



Strategies Development for Industry-education Integration Application-Oriented Universities in Guangxi

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Abstract

Were: 1) to study the level of industry-education integration of Guangxi, 2) to develop strategies development for industry-education integration of Application-oriented Universities in Guangxi, 3) to evaluate the strategies development of industry-education integration of Application-oriented Universities in Guangxi. The sample group included 155 managers involved in the from 10 Guangxi. The research instruments involved: 1) questionnaire, 2) structured interviews, and 3) expert strategy evaluation. The data were analyzed by percentage, average, standard deviation, and contents analysis.

The research results show that: the level Guangxi Application overall was at medium level. Consider for the result of the study aspects ranged from the highest to the lowest level were as following: the highest level was management Mechanism, followed by talent Development, and financial Management was the lowest level. For developing industry-education integration in Guangxi Application-oriented Universities, the strategies consisted of four aspects: 1) improving teacher resources management, 2) supporting financial management, 3) promoting management mechanism, and 4) promoting talent development. The adaptability and feasibility evaluation results of the strategies are at high level.

Keywords: Strategies development, Industry-education integration, Application-oriented Universities.

1. Introduction

The proposed type of university "applied university" follows the research paradigm of typology. Based on the actual operation of universities, higher education administrators and higher education researchers use discursive research or ideal type method to propose "application-oriented university" as an ideal type of higher education, and theoretically summarize the basic characteristics university" path building university". Theoretically, the basic characteristics of "applied university" and the path of building an applied university have been summarized. Chinese scholars believe that "applied university" is a new type of university that emerges and develops the massification (Hu, 2013).

In Chinese, which addresses the structural contradictions of Chinese higher education, the serious tendency of homogenization, the difficulty and low quality of employment of graduates, and the weak capacity local proposes the document puts forward the goal of, as well as requirements.

After continuous learning thinking, I realized that to transformation to a university, it is necessary to have a matching management strategy of an applied university to promote industry, so as cultivation the university and achieve goals an applied university.

On the above, I decided to conduct the "Strategies Development for of Guangxi" research. Based on the theories of educational management and industry-education integration, this study will analyze its causes through research methods such as questionnaires and interviews, use statistical analysis techniques, propose management strategies for industry-education integration of application-oriented universities in Guangxi on this basis, and evaluate the feasibility of the proposed management strategies. We hope to provide some references management applied transformation and applied.

2. Research Questions

1. What is the level of Application Guangxi?
2. What is the strategies development for Guangxi?
3. Are the strategies development of Guangxi?

3. Literature Review

3.1 Concept of Educational administration

Zhou Chuan. (2019). It is considered that realizing higher is the new vision higher, for which we should make a substantial reform breakthrough in higher education management system based on the deep change of national administrative system.

She Y,Shan Dasheng. (2018). The achievements and shortcomings of China's education management system reform in the last 40 years of reform and opening up are analyzed, and it is proposed that we should continue to adhere to the priority development of education, construction of teachers the field of education.

3.2 Concept of Industry-education integration

Zhu Kejin (2021) found that the organizational innovation is process exploring the common demands and differences in the interaction between the two main bodies of "industry" and "education", so as to stimulate and rationalize the mechanism of collaborative cultivation of talents. Through organizational innovation, institutions related adapt external institutional environment and internal cultural environment of universities, and institutional entrepreneurs respond to the challenges of environmental incompatibility and low returns to promote the institutionalization of organizational innovation.

Cao Y, Meng QG. (2023). Five important measures for the construction of high-quality "dual-teacher" vocational education teachers are proposed. These are: accelerating the implementation of "dual-teacher" teacher recognition standards, implementing the vocational school teacher education upgrading plan, promoting the integrated training of vocational teachers, strengthening the construction of "dual-teacher" teacher training system, and strengthening the construction of part-time teachers.

