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# Innovation and Entrepreneurship Education Evaluation Index of Application-oriented Institutes: Based on High-quality Development

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### **Abstract**

Innovation and entrepreneurship education is an essential and powerful measure to cultivate innovative talents. Application-oriented institutes are critical in developing innovative and entrepreneurial talent for local cities. In a historical period when China's economy has turned to high-quality development, application-oriented institutes should continuously combine high-quality development with improving innovation and entrepreneurship education. Based on the characteristics of application-oriented institutes, this paper studies the construction of an application-oriented institutes innovation and entrepreneurship education evaluation index from the aspects of organizational system guarantee, teacher team construction, curriculum system construction, practice channel construction, student learning situation, and funding guarantee. It will assist in objectively evaluating the impact of innovation and entrepreneurship education, continuously optimizing and improving innovation and entrepreneurship education, and achieving more efficient training of innovative individuals. **Keywords:** Application-Oriented Institutes, Innovation And Entrepreneurship Education, High-Quality Development

### Introduction

In September 2018, the State Council of China issued the "Opinions on Promoting the High-quality Development of Innovation and Entrepreneurship", proposing to create an upgraded version of "Innovation and Entrepreneurship" to promote the high-quality development of innovation and entrepreneurship (Qiao, 2021). In October 2021, the General Office of the State Council of China issued the "Guiding Opinions on Further Supporting College Students' Innovation and Entrepreneurship". It is proposed that college students are the main force of entrepreneurship and innovation, and it is of profound meaning to support college students' innovation and entrepreneurship. Under the background of the country vigorously promoting the innovation-driven development strategy, innovation and entrepreneurship are becoming a value orientation, a way of life, and a breath of the times.

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Currently, China's economy is shifting from a high-speed growth stage to a high-quality development stage, which puts forward new and higher requirements for promoting mass entrepreneurship and innovation. The 19th National Congress of the Communist Party of China made necessary arrangements for cultivating innovative and entrepreneurial talents and put forward precise requirements for strengthening innovation and entrepreneurial education. Application-oriented institutes play an essential role in cultivating high-level applied talents and innovative and entrepreneurial talents for local cities, and the effectiveness of their innovative and entrepreneurial education has attracted much attention. Innovative and entrepreneurial talents are the source of power to achieve national strategic goals and contribute to the high-quality development of China's economy. Application-oriented institutes' talent training quality is closely related to national industrial upgrading. There is an urgent need for application-oriented institutes to improve the quality and cultivate excellence, strengthen the effect of innovation and entrepreneurship education, and inject talents into national construction and economic development.

Innovation and entrepreneurship education are inevitable for talents during social development and economic restructuring. It is a meaningful and powerful measure for application-oriented institutes to strengthen the training of new talents. In recent years, colleges and universities have carried out innovation and entrepreneurship education in full swing and have made particular progress and achievements. However, the students' innovation, entrepreneurial action, and quality did not change much, and they did not see significant results. There are still many problems such as lag in innovation and entrepreneurship education concepts, shortage of innovation and entrepreneurship practice platforms, insufficient innovation and entrepreneurship guidance, and imperfect innovation and entrepreneurship teaching system. One of the primary reasons for this is the lack of a scientific and reasonable evaluation index for innovation and entrepreneurship education. Therefore, based on the background of high-quality development, establishing a standardized, complete, practical, and feasible innovation and entrepreneurship education evaluation index is particularly important for cultivating innovative and entrepreneurial talents in application-oriented institutes. It can objectively and impartially monitor and evaluate the entire process and educational effects of innovation and entrepreneurship education, find problems in time, and track, analyze, and adjust educational countermeasures to improve innovation and entrepreneurship education.

This study is based on the high-quality development theory to conduct relevant research and verify its applicability in education, which aligns with the theme of national high-quality development. It is an innovative practice to practice national and local development strategies and can provide a reference for government departments to make relevant decisions with strong practical significance. At the same time, this study explores the construction of an innovation and entrepreneurship education evaluation index, providing a feasible path for scientifically evaluating the level of innovation and entrepreneurship education in universities, helping to improve innovation and entrepreneurship education in universities, promoting high-quality development of higher education, and has utility and effectiveness.

