Development of Innovative Entrepreneur Short Course for Undergraduate Students of Leshan Normal University

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Abstract

This study aims to develop a short course on innovative entrepreneur for undergraduate students at Leshan Normal University using classic curriculum theory and PBL teaching methods. The research goal is to determine the elements of short courses in innovative entrepreneur, develop, design and implement short courses, and evaluate and test the effectiveness of short courses in cultivating college students' innovative entrepreneur abilities. The research subjects include 20 SRCI (Specialization, Refinement, Characteristic, Innovation) companies in Sichuan Province, 7 experts in curriculum development and innovative entrepreneur, and 40 junior students. Research methods such as literature method, interview method, consistency expert evaluation and survey method were adopted to conduct qualitative and quantitative research on short course setting and course effects. The research results show that the short course on innovative entrepreneur for college students contains 12 elements. By implementing short courses developed and designed based on the 12 elements, the innovative entrepreneur capabilities of college students can be significantly improved.

Keywords: Short course development, Elements of short course, Innovative entrepreneur

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Introduction

In the current context of global economic change and technological progress, innovative entrepreneur education has become a key force in promoting economic growth and social progress. This study develops a short course on innovative entrepreneur for undergraduates at Leshan Normal University, aiming to explore the role of innovative entrepreneur education in cultivating students' creativity, critical thinking and ability to adapt to economic changes. Shane and Vebjataranab (2000) emphasized the role of innovation in promoting economic development in their theory, and entrepreneurship education is an important way to cultivate this innovative spirit. Osterwalder and Pigneur (2010) further pointed out that innovative entrepreneur are the most valuable resources in modern society, and the education system should be committed to the cultivation of these abilities. In recent years, research by Ries (2011), Samit (2015) has also supported the importance of entrepreneurship education in stimulating students' innovative thinking and practical abilities.

In practice, the construction of innovative entrepreneur courses faces multiple challenges, including the disconnect between theory and practice, insufficient updating of teaching materials and teaching resources, and mismatch between course content and market demand. Shane (2008) mentioned in his research that the bridge between education and practice is a key element in an innovative education system. He emphasized the importance of "collaboration between academia and industry" to ensure the practical relevance and timeliness of educational content. Ulrich and Eppinger (2015) discussed the necessity of updating teaching materials and teaching resources in entrepreneurship education, pointing out that course content needs to be updated regularly with industry trends and technological developments to maintain the forward-looking and adaptable nature of education. Xu et al. (2018) discussed the relationship between innovative educational content and market demand, and recommended that courses be designed through close cooperation with the business community to ensure that the skills students learn can be directly transformed into the capabilities required in the market. Sun (2020) emphasized the importance of using diverse teaching methods, including case studies, practical projects, and simulation exercises, which can promote students' active learning and critical thinking. Qian et al. (2022) discussed the importance of improving the quality

of teachers and improving the evaluation system, believing that teachers' professional development and effective learning outcome assessment are crucial to improving the quality of education.

A large number of studies have proven that through systematic exploration and practice of innovative entrepreneur courses , it can not only provide students with practical innovative entrepreneur capabilities , but also promote regional economic development and improve social innovation capabilities. Developing innovative entrepreneur courses has important practical significance and far-reaching strategic value for cultivating compound innovative talents in the new era.

Theoretical Framework and research Questions

1. Theoretical Framework

Innovative entrepreneur education has received increasing attention globally and is regarded as a key factor in promoting socio-economic development and personal career growth. Current research on innovative entrepreneur education courses for undergraduates mainly focuses on the following aspects:

Exploring implications for innovative entrepreneur education and curriculum development. Worrell et al. (2013) pointed out that innovative entrepreneur education can enhance students' creativity, critical thinking and problem-solving skills, which are key skills needed in today's workplace. Xu et al. (2018) found that students who receive entrepreneurship education are more likely to start their own businesses, indicating that entrepreneurship education plays an important role in stimulating students' entrepreneurial willingness and ability. Yang et al. (2019) emphasized the importance of innovative entrepreneur courses in cultivating students' ability to adapt to rapidly changing economic environments. He believed that such courses help students understand emerging markets and technological trends. Anna (2018) proposed that through practical projects and teamwork, innovative entrepreneur courses can provide practical experience and help students build valuable networks and resources in their academic and professional careers. Zhang and Lu (2022) discussed the role of innovative

entrepreneur education in cultivating interdisciplinary thinking and collaboration skills, which is particularly important for solving complex social problems.