Hao, T. C. (2021). It is found that the factors affecting the dilemma of implementing enterprise practice policy for teachers in higher education institutions can be attributed to three aspects: difficulties in integrating enterprise identity, obvious school-enterprise role conflict and poor quality of enterprise practice. It is suggested to enrich the enterprise work experience of vocational education teachers in the pre-service stage, establish a regular

mechanism for teachers' enterprise practice, and actively cultivate teachers' awareness of professional development.

Jiang Aihua et al. (2019). Proposed to establish the conceptual model of teachers' cross-border development from four dimensions of knowledge, organization, space-time and thinking; focused on the construction of excellent teachers' team under the perspective of cross-border talent cultivation.

Yang Guangjun, Zhou Fenghua. (2020). Suggestions for in China, first, need to classify the policy by place; second, increase the attention to third, scientific reasonable measurement enterprises participation in resources input; fourth, accelerate the implementation of the combination of incentives to refine the policy.

Zhang Tingting. (2019). It is proposed that the existence of problems such as insufficient policy support, inadequate financial investment and unsound laws and regulations make it always difficult to deepen vocational universities. Order to deepen in higher education institutions, the government needs to improve the policy guarantee mechanism, establish the financial guarantee mechanism and construct the legal guarantee mechanism.

Xu Feng, Li Jin. (2017). It is proposed to establish a long-term mechanism for deeply and dimensional compensation mechanism the cost of higher vocational institutions from government policy support, industry service guidance, technical feedbacks from institutions and talent employment feedbacks.

Pan Nianping. (2017). Stakeholders in vocational grouping, it is proposed to construct the interest adjustment mechanism of multiple subjects in grouping, and it is suggested that the financial special funds invested by the central public finance should be the main one, and the incentive mechanism of enterprise input and compensation mechanism of profit and loss should be established to realize the shared responsibility and resource sharing of school grouping, so as to ensure that vocational education can truly realize grouping.

3.3 Context of Application-oriented University

Pan Maoyuan and Dong Liping. (2009). Chinese universities can be divided into three basic types: academic universities, applied undergraduate universities and vocational and technical universities or multidisciplinary or single-disciplinary institutions. The three types of universities correspond to the different talent cultivation objectives of "academic talents", "applied talents" and "skilled talents."

3.4 Related research

Li, Mengqing, and Chen, Zhuping. (2022). By adhering to orientation cultivating high-quality technical and skilled talents, deepening focusing on resources, system, culture, etc., bringing together the government, schools, industry and enterprises, playing the government's macro-control function, building a long-term mechanism, establishing an open inclusive education system, carrying out dynamic monitoring and multi-dimensional evaluation to deep.

Hu Dexin, Chen Runge. (2021). Based on the social structuring theory, it is proposed that higher education institutions can be divided into four development paths with different styles: autonomous construction, collaborative cooperation, dependent development and passive development.

Lain (2008) examines with example Sakakunda. He argues that based is needed. Development in higher education migration major potential for applied. In many cases, knowledge creation.

Bockerman et al. (2011) also studied the impact of introducing a multidisciplinary technical education system in Finland on its labor market. It was found that after the multidisciplinary technical reform gradually transformed the former vocational colleges into multidisciplinary technical colleges, graduates' earnings and employment levels increased significantly in business and management fields.