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### **Literature Review**

Based on the background of high-quality development, to study the application-oriented institutes' innovation and entrepreneurship education evaluation index, we must understand the high-quality development of higher education. In recent years, scholars have researched the connotations and strategies of high-quality development of higher education. Vincent and Mulkey (2015) analyzed the impact of academic programs on the sustainable development of American higher education from administrative structure, curriculum, and pedagogy. Chaiya and Ahmad (2021) took Thailand as an example and proposed strategies for the high-quality development of higher education, from quality assurance to policy formulation. Rachel et al. (2021) took an emerging university in East Africa as an example and proposed a strategy for high-quality education development from the perspective of globalization. He (2020) put forward the critical points of high-quality development of higher education from improving the internal governance system, maintaining an appropriate scale of running schools, optimizing the structure of running schools, developing high-level undergraduate education, and promoting the modernization of education and teaching. Sáez et al. (2021) took the Basque Country University as an example and proposed methods for the sustainable development of higher education from quality education, infrastructure, and gender equality. Chen and Yang (2021) analyzed the true connotation, logical framework, transformation dilemma, and practical path of high-quality development of higher education in the new era. Liu and Wang (2021) analyzed the connotation, construction principles, and focus of the highquality development of higher education. Wei and Zhang (2021) put forward strategies to promote the high-quality development of private higher education by refining classified management policies, promoting reforms, and optimizing internal governance. Liu (2021) suggested that optimizing the layout of higher education, deepening the supply-side reform of higher education, expanding the opening up of higher education, and accelerating the modernization of higher education should focus on achieving high-quality development of higher education. Wang and Liu (2022) introduced the Athar Innovation and Entrepreneurship Ranking of Indian universities. India regards the quantitative evaluation of innovation and entrepreneurship education as an effective guide for university transformation and an urgent need for national development, promoting the transformation and development of Indian universities.

Scholars' research on innovation and entrepreneurship education index can be divided into two categories: constructing the index from the quantitative research perspective. Zhang et al. (2018) analyzed the path of innovation and entrepreneurship education in colleges and universities from the curriculum system, teaching staff, practice platform, and policy system. Saji and Nair (2018) explored the construction of the innovation and entrepreneurship education system in the United Arab Emirates from the perspectives of students' attitudes, self-awareness, values, and intentions toward innovation and entrepreneurship. Ran et al. (2019) proposed a collaborative innovation and entrepreneurship education index for multiethnic students from teacher and student innovation ability and entrepreneurial awareness training, systematization of innovation and entrepreneurship education, system design, and system optimization. Tang et al. (2020) proposed a "broad-spectrum" innovation and entrepreneurship education index framework at four levels: general, embedded, professional, and occupational. Tang et al. (2020) explored the construction of an innovation and entrepreneurship education index in local colleges and universities from the aspects of curriculum system, practical teaching system, and teaching staff. Zhang (2020) builds an index for innovation and entrepreneurship education practice in colleges and universities based on

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the background of the Internet+ from entrepreneurship foundation, entrepreneurial skills, entrepreneurial simulation, entrepreneurial practice, and entrepreneurial feedback and evaluation. The second is to evaluate the innovation and entrepreneurship education index. Ge et al. (2014) introduced the CIPP evaluation model to evaluate innovation and entrepreneurship education in colleges and universities. They constructed an evaluation index from the immediate environment of entrepreneurship, resource allocation, entrepreneurial action process, and entrepreneurial achievement performance. Walter (2016) established an innovation and entrepreneurship education index based on institutional theory and entrepreneurial behavior. Wu (2017) evaluated innovation and entrepreneurship education in the Asia-Pacific region from two aspects of the input process and results. Tih et al. (2019) proposed a method for evaluating the effectiveness of entrepreneurship education based on the situation of innovation and entrepreneurship training camps. Fan (2019) constructs an innovation and entrepreneurship education index in colleges and universities based on the perspective of cultural exchange and cognition. Wraae (2020) constructs the innovation and entrepreneurship education index in colleges and universities based on the perspective of stakeholders. Yu (2020) constructed an innovation and entrepreneurship education evaluation index for private undergraduate colleges and universities from curriculum system, faculty, financial support, practice channels, and institutional guarantees.