Discuss methods and strategies for undergraduate innovative entrepreneur course development . Shane (2008) believes that course design needs to be based on student needs and market trends. This requires educators to conduct market research, understand industry needs, and design course content based on students' career development goals. The emphasize that practical and experiential learning is the core of innovative entrepreneur courses. Through case studies, project work, internship opportunities and entrepreneurial simulations, students learn and apply knowledge in real or simulated business environments. Samit (2015) pointed out that interdisciplinary teaching methods are important to integrate knowledge from business, technology, design and other related disciplines into the curriculum, which can cultivate students' comprehensive thinking and problem-solving abilities. Zhong et al. (2019) emphasized the use of educational technologies, such as online learning platforms and social media, to enhance the interactivity and flexibility of learning. Li et al. (2021) proposed that curriculum development is an ongoing process that requires regular evaluation and adjustments based on feedback. By collecting student feedback, tracking learning outcomes and collaborating with industry experts, courses can be continuously optimized to meet the changing needs of students and the market.

Discuss the main issues facing the development of undergraduate innovative entrepreneur courses. The pointed out that many innovative entrepreneur courses are too theoretical, the course content is disconnected from actual needs , and lacks connection with the real business environment. Blank and Dorf (2012) emphasized that innovative entrepreneur education requires the integration of interdisciplinary knowledge, but many courses lack interdisciplinary integration and are still conducted in isolation within traditional subject barriers. Zhang and Lu (2022) criticized the current innovative entrepreneur education for its over-reliance on lecture methods, single teaching methods , and lack of innovative teaching methods, such as case teaching, simulation games, and project-oriented learning. Zhang and Lu (2022) proposed that the existing evaluation system often ignores the actual improvement of students' entrepreneurial abilities, and the evaluation mechanism is imperfect and focuses on the assessment of theoretical knowledge. Zhao (2022) found that teachers in innovative

entrepreneur courses are insufficiently qualified and often lack entrepreneurial practical experience, which limits the depth and breadth of course teaching.

From this literature, it can be seen that innovative entrepreneur education is considered to be the key to cultivating students' creativity, critical thinking, problem-solving skills, and adapting to a rapidly changing economy, while promoting students' entrepreneurial willingness and interdisciplinary collaboration capabilities. However, problems such as the disconnect between course content and actual needs, single teaching methods, imperfect evaluation mechanisms, and insufficient teachers still exist. There is not much relevant literature and teaching practice on how to effectively solve these problems, and needs further exploration.

2. Research questions

Based on the above reasons, the research question is: Development of a short course on innovative entrepreneurship for undergraduate students at Leshan Normal University Therefore, the purpose of this study is:

(1) To study the elements of the short courses of innovative entrepreneur for undergraduate students of Leshan Normal University .

(2) To design the short courses of innovative entrepreneur for undergraduate students of Leshan Normal University .

(3) To experiment the short courses of innovative entrepreneur for undergraduate students of Leshan Normal University.

Methods

This study uses literature method, interview method, survey method and other methods to investigate , develop, implement and evaluate undergraduate innovative entrepreneur courses .

1. Survey Participants

This study is divided into three parts according to the design survey participants, namely senior enterprise administrators, university innovative entrepreneur course experts and undergraduate students.

In the first step, when studying the elements of innovative entrepreneur courses , a stratified random sampling method was used to determine the sample enterprises . Based on geographical location and industry type , Sichuan Province was divided into Chengdu and non-Chengdu areas. Random sampling method was used to randomly select 15% of SRCI companies from each regional group . As a result, a total of 20 SRCI companies were used as sample companies . One senior manager from each company was selected as the interviewee.
In the second step , when developing and designing short courses on innovative entrepreneur , 7 experts from universities in Sichuan Province were selected as short course teaching plan evaluation experts , including 4 experts in university curriculum design and 3 experts in university innovative entrepreneur.

when implementing short courses on innovative entrepreneur , third-year undergraduate students from Leshan Normal University will be selected , including science, engineering, agriculture and art. We will recruit 40 students from the whole school to participate in the training , on a voluntary basis, and will be admitted in the order of registration until the quota is filled.

