

Exploration on the Construction of Hybrid Teaching System of College Students' Entrepreneurship and Innovation Training Projects from the Perspective of School-Enterprise Cooperation

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ABSTRACT

The full name of the innovation and entrepreneurship training program is "College Students; innovation and entrepreneurship training program." By organizing students to obtain the existing problems of innovation and entrepreneurship training projects through questionnaires and suggestions on the teaching of innovation and entrepreneurship training projects, learning from the systematic teaching system design model (Addie) and focusing on the cooperation between schools and enterprises, focusing on school-enterprise cooperation, this paper explores the construction of blended teaching system for college students 'dual innovation training projects.

Keywords: school-enterprise cooperation, entrepreneurship and innovation training, hybrid teaching system

1. INTRODUCTION

The full name of the entrepreneurship and innovation training program is "undergraduate innovation and entrepreneurship training program," which is based on the opinions of the Ministry of education and the Ministry of Finance on implementing the "undergraduate teaching quality and teaching reform project in Colleges and universities" during the 12th Five Year Plan period (JG [2011] No. 6) and the Ministry of education on Approving the implementation of the "undergraduate teaching quality and teaching reform project in Colleges and universities" during the 12th Five Year Plan period according to the spirit of the notice on construction projects in 2012 (JGH [2012] No. 2) the National College Students; innovation and entrepreneurship training plan implemented during the 12th Five Year Plan period. Therefore, the implementation of the "College Students; innovation and entrepreneurship training plan" project can enrich students; innovation and entrepreneurship knowledge and experience, improve students; the sense responsibility, innovation of social spirit, entrepreneurship awareness, and entrepreneurship ability, and effectively increase the number of innovative and entrepreneurial talents to meet the needs of national and local economic and social development.

"College Students; innovation and entrepreneurship training program"[1] includes three types: innovation training program, entrepreneurship training program, and entrepreneurship practice program. The innovation training program is an individual or team of undergraduates who, under the guidance of their tutors, independently complete the design of innovative research projects, preparation of research conditions and project implementation, writing of research reports, achievement exchange; Entrepreneurship (Academic) program is a team of undergraduate students. Under the guidance of tutors, each student in the team plays one or more specific roles in the process of project implementation, completing business plan preparation, feasibility study, enterprise simulation operation, writing entrepreneurship report; Entrepreneurial practice project is a student team under the joint guidance of school instructors and enterprise instructors, using the results of innovative training projects or innovative experimental to put forward innovative products or services with market prospects, and carry out entrepreneurial practice activities on this basis.

How to effectively improve the effectiveness of college students 'dual-creation training projects, this paper takes school-enterprise cooperation as the starting point, through questionnaire survey, and draws on the

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systematic teaching system design model (ADDIE) to carry out the construction and exploration of the hybrid teaching system of college students ' dual-creation training projects.

2.DATA SOURCE AND SAMPLE STATISTICAL ANALYSIS

2.1. Data source and processing

In order to know the popularity of entrepreneurship and innovation training programs, the author organized students to research using a questionnaire. The main body of the questionnaire involves university teachers, relevant personnel of enterprises, college students, and other social figures. The questionnaire contents include the respondents; basic personal information, understanding of entrepreneurship, and innovation training programs. There are 20 problems in four categories, including the problems existing in the innovation and entrepreneurship project and the suggestions on carrying out the teaching work of the innovation and entrepreneurship training project. The research work was carried out in Lanzhou, and 260 questionnaires were recovered. After screening out the complete questionnaires (such as incomplete answers and identical answers), 250 valid questionnaires were retained.

2.2. Basic information of respondents

Table 1 shows the primary characteristic information of 250 survey samples. It can be seen from the age distribution that the proportion of respondents under the age of 22 is higher than that of respondents over the age of 22, which shows that the subjects of the survey are more college students. Regarding their understanding of entrepreneurship and innovation training programs, 223 people thoroughly understand entrepreneurship and innovation training programs, accounting for 89.2%. In the investigation of the two open problems of the teaching work of the double innovation project and the suggestion of the teaching work of the double innovation training project, the main problems focus on the insufficient depth of school-enterprise cooperation, the weak strength of teachers, and the need to revise and improve the teaching system.