To sum up, scholars have gradually formed a theoretical system for the high-quality development of higher education. They also have a specific foundation for evaluating and constructing an innovation and entrepreneurship education index. Studying the application-oriented institutes' innovation and entrepreneurship education index is feasible under the background of high-quality development. The current research still has the following problems: Firstly, there are few studies on the high-quality development of higher education and the education index for innovation and entrepreneurship. Secondly, the evaluation methods and basis used are scattered, and a relatively unified standard has not been formed. Therefore, it is necessary to introduce the theory of high-quality development and higher education achievements, establish an index to evaluate the level of application-oriented institutes' innovation and entrepreneurship education, and put forward relevant strategic suggestions.

## Methodology

### Research Design

This study aims to explore an innovation and entrepreneurship education evaluation index for application-oriented institutes based on high-quality development. The focus is not to verify but to explain the evaluation index, which needs to be revealed through qualitative research. Therefore, using qualitative research to explore this study is feasible and suitable for achieving research purposes. The paradigm used in this study is interpretivism, which helps to clarify the contents of the innovation and entrepreneurship education evaluation index. The data for this study is second-hand data sourced from books, journals, newspapers, websites, reports, government records, and demographics. After collecting data, this study used text analysis methods for data analysis.

### Construction principles of the index

The design of the innovation and entrepreneurship education evaluation index is a complex systematic project. The fundamental goal of building an innovation and entrepreneurship

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education evaluation index for application-oriented institutes is to promote innovation and entrepreneurship education and cultivate applied talents with innovation and entrepreneurship awareness and the ability for social development. To build an index for innovation and entrepreneurship education in application-oriented institutes, the following principles should be followed:

### Comprehensiveness

Innovation and entrepreneurship education is to comprehensively improve the ability and level of talent training. It is a complex systematic project, and its evaluation index must adhere to the principle of comprehensiveness. Firstly, the selection of evaluation indicators should be comprehensive. The selection of various indicators should focus on the environmental construction of innovation and entrepreneurship education, educational investment and organizational guarantee, the whole process of education, and the achievements of innovation and entrepreneurship education. Secondly, the evaluation of innovation and entrepreneurship education pays attention to the process evaluation of teaching methods, teaching content, curriculum design, and practice arrangement and the summative evaluation of the achievements and effects of innovation and entrepreneurship education. The process evaluation and the result evaluation are combined to fully reflect the comprehensive principle of evaluation. Thirdly, innovation and entrepreneurship education in colleges and universities is a complete education system. In the process of constructing the evaluation index, combined with the orientation and rules of talent training in colleges and universities, the hierarchical relationship between the indexes is clarified, and the evaluation indicators are selected comprehensively and objectively to ensure the integrity of the evaluation index indicators (Qiao, 2021).

### Scientificity

The innovation and entrepreneurship education evaluation index in colleges and universities should reflect the scientific principle. The selection of indicators in the evaluation index is the basis of the actual innovation and entrepreneurship education evaluation work, and the evaluation indicators must be selected scientifically and appropriately. Many indicators are related to evaluating innovation and entrepreneurship education in colleges and universities. It is necessary to insist on the principle of scientificity to analyze and screen each indicator one by one, stratify it according to different levels, and then select and determine the indicators applicable to different levels from each level. The selection of indicators should be consistent with the actual situation, and the subjective concepts should be consistent with objective facts. From the macro and micro perspectives, the rationality of the selection of evaluation indicators should be ensured. In addition, the selection and application of evaluation methods is the most critical link in constructing the evaluation index. The evaluation methods adopted require scientific, applicable, convenient, and efficient to ensure the scientificity and effectiveness of innovation and entrepreneurship education evaluation results.

### Operability

The innovation and entrepreneurship education evaluation index should reflect the principle of operability. Firstly, the indicators selected in the innovation and entrepreneurship education evaluation index should have good operability. The content pointed to by the indicator must be specific, clear, and observable. If the selected indicators are vague and

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unobservable, it will directly affect the evaluation of innovation and entrepreneurship education because of the inability to obtain accurate and practical information. Secondly, the index evaluation method is feasible. The evaluation method should reflect the organic combination of qualitative and quantitative, internal and external, process and result evaluation. It is necessary to select and determine the corresponding index evaluation method according to the content and characteristics of the index. For example, some indicators can be considered using quantitative methods, while others must be obtained through qualitative analysis, such as interviews.