2. Instruments

1) Interview outline for innovative entrepreneur course elements; 2) innovative entrepreneur course teaching plan evaluation form; 3) innovative entrepreneur course effect pre-test and post-test evaluation form .

Interview outline for innovative entrepreneur course elements. According to the research objectives and on the basis of relevant literature research, a semi-structured interview outline of innovative entrepreneur course elements consisting of 12 questions was designed. Five innovative entrepreneur experts were submitted to conduct a consistency evaluation on the completeness and accuracy of the language of the interview outline. Five experts conducted IOC evaluations on the 13 items of the interview outline one by one. The highest score was 1.00 and the lowest score was 0.60. The consistency of the interview outline was good. The first part of the interview outline is the demographic characteristics, and the second part is the courage to challenge, social responsibility, entrepreneurial motivation, innovative thinking, value creation, identifying opportunities, risk management, communication skills, leadership skills, business

capabilities, self-development capabilities and resources Integration capabilities, totaling 12 elements.

Innovative entrepreneur Course Teaching Plan Evaluation Form. On the basis of interviews, a short course teaching plan rating form was developed and designed. The evaluation of course teaching plans mainly checks the consistency of training content and training objectives, the consistency of training results and behavioral goals, the fit between training content and training themes, and training methods. There are 7 aspects including consistency between the training content and the behavioral goals, supportability of the training content, training evaluation based on the behavioral goals, and fit between the training duration and the training goals . Five experts in curriculum design were invited to conduct a consistency evaluation on the completeness and accuracy of the course plan evaluation form. The highest score for the evaluation form was 1.00 and the lowest score was 0.60. The consistency of the evaluation form was good.

Pre-test and post-test evaluation form for the effectiveness of innovative entrepreneur courses. Based on literature research and interview research, a course effectiveness evaluation questionnaire consisting of 12 questions was developed and designed, which mainly conducts comprehensive evaluation from the aspects of knowledge mastery, skill improvement, and problem solving. Five experts in curriculum design were invited to conduct a consistency evaluation on the completeness and accuracy of the course lesson plan rating form. The highest score for the questionnaire questions was 1.00 and the lowest score was 0.60. The consistency of the questionnaire was good.

3. Procedure

Before collecting data, approval was obtained from 20 companies, 7 university experts, and Leshan Normal University . All subjects were clearly informed before the survey visit and participated voluntarily. The steps of the research work are as follows:

(1) Clarify the research objectives. Conduct a literature review on the research and development of innovative entrepreneur curriculum development , and determine the research objectives by discovering existing problems .

(2) Validation of research tools. The Delphi method and IOC analysis method were used to compile the " innovative entrepreneur Course Elements Interview Outline ", " innovative

entrepreneur Course Teaching Plan Evaluation Form " and "innovative entrepreneur Course Effectiveness Pre-test and Post-test Evaluation Form" , and conducted reliability and validity tests.

(3) Conduct interviews and surveys. 20 senior enterprise administrators were interviewed on the elements of innovative entrepreneur, and the elements were scored and evaluated; 7 experts in university curriculum research and innovative entrepreneur education were asked to rate and evaluate the relevant settings of 12 course teaching plans; 40 A pre-test and post-test were conducted on students participating in the short course to evaluate changes in ability .

(4) Collect data. Collect , classify and organize interview data and questionnaire data , and establish a database . It has been verified that all the above questionnaire data are valid.

(5) Use SPSS 29.0 , ATLAS.ti 23 and other statistical software to process and analyze the collected data .

4. Data Analysis

(1) Use SPSS 29.0 Process the questionnaire data, and analyze the interview content, consistency of the course teaching plan, and course effect based on frequency , percentage, correlation coefficient, T test, variance analysis and other statistical data .

(2) Use ATLAS.ti software to code and process the interview text content, and analyze the weight and mutual relationship of innovative entrepreneur elements based on word cloud diagrams and other methods .

Results

1. Descriptive analysis of innovative entrepreneur course elements .

The evaluation of innovative entrepreneur course elements adopts a three-level scoring method. Each expert scores an observation point for the elements of the innovative entrepreneur course . Completely identical = 3 points , somewhat agreed = 2 points , and basically agreed = 1 point. After statistical analysis, the results are shown in Table 1.

