entrepreneurship curriculum system is not yet perfect, lacking systematicity and pertinence. The existing course content may focus more on imparting theoretical knowledge, lacking practical operations and case analysis, making it difficult to effectively enhance students' innovation and entrepreneurship abilities; Secondly, the limited resources of incubation platforms make it difficult to meet the growing entrepreneurial needs of students and teachers. Although the school has established a certain entrepreneurship incubation platform, there are still shortcomings in terms of funding, venue, and mentor resources, which limit the incubation and growth of entrepreneurial projects; In addition, some students and teachers have weak entrepreneurial awareness, which is also an important factor restricting the development of innovation and entrepreneurship education. Some students may lack sufficient understanding and enthusiasm for innovation and entrepreneurship due to their reliance on traditional employment concepts. However, some teachers may lack investment in guiding students' entrepreneurship due to teaching and research pressure, which affects the quality and influence of entrepreneurial achievements.

### **2.4. The Local Service Mechanism Needs to Be Optimized**

Guangxi Normal University of Science and Technology has made positive contributions in local cultural protection and social governance, but the overall service system still needs further optimization. At present, although the service activities in schools are rich and diverse, they lack systematicity and standardization, which makes it difficult to maximize service effectiveness. Specifically, when participating in local cultural protection, schools may not have fully integrated internal and external resources to form a synergy. At the same time, in terms of serving social governance, the cooperation mechanism between schools and local governments, communities and other institutions is not yet perfect, resulting in a narrow scope of dissemination of service results and limited influence.

### **3. Improvement Measures**

#### **3.1. Optimize the Structure of Disciplines and Majors**

In order to better serve local economic development, Guangxi Normal University of Science and Technology can optimize its disciplinary and professional structure, dynamically adjust its disciplinary and professional settings according to local economic development plans. In response to the rapid development of emerging industries such as new energy and new materials, schools should offer relevant majors to cultivate more versatile talents with professional skills and innovative abilities. In the process of optimizing the structure of disciplines and majors, schools should focus on building "professional clusters", which can enhance students' comprehensive quality and innovation ability through interdisciplinary and cross disciplinary training. This not only helps students acquire knowledge and skills in multiple subject areas, but also cultivates their interdisciplinary thinking and teamwork abilities, laying a solid foundation for future career development. At the same time, schools should actively connect with enterprises and industries, understand market demand and talent gaps, in order to adjust subject and major settings more accurately. Through deep cooperation with enterprises, schools can better grasp industry development trends and ensure a high degree of alignment between talent cultivation and market demand. In addition, the school should strengthen its research and exploration in emerging fields, continuously improving its scientific research strength and service capabilities. By establishing a sound disciplinary system and professional settings, Guangxi Normal University of Science and Technology can provide strong talent and intellectual support for local economic development, and make positive contributions to promoting high-quality development of the local economy.

#### **3.2. Deepen Industry University Research Cooperation**

In order to more effectively promote technological innovation and achievement transformation, Guangxi Normal University of Science and Technology should be committed to deepening industry university research cooperation and establishing a series of collaborative innovation platforms. These platforms can collaborate with local governments, attract numerous enterprises to participate, and jointly build industry university research cooperation bases. Through these bases, schools and enterprises can engage in long-term technological research and development cooperation, jointly overcome technical difficulties, and promote the transformation and industrialization of technological achievements. In the process of industry university research cooperation, schools should pay attention to establishing close cooperative relationships with enterprises, strengthening information sharing and talent exchange. Regular technical seminars, achievement exhibitions, and other activities can also be held to timely understand each other's needs and progress with the enterprise, and jointly promote the smooth implementation of the project. In addition, the school should strengthen cooperation and exchanges with well-known universities and research institutions at home and abroad, introduce advanced research concepts and technological means, and enhance its own research level and innovation ability. Only in this way can new vitality be injected into the innovative development of

the local economy.

#### **3.3. Improve the Support System for Innovation and Entrepreneurship**

Schools should attach importance to the deepening and practice of innovation and entrepreneurship education, and build a comprehensive support system for innovation and entrepreneurship. In terms of curriculum system, schools should actively strengthen the development of innovation and entrepreneurship courses, embed such courses into mainstream professional teaching systems, and cultivate students' innovative thinking, entrepreneurial awareness, and practical skills. Through the close integration of theory and practice, students can also master solid professional knowledge, thereby achieving comprehensive literacy improvement in the field of innovation and entrepreneurship. The school also needs to increase investment in incubation platforms to support innovation and entrepreneurship activities of students and local entrepreneurs. On the one hand, schools should actively expand the scale of entrepreneurship incubation bases, provide more physical space and infrastructure, and meet the growing demand for innovation and entrepreneurship. On the other hand, schools should establish special funds to provide financial support for projects that settle in the incubation base, and equip them with advanced equipment and technical support to help students and local entrepreneurs transform innovative achievements into real productivity.

#### **3.4. Building a Systematic Local Service Mechanism**

In order to serve local economic and social development more effectively, Guangxi Normal University of Science and Technology needs to establish a systematic local service mechanism. Schools should strengthen the standardized management of social services and establish specialized institutions to coordinate various local service activities. This institution needs to intervene from the planning stage of service activities until the completion of the activities, and carry out full process management and supervision to ensure the maximization of service effectiveness. While improving service effectiveness, schools should also focus on expanding the influence of cultural services. Schools can utilize new media platforms such as social media and short video platforms to release the latest updates and achievements of service activities, further enhancing the coverage and influence of services. Schools should continuously adjust and optimize their service directions based on the actual situation of local economic and social development, ensuring that service content closely meets local needs and contributes more wisdom and strength to local development.

### **Acknowledgments**

This work was supported by 2022 Guangxi University Young and Middle aged Teachers' Basic Research Ability Improvement Project: Research and Practice of Applied Undergraduate Colleges Serving Local Economic Development - Taking Guangxi Normal University of Science and Technology as an Example (No.2022KY0847).

## References

- [1] Wang Xiaoming Research on the Functional Positioning of Local Undergraduate Universities [J] Research on Educational Development, 2019 (5): 45-50.
- [2] Guangxi Daily New Sugarcane Planting Technologies Help Rural Revitalization "[N] Guangxi Daily, September 20, 2022 (A4).
- [3] Official website of Guangxi Normal University of Science and Technology Service Effectiveness Report of Ethnic Culture Research Center [EB/OL] <https://www.gxksxy.edu.cn/> , 2023-05-15.
- [4] Zhang Hongyan The Integration Path of School Enterprise Cooperation and Local Economic Development [M] Higher Education Press, 2021.
- [5] Li Jianjun Mechanism Innovation of Local Universities Serving Regional Economic Development [J] Regional Economic Research, 2021 (3): 65-70.
- [6] Wu Xiaofeng Theory and Practice of Discipline Adjustment in Applied Undergraduate Universities [J] Higher Education Research, 2020 (6): 88-92.
- [7] Chen Li Analysis of Incentive Mechanisms for Industry University Research Cooperation in Universities [J] Technology Innovation and Management, 2021 (7): 56-60.
- [8] Li Li Research on the Collaborative Development of Innovation and Entrepreneurship Education and Regional Economy Innovation and Practice, 2020 (4): 34-38.