Table 1 Primary characteristic information of samples

variable	category	quantity	Percentage%
Age	18-22	150	60
	23-50	75	30
	50-60	25	10
Understanding of entrepreneurship and innovation training programs	Very well	135	54
	General understanding	88	35.2
	Not at all	27	10.8
Problems in mass entrepreneurship and innovation projects	Topic selection is divorced from the market, and the phenomenon of homogenization is serious	185	74
	Poor school- enterprise cooperation in project construction	88	35.2
	Weak teachers	179	1.6
the teaching of entrepreneurship	Strengthen school-enterprise cooperation	201	80.4
	Build a perfect teaching system of mass entrepreneurship and innovation projects	176	70.4
	Strengthen teachers	235	94

Data source: according to the questionnaire.

3. PROBLEMS EXISTING IN THE EXISTING TEACHING SYSTEM OF ENTREPRENEURSHIP AND INNOVATION TRAINING PROJECTS

The lack of a sound innovation and entrepreneurship teaching system in colleges and universities leads to the knowledge of innovation and entrepreneurship courses being too fragmented and lacking a certain degree of systematicness and comprehensiveness, which seriously affects the learning efficiency and effectiveness of college students.



First of all, some colleges and universities only offer career planning courses and hold college students, innovation and entrepreneurship competitions during first and third years, and lack the establishment and improvement of a systematic and comprehensive entrepreneurship curriculum system. Furthermore, even if some colleges and universities offer more formal and systematic innovation and entrepreneurship courses because these courses are examination and elective, College students need to complete the entrepreneurship report [students can get corresponding credits, which is not conducive to the practical cultivation of College Students; innovation and entrepreneurship ability. Secondly, colleges and universities do not effectively combine the teaching of entrepreneurship and innovation courses with professional courses, which seriously affects the efficiency and effect of entrepreneurship and innovation education. Because of the development and cultivation of College Students, innovation and entrepreneurship ability require college students to have solid professional basic knowledge, which can only be ensuredStudents can skillfully master and apply professional knowledge to cultivate college students better; innovation and entrepreneurship Therefore, it is essential to effectively combine the teaching of entrepreneurship and innovation courses with professional courses.

It has been implemented into the mass entrepreneurship and innovation training program, which is reflected explicitly in:

Firstly, the Lack of market factors in the topic selection stage

Since the topic selection stage, due to the lack of adequate market research, the innovation and entrepreneurship training project cannot meet the actual needs of the society, and there is a common phenomenon of weak enforceability and weak operability. Therefore, when applying for the conclusion, the project results are mostly journal papers, treatises, research reports, and very few practical projects that can invent and apply for patents and meet the use-value of the enterprise.

Secondly, there is a problem of poor cooperation

Between schools and enterprises in project construction, and there is less cooperation between the project and the actual production of enterprises.

Due to the lack of relevant enterprise participation guidance, the dual innovation training project can not meet the needs of enterprises and the market, the project belongs to the project, and the market belongs to the market. Moreover, since it cannot be carried out based on practical problems, few projects can give effective feedback.

The last is weak teachers,

Most of the teachers guiding students to carry out entrepreneurship and innovation training have no entrepreneurial experience and generally lack innovation and entrepreneurship knowledge and ability. Although the theoretical level of teaching is high, it is challenging to combine theory with practice and carry out work effectively during teaching. The complexity, twists and turns, and other difficulties in the actual implementation of the project are underestimated.

4. CONSTRUCTION OF UNIVERSITY ENTERPRISE COOPERATION HYBRID TEACHING SYSTEM FOR COLLEGE STUDENTS; ENTREPRENEURSHIP AND INNOVATION TRAINING PROJECT BASED ON ADDIE MODEL

4.1 Introduction to Addie model

Addie model is a training system model designed and developed by Florida State University for the U.S. Army in 1990. Its advantage is that it establishes the concept of student-centered and repeatedly evaluates and modifies it from five links: analyzing teaching needs, developing teaching design, developing teaching details, implementing teaching work, evaluating teaching effect, obtaining teaching effect optimization.