Table 1 Table of elements analysis of innovative entrepreneurial ability after expert evaluation (N=20)

Element	$\overline{X}$	SD	Observation point	N	Freq	%	$\overline{X}$	SD
Courage to Challenge	2.917	0.262	Determination and persistence to face difficulties	20	20	100	3.000	0.000
			Accept and respond to the problems	20	19	95.5	2.950	0.224
			Continuous learning and innovation	20	18	90.0	2.800	0.523
Social responsibility	2.950	0.000	Observe law and discipline	20	19	95.0	2.950	0.224
			To serve the society	20	19	95.0	2.950	0.224
Entrepreneurial motivation	2.825	0.171	Find out about your real needs	20	18	90.0	2.900	0.308
			Strong motivation for achievement	20	16	80.0	2.750	0.550
Innovative thinking	2.933	0.245	Original thinking or work	20	20	100	3.000	0.000
			Critical thinking about problems	20	19	95.0	2.950	0.224
			Be curious about the things around you	20	17	85.0	2.850	0.489
Creating Value	2.967	0.178	Improve quality and reduce costs	20	20	100	3.000	0.000
			Enhance customer service	20	20	100	3.000	0.000
			Optimize the capital structure	20	18	90.0	2.900	0.308
Identify opportunities	2.850	0.309	Discover customer needs	20	20	100	3.000	0.000

			Find the market	20	18	90.0	2.850	0.489
			Discover and analyze the problems	20	15	75.0	2.700	0.571
Manage risk	2.867	0.276	Risk identification	20	20	100	3.000	0.000
			Risk analysis	20	18	90.0	2.850	0.523
			Risk monitoring	20	15	75.0	2.750	0.550
communication skills	2.800	0.378	Oral language communication	20	20	100	3.000	0.000
			Body language communication	20	17	85.0	2.750	0.639
			Written language communication	20	15	75.0	2.650	0.671
Leadership	2.817	0.222	Has a strong influence	20	19	85.0	2.950	0.224
			Decision-making ability	20	17	85.0	2.800	0.523
			Organization and coordination ability	20	16	80.0	2.700	0.657
Business capabilities	2.967	0.129	Efficient financial management	20	20	100	3.000	0.000
			Precise customer service	20	19	95.0	2.950	0.224
			Continuous product development	20	19	95.0	2.950	0.224
Self-development ability	2.700	0.108	Accurate self-perception	20	18	90.0	2.850	0.489
			Habit of self-motivation	20	15	75.0	2.650	0.671
			Have self-evaluation and improvement	20	14	70.0	2.600	0.681
Resource integration capability	2.967	0.129	Information technology capability	20	20	100	3.000	0.000

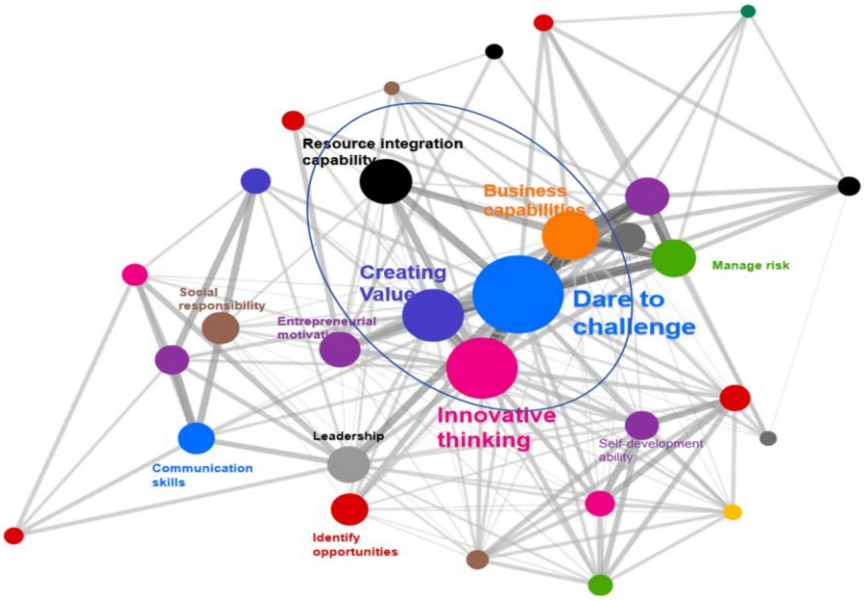
	Ability to acquire resources	20	19	95.0	2.950	0.224
	The ability to allocate resources	20	19	95.0	2.950	0.224

