Three-dimensional Construction and Implementation Path of Training Effect Evaluation Mechanism of University Innovation and Entrepreneurship Project

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Abstract: Innovation training projects are key to cultivating applied talents, yet they suffer from "emphasis on initiation, neglect of process, weak evaluation" and lack a systematic mechanism. Based on a three-dimensional perspective, this paper constructs a whole-lifecycle evaluation framework. Tailored to application-oriented universities, it provides practical paths for indicator design, evaluation process, digital support, and safeguards, offering an operable reference for similar institutions.

Keywords: innovation and entrepreneurship education; project training; evaluation mechanism; CIPP model; Developmental evaluation

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1.Introduction

1.1 Research background

Innovation and entrepreneurship education is an important part of cultivating applied talents in universities. The national policy requires that it run through the whole process of personnel training. universities extensively carry out "Dachuang Plan", business incubation, subject competitions and so on, in order to cultivate students'innovative ability. However, with the expansion of project scale, process management and quality evaluation lag behind, and the problem of "emphasizing project establishment, neglecting process and weak evaluation" is prominent. The evaluation of most universities is only based on the final results such as the final report and the award certificate, ignoring the dynamic monitoring and continuous improvement, which leads to the lack of scientific and instructive evaluation.

1.2 Question Raising

At present, there are four problems in the evaluation mechanism of innovation and entrepreneurship projects in universities: single standard, focusing on explicit achievements such as final reports and awards, neglecting the dynamic performance of the process; single subject, mainly relying on in-school tutors, lacking the participation of industry tutors and peers; biased orientation, focusing on the number of achievements, neglecting the ability growth and sustainable potential; Feedback lags behind, the results are only used for final acceptance, and there is a lack of real-time diagnosis and improvement guidance in the implementation process.

How to construct a scientific, comprehensive and operable evaluation mechanism for the training effect of innovation and entrepreneurship projects has become an urgent problem to be solved. This study takes Liaoning University of International Business and Economics as the object, combined with the actual situation of application-oriented undergraduate universities, to explore the design and practice path of evaluation mechanism suitable for local universities.

1.3 Research significance

This study constructs an evaluation mechanism for the training effect of innovation and entrepreneurship projects to solve the existing problems and provide theoretical and practical reference for the education of innovation

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and entrepreneurship in universities. This mechanism helps to improve students' ability, optimize project management, and promote the development of high-quality education. At the theoretical level, CIPP model, developmental evaluation and project learning theory are integrated to build a three-dimensional framework to enrich the evaluation theory system. At the practical level, combined with the reality of application-oriented undergraduate, it provides operational evaluation tools and implementation guidelines.

2.Theoretical basis and literature review

2.1 Definition of core concepts

2.1.1 Training of innovation and entrepreneurship projects

It refers to a comprehensive learning activity with students as the main body, real problems as the orientation and practical operation as the characteristics, which takes college students'innovation and entrepreneurship training plan, entrepreneurship incubation project and subject competition project as the carrier .

2.1.2 Effect evaluation

The activities of systematic measurement, analysis and value judgment of students' knowledge growth, ability improvement, literacy development and the value of project results in the process of project training .

2.2 Theoretical basis

2.2.1 CIPP Evaluation Model

CIPP evaluation model is a systematic evaluation method, which emphasizes the comprehensiveness and dynamics of evaluation. This study applies it to the training evaluation of innovation and entrepreneurship projects to ensure that the evaluation process is scientific and systematic.

2.2.2 Developmental evaluation theory

Developmental evaluation theory emphasizes that the purpose of evaluation is to promote the development of the evaluated object, rather than simply screening and selection. This theory provides theoretical support for the design of evaluation mechanism to ensure that evaluation can effectively promote the growth of students and projects .

2.2.3 Project-based learning evaluation theory

Project-based learning evaluation theory focuses on the learning effect and ability improvement of students in the process of project implementation. Based on this theory, this study designs a student-centered evaluation index system, focusing on the combination of process evaluation and result evaluation.

2.3 Research status at home and abroad

At present, the quality evaluation of innovation and entrepreneurship education has become the focus of academia and practice. Research shows that the construction of evaluation system should focus on the combination of qualitative and quantitative evaluation, emphasizing dynamic and continuous improvement . The existing research is mainly carried out from two dimensions: the construction of evaluation theory framework and the exploration of evaluation content and indicators. In terms of framework construction, Li Xinsheng constructed a three-dimensional linkage evaluation framework that integrates "educational objectives, educational processes and educational effectiveness" ; Zhao Lili and others proposed a four-dimensional system of "background-resource-process-impact" based on CIPP model ; Zhang Zhuo and others advocated that evaluation should pay attention to the synergy of internal and external elements of the system based on ecosystem theory.