### **Dynamicity**

Due to the constant changes and development of the external environment faced by innovation and entrepreneurship education in colleges and universities, the evaluation index of innovation and entrepreneurship education in colleges and universities must be continuously adjusted and optimized in the teaching system, organization operation, and assessment and evaluation. The evaluation results have strong directionality, which can help analyze the problems and shortcomings in innovation and entrepreneurship education and realize the sustainable development of innovation and entrepreneurship education in colleges and universities.

### **Results And Discussion**

Determining scientific and reasonable evaluation indicators is the premise of relevant evaluations. Based on scholars' research, following the principles of comprehensiveness, scientificity, operability, and dynamicity, combined with the characteristics of application-oriented institutes, it is recommended to establish an index from the following six aspects (As shown in Table 1).

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**Table 1.** *Innovation and entrepreneurship education evaluation index* 

Level I	Level II	Direction
Organizational guarantee (A1)	Organizational structure (B1)	+
	Rules and regulations (B2)	+
	Job setting (B3)	+
	Innovation and entrepreneurship policy publicity (B4)	+
	Innovation and entrepreneurship information release (B5)	+
Teaching staff (A2)	Innovation and entrepreneurial knowledge reserve (B6)	+
	Practical experience (B7)	+
	Guiding innovation and entrepreneurship achievements (B8)	+
	Teachers with high education and high professional titles (B9)	+
	"Double-qualified" teachers proportion (B10)	+
Curriculum System (A3)	Innovation and entrepreneurship education introductory courses quality (B11)	+
	Innovation and entrepreneurship education professional courses quality (B12)	+
	Innovation and entrepreneurship education practice courses quality (B13)	+
	Diversity of innovation and entrepreneurship education lectures quality (B14)	+
Practice channel (A4)	Number of innovation and entrepreneurship training projects for college students (B15)	+
	Number of innovation and entrepreneurship competitions (B16)	+
	Student entrepreneurship center operation quality (B17)	+
	Number of industry-university-research cooperation bases (B18)	+
Learning situation (A5)	Learning attitude (B19)	+
	Learning effectiveness (B20)	+
	Learning methods (B21)	+
	Scientific research achievements (B22)	+
	Social practice (B23)	+
Investment guarantee (A6)	Investment in innovation and entrepreneurship education (B24)	+
	Venture capital (B25)	+
	Innovation incentive fund (B26)	+
	Diversity of capital sources (B27)	+

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### Organizational guarantee

Organizational construction is the premise of innovation and entrepreneurship education. The application-oriented institutes should have a unified organization and leadership. Each second-level department should have corresponding leaders, clarifying powers and responsibilities, avoiding mutual shirk in work, and ensuring smooth work development. Index design is one of the critical links in implementing innovation and entrepreneurship education effectively. It is not enough to rely on persuasion or guidance for innovation and entrepreneurship education index guarantee, solidify the concept through index design, and regulate the behavior of managers, teachers, and students. The evaluation indicators include organizational structure, rules and regulations, job setting, innovation and entrepreneurship policy publicity, innovation and entrepreneurship information release, etc.

### **Teaching staff**

Teachers are the fundamental guarantee for high-quality undergraduate education, and the teaching staff is a key factor in cultivating innovative and entrepreneurial talents. A significant problem of innovation and entrepreneurship education in Chinese colleges and universities is the lack of teachers, especially in application-oriented institutes. Teachers should have training experience in entrepreneurship and business management to cultivate applied talents, broad cultural knowledge, and solid theoretical professional knowledge. Application-oriented institutes should focus on introducing enterprise talents with intermediate and senior professional titles and rich practical experience to guarantee the implementation of innovation and entrepreneurship education. The evaluation indicators include teachers' innovation consciousness, entrepreneurial knowledge reserve, practical experience, guiding innovation and entrepreneurship achievements, teachers with high education and professional titles, and the proportion of "double-qualified" teachers.