4. Research Conceptual Framework

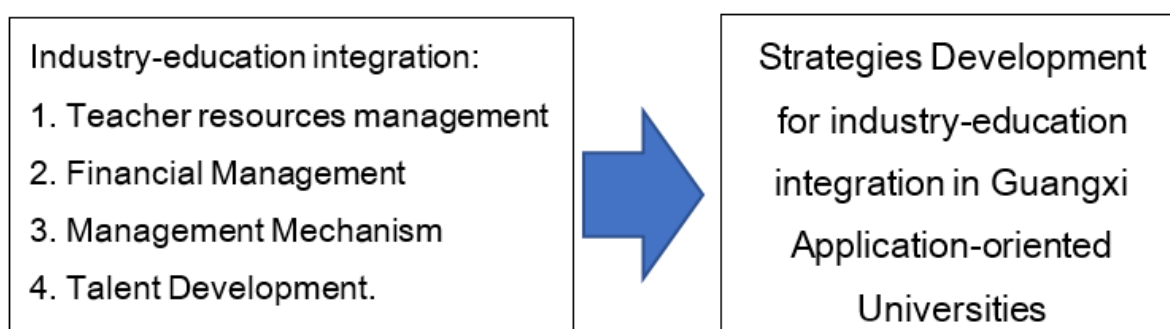


Figure 1 Research Framework

5. Objectives of the Research

1. To study the level of industry-education integration of Application-oriented Universities in Guangxi.
2. To develop strategies development for industry-education integration of Application-oriented Universities in Guangxi.
3. To evaluate the strategies development of industry-education integration of Application-oriented Universities in Guangxi.

6. Research Methodology

6.1 Population and Sample

6.1.1 Population

The Population of this research were 10 application-oriented Universities in Guangxi. Totaling 259 managers of industry-education integration.

6.1.2 Sample

According to Krejcie and Morgan (1970) sampling table, the sample group were manager who involved in the industry-education integration at application-oriented university in Guangxi. They were selected by purposive sampling method from 10 universities which located in different city in Guangxi, and used by systematic random sampling, totaling 155 people.

The 10 universities selected include: The 10 universities selected include: Nanning University, Liuzhou Institute of Technology, Guilin University, Baise University, Hezhou, Wuzhou University, Beibu Gulf University, and Yulin Normal University. Among them, Nanning University, Liuzhou Institute of Technology, Guilin University are private universities; the rest are public universities.

Table 1. Sampling table

Serial number	Application-oriented Universities	Population	The Sample Group
1	Nanning University	25	16
2	Liuzhou Institute of Technology	27	16
3	Guilin University	21	16
4	Guangxi Science & Technology Normal University	29	16
5	Baise University	26	16
6	Hechi University	25	15
7	Hezhou University	34	15
8	Wuzhou University	24	15
9	Beibu Gulf University	25	15
10	Yulin Normal University	23	15
Total		259	155

Research Instruments

The instruments used in this study include questionnaires, interview forms, and an evaluation form of management strategies Guangxi applied universities. Specific contents include:

7. Research Results

Table 2 The average and standard deviation situation of Application-oriented Universities in Guangxi in four aspects
(n = 155)

Industry-education integration of Application-oriented Universities in Guangxi	\bar{X}	S.D.	level	order
Teacher resources management	3.36	1.21	Medium	3
Financial Management	3.32	1.15	Medium	4
Management Mechanism	3.45	1.12	Medium	1
Talent Development	3.42	1.13	Medium	2
Total	3.39	1.16	Medium	

According to Table 4.2, the data showed that industry-education Application-oriented Universities in Guangxi in four aspects was at medium level ($\bar{X} = 3.39$). Consider for the result of the study aspects ranged from the highest to the lowest level were as following: the highest level was management Mechanism ($\bar{X} = 3.45$), followed by talent Development ($\bar{X} = 3.42$), and financial Management was the lowest level ($\bar{X} = 3.32$).