The five letters Addie represent analysis, design, development, implementation, and evaluation, respectively, and also correspond to the five stages of analysis, design, development, implementation, and evaluation. The model structure diagram is shown in Figure 1

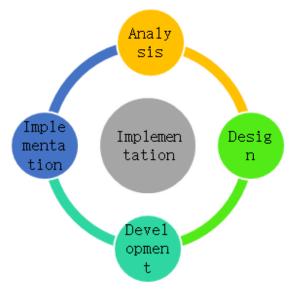


Figure 1 Addie model structure

The main goal of the ADDIE model is to improve the quality of training ensure that students can obtain the essential knowledge and skills necessary to meet the



actual needs in work. Its most significant advantage is systematicness and pertinence. That is, the teaching work is divided into five steps, systematically consider the problems, avoid the risk of one-sidedness in the teaching work, and design and develop the work according to the training needs at the same time, in order to ensure the teaching quality, we constantly evaluate the full link and modify the existing problems in time to ensure the teaching quality.

4.2 Construction of university enterprise cooperation hybrid teaching system for college students; Entrepreneurship and innovation training project

The analysis stage mainly aims to strengthen schoolenterprise cooperation and jointly build a practice base and incubation base[2].

Through school-enterprise cooperation, based on fully integrating the characteristics of professional knowledge learned by each student and the development characteristics of the enterprise itself, we can make up for the shortcomings and deficiencies that may exist in the incubation process of traditional college students ' entrepreneurship and innovation training projects, and create a set of plans and ultimate goals for undergraduate students to cultivate entrepreneurship and innovation talents in college students. College teachers and students should be deeply aware of entering the production front line of the enterprise to investigate and learn, understand the new trends of enterprise production needs, and establish an online and offline communication platform between the research of "innovation and entrepreneurship training program" and the research and development of new products. Online enterprises timely transmit the latest needs to college teachers and students, and college teachers and students will "innovation entrepreneurship training program. "The latest research results are transmitted to enterprises in time; offline universities and local organizations participate in college students[3]; innovation and entrepreneurship training competitions, achievement exchange meetings of "innovation and entrepreneurship training projects," to create conditions for the transformation of the achievements of "innovation and entrepreneurship training projects" in Colleges and Universities. Establish a school-enterprise cooperative research base, integrate laboratory research with industrial production standards, and build a "government - Industry - Learning - Research - Application. "The combination of school-enterprise cooperation mode promotes the market transformation of the achievements of "entrepreneurship and innovation training program."

In the design stage, we should strengthen the construction of innovation and entrepreneurship courses, popularize entrepreneurship education, strengthen entrepreneurship training and improve entrepreneurship

practice ability according to the notice. Colleges and universities should actively develop and set up entrepreneurship courses according to their advantages and positioning, combined with professional education and cultural quality education, and carry out flexible and diverse practical training activities inside and outside the school. Entrepreneurship education should be combined with professional education, incorporated into the whole talent training system, carried out widely and systematically for all students, and focused on students who intend to start a business to realize entrepreneurship education should be scientific, institutionalized, and standardized. Focusing on college students with entrepreneurial aspirations, we should formulate unique training plans, give priority to training resources, and pay close attention to the organization and implementation so that every college student with entrepreneurial aspirations and training needs can have the opportunity to receive entrepreneurial training. The training not only helps students understand the policies, business sites, and financial support issued by the government, but also needs to be strengthened education on entrepreneurial risk awareness of students preparing to start a business, and constantly improve students; awareness and ability to prevent and avoid risks.