### **Curriculum System**

Curriculum system construction is a systematic project. Cultivating the innovative consciousness and entrepreneurial ability of students in application-oriented institutes must take courses as the carrier. However, offering only one or a few courses is far from enough. Only by building a comprehensive innovation and entrepreneurship education index by grades and majors can we better meet students' needs and the needs of training applied talents. The evaluation indicators include the quality of innovation and entrepreneurship education professional courses, the quality of innovation and entrepreneurship education practice courses, and the diversity of innovation and entrepreneurship education lectures (Yu, 2020).

### **Practice channel construction**

The construction of the practice channel is to transform the theoretical knowledge of innovation and entrepreneurship education into practical ability, provide students with sufficient practical opportunities, cultivate students with excellent innovation and entrepreneurship ability, and provide a solid guarantee for their future employment. Practice channels include both on-campus and off-campus. On-campus channels include innovation and entrepreneurship projects, innovation and entrepreneurship competitions, and college student entrepreneurship centers. The off-campus channel is the industry-university-research cooperation base, which is conducive to transforming and applying innovation and

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entrepreneurship education achievements. The evaluation indicators include the number of innovation and entrepreneurship training projects for college students, the number of innovation and entrepreneurship competitions, the operation quality of college students' entrepreneurship centers, and the number of industry-university-research cooperation bases.

### **Learning Situation**

Students' interest and understanding of innovation and entrepreneurship awareness and theory, satisfaction with innovation and entrepreneurship education teaching, innovation and entrepreneurship awareness, and theoretical learning methods are the best proofs that reflect educational achievements and evaluations (Luo et al., 2014). In the evaluation, we should pay attention to the students' achievements and participation in innovation and entrepreneurship practice activities and understand the students' style of study and satisfaction with innovation and entrepreneurship education. The evaluation indicators include learning attitude, learning effectiveness, learning methods, students' scientific research achievements, social practice, etc.

### (6) Investment guarantee

Adequate and reasonable funding is the basis for ensuring innovation and entrepreneurship teaching and activities. Another dilemma faced by China's application-oriented institutes in carrying out innovation and entrepreneurship education is the lack of financial support. The capital investment of some newly built undergraduate universities cannot meet the needs of innovation and entrepreneurship education. In 2015, the "Implementation Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Colleges and Universities" issued by the State Council pointed out that arranging funds through multiple channels is necessary to finance innovation and entrepreneurship projects. China should establish a diversified capital system for entrepreneurship education, and absorb funds from two major channels, the government and the market. The evaluation indicators include investment in innovation and entrepreneurship education, venture capital, innovation incentive fund, diversity of capital sources, etc.

### Conclusion

Innovation and entrepreneurship education is an inevitable requirement for talents in the period of social development and economic restructuring. It is a meaningful way and a robust measure for application-oriented institutes to strengthen the training of new talents. Its fundamental task is to enhance students' awareness of innovation and entrepreneurship, cultivate their entrepreneurial spirit, ability, and skills, master professional knowledge, technology, and methods, and improve their ability to use professional knowledge to discover, analyze, and solve problems. Application-oriented institutes must continuously optimize and improve the innovation and entrepreneurship education evaluation index and evaluation methods. Scientific evaluation of the quality of innovation and entrepreneurship education supports the sustainable development of innovation and entrepreneurship education and achieves more efficient training of innovative and entrepreneurial talents.