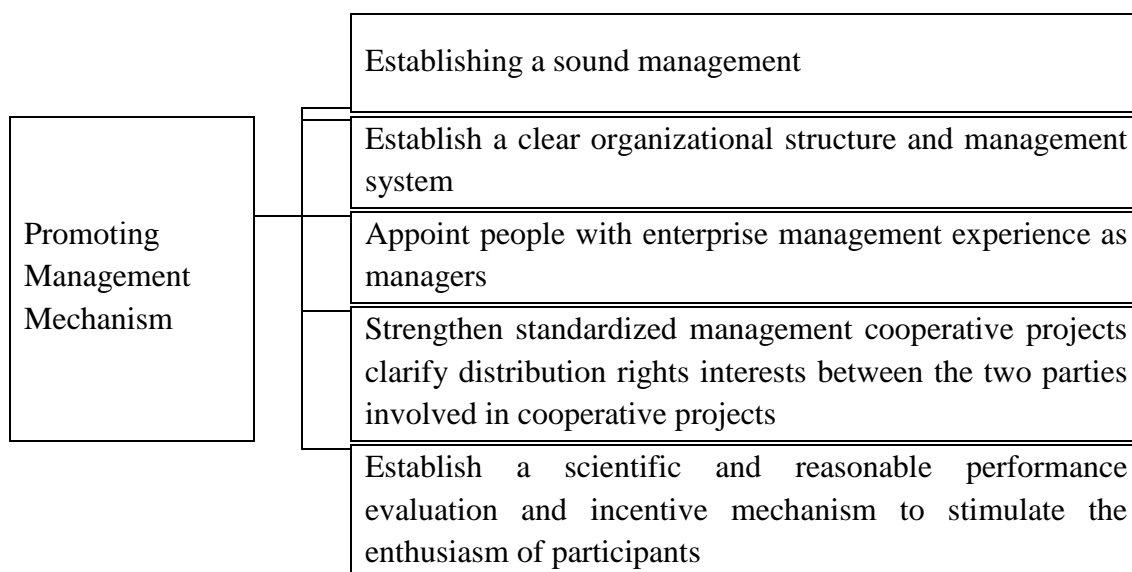


Figure 2 The Strategies for promoting management mechanism

8. Conclusion and Discussion

8.1 Conclusion

Was explore strategy of Guangxi applied universities based on assess adaptability feasibility model. Through investigation and analysis, the following conclusions were drawn:

Explore strategies of Guangxi applied universities based on well as assess applicability model. Through investigation and analysis, the following conclusions are drawn:

1. in terms of teacher resources management, the current situation of Guangxi applied universities scores medium level, among which, "managers have human resource management ability", "universities have perfect teacher resources management mechanism" score relatively high, " The scores of "the management mode of training teachers with enterprises", "the growth mechanism of teachers with enterprise practice" and "the teachers of universities have enterprise working experience" are lower. It shows that the administrators of Guangxi applied universities have human resource ability and have basically established teacher resources management system, but the current teacher resources management system still needs to be strengthened in terms of its relevance and adaptability. Teachers have less working experience in enterprises, teachers' training is disconnected from industry, teachers lack business ability of teachers enthusiasm participate integration industry and education is not high, which means that the university lacks scientific evaluation system and incentive mechanism for teachers' participation in management mode of joint training of teachers between universities and enterprises and the growth mechanism of teachers' practice and exercise in enterprises need to be strengthened in terms of reasonableness and effectiveness.

2. In terms of financial management, the current situation of Guangxi applied universities scores medium level, among which "effective management and use of funds" and "scientific financial decision-making ability of university managers" have higher scores, and "the financial management system of university integration" has higher scores. The scores of "fund management system in the integration of education and industry" and "universities can increase the value of enterprise wealth" are lower. It indicates that the managers of Guangxi applied universities have scientific financial decision-making ability and have generally

established effective financial management system, but the financial management system still needs to be strengthened for it not been able to help enterprises increase their income. In addition, in the indicator of "adequate financial investment in public universities generally invest more in than private universities because of the government financial support.

3. In terms of management mechanism, the current situation of Guangxi applied universities scores medium level, among which "mutual appointment system between university managers and senior managers of enterprises" and "management mode of integration between universities and enterprises" have higher scores. The scores of "universities have perfect management mechanism people with rich experience in enterprise management work as education managers are low. The survey found that Guangxi applied universities generally have the management mode of universities, have established mutual appointment system with enterprises. However, many universities have not formed an effective, systematic and perfect management mechanism for the and the management institutions organizational structure integration of some are not clear enough. Many university managers responsible lack experience enterprise management, and managers do not know enough about the operation and needs of enterprises.