The content of evaluation has expanded from hard output to the whole process and growth value-added effect. Wang Linxue and others emphasized that the quality of creative integration courses and the allocation of interdisciplinary teachers should be examined; Wang Hongcai and others developed a scale focusing on psychological growth such as innovative self-efficacy. However, there are some limitations in the existing research:

the framework does not incorporate the characteristics of business; the integration of industry and education is insufficient, the main body of enterprise evaluation is weakened; the perspective is solidified in the past achievements, and the long-term potential is not concerned.

3.Construction of evaluation mechanism based on "three-dimensional integration"

The construction of evaluation mechanism is the key to improve the quality of double-creation education, and the core is to build a scientific, comprehensive and dynamic evaluation system to achieve accurate monitoring and continuous improvement. Based on the framework of "three-dimensional integration", this study proposes a comprehensive mechanism including process, development and diversified evaluation, forming a closed-loop of "process monitoring-growth tracking-multiple feedback", adhering to the principles of scientificity, comprehensiveness and development. The process evaluation monitors the project plan, stage results, teamwork, program iteration and resource utilization in real time through project logs, mid-term reports, tutor weekly reviews and peer reviews; the developmental evaluation measures students' abilities of innovation, problem solving, frustration resistance and social influence through pre-test comparison, ability files and follow-up surveys; Diversified evaluation introduces school tutors, industry tutors, peer students, self-evaluation and other subjects, from the three dimensions of knowledge, ability and literacy, through 360-degree evaluation and weighted scoring to achieve multi-subject collaborative evaluation.

4.Implementation path design

4.1 Construction of evaluation index system

The index system adopts the method of "experience assignment + pilot correction" to determine the weight. In the early stage, the initial weights are drawn up through questionnaires, interviews and other forms for many application-oriented undergraduate universities, and then adjusted according to the data distribution and feedback effect after pilot application, and finally a relatively stable weight scheme is formed. The framework of the evaluation index system is as follows:

Universities can adjust according to the actual situation. The comprehensive score is based on the hundred-mark system, excellent $\geq$ 90, good 75-89, medium 60-74, and unqualified < 60.

4.2 Evaluation process design

The effect evaluation of innovation and entrepreneurship projects is divided into four stages: project establishment, mid-term, conclusion and tracking, forming a full-cycle closed-loop. Project evaluation focuses on foundation and resource adaptation: students fill in the pre-test questionnaire, the college evaluates the value, feasibility, innovation and industry fit of the project, and evaluates tutors, funds and other guarantees. The core of the mid-term evaluation is the process: the log and stage report are submitted from the third to the fourth month, the tutor reviews the completion of the task, the iteration of the scheme and the team cooperation, the early warning and rectification of the lagging projects, and the termination of the funding for those who are ineffective. The final evaluation integrates the three-dimensional elements: submit the final report and proof, complete the post-test; invite experts from inside and outside the school to score from the three dimensions of process, growth and achievement. Follow-up evaluation focuses on long-term development: 6 or 12 months after the conclusion of key projects, the transformation of achievements, entrepreneurship and employment, and social impact will be tracked, and the achievements will be included in the excellent case database, and the pilot project will be promoted.

4.3 Digital Platform Support

Relying on the existing double-venture management platform of the school, we will promote the construction of digital platform in stages. The platform architecture covers four modules. Project management, evaluation management. The implementation is divided into three stages: the basic stage relies on the existing platform to realize process management and add log filling and confirmation functions; the promotion stage develops an online

scoring module to support multi-subject online scoring and growth file generation; the mature stage introduces a data visualization board to connect with the educational administration system to realize the dynamic presentation of growth trajectory and early warning push . In terms of data collection and security, the platform sets time stamps and operation logs, establishes a hierarchical authority mechanism, and regularly backs up data to ensure traceability.

4.4 Application of evaluation results and Safeguard mechanisms

Excellent/good projects get full credits, medium projects get 80%, unqualified projects are not recognized; excellent projects are recommended to be established at the provincial level, settled in the incubation base and enjoy extra points, and the unqualified person in charge is restricted to declare in the next year. The effect of tutors'guidance is included in the annual assessment and title evaluation, the workload of excellent project tutors rises and priority is given to the evaluation, and the number of unqualified tutors is reduced for two consecutive years. At the project management level, analyze the data to find common problems, organize training or revise methods, and establish an excellent case base. The platform automatically generates feedback reports, and the college holds briefings every semester. In terms of safeguard mechanism, we should revise the management measures and evaluation rules, set up a two-level evaluation team to set up coordination posts, set up special funds and introduce industry tutors according to project types, give priority to school-enterprise cooperation and transformation projects, link the evaluation results with the performance of tutors, student credits and project funding, and give performance awards to colleges with remarkable results.

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