In the development stage, the "innovation and entrepreneurship training project" shall be accurate. Whether the "innovation and entrepreneurship training project" has actual production value shall be regarded as an essential standard for project approval and evaluation. universities Colleges and "innovation entrepreneurship training project"The project research should be linked with the market demand. Colleges and universities need to establish a perfect market information network for teachers and students to understand the latest market development through online and offline platforms. The project leader and instructor should pay attention to the market situation do an excellent job of comprehensive research and first-hand research data before the project is approved. Then, make a correct judgment on the market positioning and apply for the project request that reflects the market's actual needs.

In the implementation stage, on the one hand, the market positioning should be accurate when applying for the establishment of "innovation and entrepreneurship training projects. "Whether the "innovation and entrepreneurship training projects" have actual production value is an essential standard for evaluating the establishment of "innovation and entrepreneurship training projects" in Colleges and universities. On the one hand, research should be linked with market demand. Colleges and universities need to establish a perfect market information network for teachers and students to understand the latest market development through online and offline platforms. The project leader and instructor should pay attention to the market situation do an



excellent job of comprehensive research and first-hand research data before the project is approved. Make a correct judgment on the market positioning and apply for the project letter of invitation that reflects the market's actual needs.

on the one hand, it is necessary to condition is to strengthen the professionalism of the teaching staff. On the one hand, colleges and universities can select professional teachers to do practical projects in enterprises, accumulate entrepreneurial experience, exercise professional teachers; entrepreneurial thinking and innovation ability, and cultivate them to become innovation and entrepreneurship tutors on campus. On the other hand, they can hire off-campus teachers with practical experience and higher qualifications instructors, as the lecturer of professional courses, innovation and entrepreneurship courses, or the instructor entrepreneurship and innovation training projects, and jointly guide entrepreneurship and innovation training projects with school teachers. In the evaluation stage, we should strengthen the process management of the project after the project is successfully established. We should make appropriate reforms on the evaluation standards for the mid-term and conclusion of the project. The project's mid-term and final evaluation criteria should be reformed appropriately, not only paying attention to quantitative indicators such as papers, patents, award certificates but also paying attention to the cultivation of students ' innovative thinking in the process of project research. Instructors should guide students from the perspective of the actual production of the enterprise in the process of project research. The purpose of the experiment is not only to obtain the data in the final paper but also to consider all links in the actual production of the enterprise to effectively transform the research process of the "innovation and entrepreneurship training project" from academic theoretical research to the market value application of the project.

Construction of university enterprise cooperation hybrid teaching system for college students; Entrepreneurship and innovation training project based on Addie model.

5. CONCLUSION

Building a hybrid teaching system of College Students; Entrepreneurship and innovation training projects in the way of school-enterprise cooperation can, on the one hand, we can put a certain amount of knowledge required for enterprise operation into the training plan of college students ' innovative and entrepreneurial talents, and constantly increase college students ' understanding of more innovative knowledge and content based on the practical situation of the enterprise. However, on the one hand, college enterprise cooperation can jointly create entrepreneurship, and innovation-based education cultivates practical courses to

meet the learning needs of college students for innovation and entrepreneurship knowledge, and finally improve the training effect of innovation and entrepreneurship talents and the teaching effect of colleges and universities.

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REFERENCES

- [1]Fang Xu, Jin Zhang, Hongxi Gu, Rong Ma, Sheng Zhang, Jiancheng Feng, Bing Yin." Influence of synthesis conditions on the preparation of mononuclear Dy(III)compounds based on β-diketone ligands: Synthesis, structure, magnetic behavior and theoretical analysis," Journal of Solid StateChemistry, 2022
- [2]Ye, Xixi. "Study on Strengthening PracticeTeaching Base in Universities - Based on the experience in Foreign Universities," 2011International Conference on Management and Service Science, 2011.
- [3]Yue Yang. "Two-Four-Three-Four" Innovation and Entrepreneurship Education System'sResearch and Practice," 2021 2ndInternational Conference on Computers, Information Processing and AdvancedEducation, 2021.
- [4] LAURILLARD, D..Rethinking University Teaching: A Conversational Framework for the Effective Use of Learning Technologies [M]. London: Routledge, 2002.