4. In terms of talent cultivation, the current situation of Guangxi applied universities scores medium level, among which "universities and enterprises jointly carry out professional skills certification" and "universities and enterprises jointly construct talent cultivation mechanism" score high, and "universities and enterprises have scientific training mechanism " scores high. Scores "having scientific talent cultivation mode of jointly constructing teaching resource base" are lower. The survey finds that each application-oriented university in Guangxi has a high recognition of its own talent cultivation, and generally constructs a talent cultivation mechanism with enterprises and carries out professional skills certification. However, the talent cultivation mode not yet able respond well to needs local industrial development, and there is still much room for improvement in terms of scientific and systematization. The curriculum system of industry-education integration is not perfect, and some teaching resources conditions are lacking, which affects the cultivation effect of applied talents.

Through the research of this topic, we have a better understanding of Guangxi applied, which is of medium level. Among the factors affecting Guangxi applied following factors are listed in order of score: management mechanism, talent cultivation, teacher resources management and financial management, but the scores of each factor are relatively close. Combined with the interviews, the researcher proposed 20 strategies in 4 areas. Through the analysis of the effectiveness and feasibility of the strategies proposed in this study, it was found that the effectiveness and feasibility of the strategies were at a high level.

8.2 Discussion

1. Exploring the teacher resources management teaching Guangxi

Research results show Guangxi applied universities is at a medium level in terms of teacher resources management, which requires universities and enterprises to establish a joint training mechanism, improve the training system of teachers for integration of industry-education, and encourage teachers to go to enterprises for attachment and project practice. This is consistent with the results of some studies. For example, accelerating the implementation of

"double-teacher" teacher recognition standards, implementing the vocational school teacher education upgrading plan, promoting the integrated training of vocational teachers, strengthening the construction of "double-teacher" teacher training system, and strengthening the construction of part-time teachers (Cao Ye, Meng Qingguo. 2023); suggesting to enrich the enterprise work experience of vocational education teachers in the pre-service stage, establish a regular mechanism for teachers' enterprise practice, and actively cultivate teachers' awareness of professional development (Hao, T. C. 2021); reshaping a new concept of teachers' cross-border development new engineering creating new system teacher development training based on the whole life cycle; constructing a new structure of teacher training courses highlighting the quality improvement of teachers' core competencies; building a new curriculum of industry-education New curriculum structure; building a new platform for collaborative education with deep improving a new mechanism for teaching evaluation and incentive to guarantee the construction of first-class undergraduate education (Jiang Aihua et al. 2019). If these problems are not solved, they may have a deep impact on the goals and motivation of teachers' participation work of thus causing problems at the level of implementation. Therefore, middle managers Guangxi applied universities need to strengthen the exploration and application of specific practices and methods in this area to better reflect teacher resources bring into play subjective initiative of teachers to meet future challenges. This can be achieved by strengthening the training, growth planning and teacher resources management support for the teachers involved.

2. Exploring the financial management of Guangxi

The research results show that Guangxi applied is at a medium level in terms of financial management. It indicates that Guangxi applied universities need further improvement in this aspect, and need the government, universities and enterprises to work together to improve the policy and legal guarantee mechanism, promote diversified capital investment, scientifically measure the input and income, and clarify the relationship between rights and interests to create a scientific and effective financial guarantee system. Scientific and reasonable measurement of enterprises' resource input in the process of participating in education; fourth, accelerate the refinement and implementation of the combined incentive policy (Yang Guangjun, Zhou Fenghua.2020); the government needs to improve the policy guarantee mechanism, establish the funding guarantee mechanism, and build the legal guarantee mechanism (Zhang Tingting.2019); build the interest adjustment mechanism of diversified subjects in group schooling, and suggest that the financial special funds invested by the central public finance as the main, establish the incentive mechanism of enterprise input and compensation mechanism of profit and loss, realize the responsibility sharing and resource sharing of school running group, and ensure the real realization of grouping in vocational education (Pan Nianping. 2017). This indicates that results consistent studies that emphasize the importance of adequate financial investment and sound guarantee system, and clear equity relationship for the financial management Guangxi. In addition, government should be called upon to increase the financial investment in private.