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### References

- Chaiya, C. and Ahmad, M. M. (2021). Success or failure of the Thai higher education development critical factors in the policy process of quality assurance. *Sustainability*, 13(17), 9486-9486.
- Chen, L. and Yang, J. (2021). The logical framework and practical path of high-quality development of higher education in the new era. *China Electronic Education*, 9, 9-17.
- Fan, M. (2019). University innovation and entrepreneurship education index based on cultural communication and cognition. *Convivium*, 35(1), 232-245.
- Ge, L. and Liu, Z. Y. (2014). Research on the evaluation index of entrepreneurship education ability in colleges and universities based on CIPP. *Journal of Northeastern University (Social Science Edition)*, 4, 377-382.
- He, Z. B. (2020). On the ten critical points of high-quality development of higher education. *University Education Management*, 14(5), 42-48, 124.
- Liu, G. R. (2021). New development pattern and high-quality development of higher education. *Educational Research of Tsinghua University*, 42(1), 25-32.
- Liu, L. J. and Wang, K. T. 2021. The connotation, standard, and focus of high-quality development of higher education. *China Higher Education*, 9, 31-33.
- Luo, X. Y., Li, S. and Zhang, Z. (2014). Quality evaluation of innovation and entrepreneurship education based on BP neural network. *Journal of Heihe University*, 3, 38-40.
- Qiao, W. D. (2021). Research on the construction of innovation and entrepreneurship education evaluation index in universities. *Journal of Nanjing Radio and Television University*, 1, 28-36.
- Rachel, T. S. E., Harland, T. and Daniel, B. (2021). The benefits and challenges of globalization for the development of higher education teaching and research: A case study of an emerging university in east Africa. *Journal of Asian and African Studies*, 56(4), 905-918.
- Ran, C. Q., Huang, Y. D. and Cui, Y. B. (2019). A case study on the construction and practice of collaborative innovation and entrepreneurship education index. *Journal of Northern University for Nationalities (Philosophy and Social Sciences Edition)*, 5, 165-170.
- Sáez, D. C. E., Fernández, I. and Castillo, E. N. (2021). A holistic approach to integrate and evaluate sustainable development in higher education. The Case Study of the University of the Basque Country. *Sustainability*, 13(1), 392-392.
- Saji, B. S. and Nair, A. R. (2018). Effectiveness of innovation and entrepreneurship education in UAE higher education. *Academy of Strategic Management Journal*, 17(4), 1-12.
- Tang, L., Hu, Y. B., Wang, X. Y., Zhao, X. Q. and Li, T. (2020). Exploration and practice of "Three-Three System" broad-spectrum innovation and entrepreneurship education index. *Experimental Technology and Management*, 37(1), 24-27, 31.
- Tang, G. Q., Luo, S. F. and Yang D. C. (2020). Research on developing innovation and entrepreneurship education index in local colleges and universities. *School Party Building and Ideological Education*, 4, 67-68.

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- Tih, S. H., Hussain, W. M. H. W. and Hashim, N. M. H. N. (2019). Innovation and entrepreneurship bootcamp: A descriptive study assessing the effectiveness of entrepreneurship education. *International Journal of Business and Globalisation*, 22(2), 240-257.
- Vincent, S. and Mulkey, S. (2015). Transforming US higher education to support sustainability science for a resilient future: the influence of institutional administrative organization. *Environment, Development and Sustainability*, 17, 341–363.
- Walter, S. G. and Block, J. H. (2016). Outcomes of entrepreneurship education: An institutional perspective. *Journal of Business Venturing*, 31(2), 216-233.
- Wang, J. L. and Liu, H. Y. (2022). Exploration of Quantitative Evaluation of Innovation and Entrepreneurship Education in Colleges and Universities: India's Atal Ranking and Its Enlightenment. *Journal of National Academy of Education Administration*, 298(10), 50-61.
- Wei, X. L. and Zhang, L. (2021). Strategies for high-quality development of private colleges and universities during the "14th Five-Year Plan" period. *China Higher Education*, 7, 9-11.
- Wraae, B. and Walmsley, A. (2020). Behind the scenes: spotlight on the entrepreneurship educator. *Education Training*, 62(3), 255-270.
- Wu, Y. C. J. (2017). Innovation and entrepreneurship education in Asia-Pacific. *Management Decision*, 55(7), 1330-1342.
- Yu, Q. (2020). Research on the evaluation index of innovation and entrepreneurship education in private undergraduate universities. *Science and Technology Innovation and Productivity*, 12, 86-90.
- Zhang, F. F. and He, Z. B. (2018). Thinking of "second classroom" cultivating college students' innovation and entrepreneurship ability: Taking Weifang university as an example. *Journal of College Counselors*, 10(3), 57-60.
- Zhang, Q. G. (2020). The construction and realization path of entrepreneurship education index in colleges and universities in the "Internet +" era. *Journal of Southwest Normal University (Natural Science Edition)*, 45(12), 148-153.