3. Exploring the management mechanism of Guangxi applied universities

The research results show that Guangxi applied is at a medium level in terms of management mechanism, and it needs to improve the management stimulate scientific reasonable performance evaluation and incentive mechanism, and stimulate the enthusiasm of participants. This is basically consistent with the following research results: constructing a sustained endogenous motivation mechanism, a pluralistic core operation mechanism, and a reasonable and effective evaluation mechanism to promote the value realization and harmonious win-win situation of each interest subject (Chi, Chunyang.2021). Establishing a sound relevant system and strengthening the guiding role of assessment and incentive construction platform (Yang Mei, Wang Ying, Zhou Zhengzhu.2021) To build a mutually beneficial and win-win demand-driven mechanism, a resource allocation mechanism for sharing and common prosperity, a standardized and effective dynamic coordination mechanism, a scientific and reasonable performance evaluation mechanism, and a synergistic mechanism with the deep participation of industry organizations (Xu Chang, Xie Xudong.2018). To improve the management effectiveness Guangxi, we should also strengthen the mechanism in and create a synergistic mechanism.

4. Exploring cultivation Guangxi applied

Research results show that Guangxi applied is at a medium level in terms of talent cultivation. It is necessary to position the talent cultivation in close connection with the regional industrial resources and employment demand, create the talent cultivation mode and curriculum system of and evaluation system is in line with the following research: to closely match the regional industry, and to build a model of training highly skilled talents that "sets majors in line with industry, sets standards in line with jobs, constructs curriculum in line with tasks, and implements teaching in line with evaluation" (Yang, G., Zhu, W., Lu, W., 2021). As entry point, coupling talent objectives, specifications and talent development quality assessment mechanism of vocational universities, the reform system as starting point, competence-based and ability development stage theory, the practical innovation and establishment the double helix development model (Zou Yuxiang. 2021).

9. Recommendations

1. In terms of teacher resources management, the survey results show that the lowest score is "having the management mode of joint training of faculty by universities and enterprises". This indicates that Guangxi applied universities need to be strengthened in this aspect. Therefore, the researchers put forward the following suggestions: 1) universities and enterprises should conduct thorough research and scientific proof to establish an effective management mode for joint training of teachers; 2) promote mutual posting and training of personnel from both sides and provide relevant support and assistance for mutual mobility of personnel; 3) organize business learning activities for personnel from both sides; 4) formulate a teacher evaluation system and growth mechanism to improve the motivation of relevant personnel.

2. In terms of financial management, the survey results show that the lowest score is "the financial management system of universities. This indicates that Guangxi applied universities have basically established a financial management system for the, but and effectiveness the system still needs to be strengthened. Therefore, the researcher suggests that: 1) each

university conducts research to relevant personnel involved in the work of to improve the fund management system. 2) strengthen the management and reporting of financial information in order to monitor the financial performance and expenditure use of initiatives; 3) establish a standardized financial management process and do a good job of training and learning for relevant personnel.

3. In terms of management mechanism, the survey results show that the lowest score is "universities have a sound management mechanism for this indicates that Guangxi applied universities have basically established the management mechanism but the degree perfection the management mechanism needs to be further strengthened. Therefore, the researchers suggest: 1) establishing a performance evaluation system and strengthening process management; 2) strengthening the management of intellectual property rights for projects.

4. Talent cultivation, the survey results show that the lowest score is "having a scientific talent cultivation model. This indicates that the talent cultivation of Guangxi's applied universities has been effective to a certain extent, but the scientific nature still needs to be strengthened. Therefore, the researchers suggest that 1) a multi-level and multi-discipline talent cultivation plan should be formulated; 2) applied talents should be cultivated according and market demand for talents, and adapted. 3) Pay attention cultivation of students' industrial awareness and professionalism.

References

- [1] Bockerman et al. (2011). Does High Involvement Management Improve Worker Wellbeing? January 2011SSRN Electronic Journal. DOI:10.2139/ssrn.1937490.
- [2] Cao Ye, Meng Qingguo. (2023). Vocational and technical education in China: Promoting the integration of industry and education in vocational education and the construction of high-quality "dual-teacher" vocational education teachers, (05):19-24.
- [3] Chi, Chunyang. (2021). Educational theory and practice: Research on the long-term mechanism of integration of industry and education in higher vocational education from the perspective of stakeholders, 41(33):16-20.
- [4] Hao Tiancong. (2021). Teacher education research: a qualitative study on the dilemma of implementing enterprise practice policy for teachers in higher education institutions, 2021, 33(01):93-98.
- [5] Hu Dexin, Chen Runge. (2021) The Development Path, Realistic Challenges and Promotion Strategies of Higher Vocational Colleges under the "Double-high Plan." 2021, Vol. 0 >> Issue (12): 104-110. DOI: 10.16697/j.1674-5485.2021.12.013.
- [6] Jiang Aihua, Shi Daning, Yi Yang, Ma Jing. (2019). Research on higher engineering education: cross-border development of teachers in the context of new engineering: conceptual model, working mechanism and implementation path, (04):46-51.
- [7] Lain, T. (2008). Measuring Gender Difference in Cognitive Functioning. Multicultural Education and Technology Journal, 2, 4-18. <https://doi.org/10.1108/17504970810867124>.
- [8] Li Mengqing, Chen Zhuping. (2022). The Implementation Dimensions and Promoting Strategies of the "Double-high Plan": Production and Education Integration in Higher

- Vocational Colleges. Hubei University, Wuhan Hubei 430062. 2022, Vol. 0 >> Issue (1): 109-118. DOI: 10.16697/j.1674-5485.2022.01.012.
- [9] Pan Maoyuan, Dong Liping: Discussion on the classification, orientation and characteristic development of colleges and universities [J]. Educational Research. 2009(2): 33-38.
- [10] Pan Nianping. (2017). Vocational and technical education in China: analysis and control of education costs in higher education institutions, (04):62-65.
- [11] She Y, Shan Dasheng. (2018). Managing the world: the reform of China's education system and its future development trend,34(10):118-127.
- [12] Xu Chang, Xie Xudong. (2018). Education and occupation: construction of cooperative education mechanism of vocational education government, school, line and enterprise from the perspective of industry-education integration, (19):25-30+32.
- [13] Xu Feng, Li Jin. (2017). Vocational education forum: a study on the cost compensation mechanism of enterprises' participation in school-enterprise cooperation in higher vocational institutions, (21):44-47.
- [14] Yang Guangjun, Zhou Fenghua. (2020). Vocational and technical education: from the current situation of enterprises' participation in vocational education to the construction of industry-education integrated enterprises--an analysis based on the survey of enterprises in Guangdong and Zhejiang,41(28):52-57.
- [15] Yang G, Zhu W, Lu W. (2021). Education and occupation: Exploring the training mode of highly skilled talents in regional industrial colleges, (11):42-47.
- [16] Yang, Mei, Wang, Ying, and Zhou, Zhengzhu. (2021). Vocational and technical education: the dilemma of deep integration of industry and education in applied undergraduate institutions and the path of breakthrough,42(30):26-32.
- [17] Zhou Chuan. (2019). Research on higher education: 70 years of exploration of China's higher education management system and its prospect ,40(07):10-17.
- [18] Zhu Kejin, Ma Close far, CAI Yuzhuo. (2021). Higher Engineering Education Research: Influencing factors and challenges of university industry-education integration organization innovation under the new engineering background, (2): 39-46.
- [19] Zhang Tingting. (2019). Education and career: an exploration of deepening school-enterprise cooperation in higher education institutions from the government's perspective,2019, (10):49-51.
- [20] Zou Yuxiang. (2021). Vocational Education Forum: The construction of double-helix talent development model in vocational colleges under the background of industry-education integration ,2021,37(04):140-146.