From Table 1 , the elements of innovative entrepreneurial capabilities are divided into 12 dimensions and 34 observation points. According to the evaluation of experts and combined with data analysis, the maximum mean value of the 12 dimensions is 2.967, the minimum value is 2.700, the maximum standard deviation value is 0.378, and the minimum value is 0.000. Among the 32 observations, the largest mean value is 3.000, the smallest value is 2.600, the largest standard deviation value is 0.681, and the smallest value is 0.000. Generally speaking , both the 12 dimensions and the 32 observation points of innovative entrepreneurs can scientifically reflect the composition of innovative entrepreneurs' capabilities and can be used as a component of short courses on innovative entrepreneur.

2. Exploratory analysis of the elements of innovative entrepreneur courses.

In order to more intuitively reflect the importance and interrelationship of each element , based on the records of interviews with 20 entrepreneurs, a word cloud diagram of the expert interview content was drawn through the ATLAS. ti software. See Figure 1 for details.

Figure 1 Exploratory analysis of the elements of innovative entrepreneur courses



From Figure 1, based on word frequency and relevance, innovative entrepreneurial capabilities are mainly reflected in five aspects: dare to challenge, innovative thinking, value creation, business capabilities and resource integration capabilities. In comparison, the importance of other various ability elements is not that important based on the statistical quantity of frequency. Consider how to represent the importance of each element during curriculum development.

3. Analysis of evaluation results of innovative entrepreneur short course teaching plans

Seven university course and innovative entrepreneur experts were invited to evaluate the course teaching plan. See Table 2 for details.

Table 2 Expert rating data analysis table of Innovative entrepreneur short course (N=7)

Compliance Assessment Project	Consistency Index
Courage to challenge	
Consistency between training content and training objectives	1.00
Consistency between training outcomes and expected behaviors	0.71
Alignment of training content with training objectives	0.71
Consistency between training methods and expected outcomes	1.00
Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	0.86
Alignment of training duration with training objectives	0.71
Entrepreneurial motivation	
Consistency between training content and training objectives	0.86
Consistency between training outcomes and expected behaviors	0.71
Alignment of training content with training objectives	1.00
Consistency between training methods and expected outcomes	0.71
Supportiveness of training content	0.86
Consistency between training effectiveness evaluation and expected behaviors	1.00

Alignment of training duration with training objectives	0.8 6
Social responsibility	
Consistency between training content and training objectives	0.71
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	1.00
Consistency between training methods and expected outcomes	0.86
Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	1.00
Alignment of training duration with training objectives	0.8 6
Innovative thinking	
Consistency between training content and training objectives	0.71
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	1.00
Consistency between training methods and expected outcomes	0.71
Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	0.71
Alignment of training duration with training objectives	1.00 _
Creating Value	
Consistency between training content and training objectives	1.00
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	1.00
Consistency between training methods and expected outcomes	0.71
Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	1.00
Alignment of training duration with training objectives	0.71
Identify opportunities	
Consistency between training content and training objectives	0.86

Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	0.71
Consistency between training methods and expected outcomes	0.71
Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	0.86
Alignment of training duration with training objectives	0.8 6
Manage risk	
Consistency between training content and training objectives	0.86
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	0.71
Consistency between training methods and expected outcomes	0.71
Supportiveness of training content	0.86
Consistency between training effectiveness evaluation and expected behaviors	0.86
Alignment of training duration with training objectives	1.00 _
communication skills	
Consistency between training content and training objectives	1.00
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	1.00
Consistency between training methods and expected outcomes	0.86
Supportiveness of training content	0.86
Consistency between training effectiveness evaluation and expected behaviors	1.00
Alignment of training duration with training objectives	1.00 _
Leadership	
Consistency between training content and training objectives	1.00
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	1.00
Consistency between training methods and expected outcomes	0.86

Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	1.00
Alignment of training duration with training objectives	0.8 6
Business capabilities	
Consistency between training content and training objectives	0.71
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	0.71
Consistency between training methods and expected outcomes	0.86
Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	0.86
Alignment of training duration with training objectives	0.8 6
Self-development ability	
Consistency between training content and training objectives	1.00
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	0.71 _
Consistency between training methods and expected outcomes	0.86
Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	0.86
Alignment of training duration with training objectives	0.71
Resource integration capability	
Consistency between training content and training objectives	1.00
Consistency between training outcomes and expected behaviors	0.86
Alignment of training content with training objectives	1.00
Consistency between training methods and expected outcomes	0.86
Supportiveness of training content	1.00
Consistency between training effectiveness evaluation and expected behaviors	0.71

Alignment of training duration with training objectives	0.8	6

From Table 2, 7 experts conducted consistency evaluations on 6 dimensions of 12 teaching plans, with the highest score being 1.00 and the lowest score being 0.71. Expert evaluation shows that the design of the teaching program is scientific and reasonable and can be unanimously recognized by experts in curriculum design and innovative entrepreneurs.

4. Analysis on the effectiveness of implementing short courses on innovative entrepreneur.

short courses on innovative entrepreneur are implemented for students based on lesson plans that have been evaluated and approved by experts. This study takes the course to cultivate students' ability to challenge as an example, and uses the pre-test and post-test evaluation forms for the effectiveness of the innovative entrepreneur courses for those who participated in the training, and Compare and statistically analyze the data from the two before and after. The results are shown in Table 3.

Table 3 Comparative Analysis of Pre-test and Post-test Data on Changes in Student Abilities (N=40)

Test Request	Pretest ($\overline{X}$)	Posttest ($\overline{X}$)	D-value	T	P
1. What do you understand by challenges and difficulties?	6.68	8.73	2.05	-8.901	<.05
2. What are the methods to cultivate perseverance?	6.80	7.28	.48	-2.147	<.05
3. What are the characteristics of planning?	6.58	6.75	.17	-0.797	.214
4. How do you set goals and make plans?	6.60	8.38	1.78	-7.696	<.05
5. What problems or obstacles may arise during plan execution? How would you solve them?	6.43	8.15	1.72	-6.413	<.05
6. How do you identify and analyze problems?	6.83	8.73	1.90	-7.440	<.05
7. What are the skills and strategies for problem-solving?	6.75	8.58	1.83	-7.163	<.05
8. What impact does continuous learning have on personal development?	7.05	9.08	2.03	-9.017	<.05
9.What are the methods of continuous learning?	6.88	8.48	1.60	-6.648	<.05
10. What is the relationship between innovative thinking and learning?	6.83	8.18	1.35	-4.685	<.05

11. How do you apply innovative thinking when facing challenges?	7.03	8.78	1.75	-7.288	<.05
12. Please devise a plan to solve a problem you are currently facing.	6.20	8.25	2.05	-9.419	<.05

From Table 3, that the implementation of short course training to cultivate the courage to challenge ability has improved students' courage to challenge to varying degrees. The smallest improvement is " Plan Features" (d value = 0.17), while the largest improvement is "What are the challenges and difficulties? Please make a plan to solve the problems you face" (d value = 2.05). Passed t-test , it was found that among the 12 test subjects, the pre-test and post-test scores of 11 subjects reached a statistically significant level ($P < .05$), and the score of 1 subject did not reach a statistically significant level. There were 11 subjects in total. There is a significant difference, accounting for 91.67% of all test topics. This shows that the implementation of the short course training of "brave ability cultivation" has significantly improved students' courage to challenge their abilities. The items that did not reach a significant level are: "What are the characteristics of this plan ? "It shows that students understand the characteristics of the plan. The training course does not teach students to master the connotation of abstract knowledge . The analysis reason is that the knowledge of the plan is a relatively abstract concept. In a short period of time, students may also have insufficient knowledge of design content and teaching methods . Defects lead to students' inability to effectively master the curriculum. Improving the course development process can improve teaching content and teaching methods in a targeted manner and improve learning effects.

Conclusion

The short course on innovative entrepreneur contains 12 basic elements. Combined with the demand for innovative and entrepreneurial talents in the development of SRCI enterprises,

it consists of courage to challenge, social responsibility, entrepreneurial motivation, innovative thinking, value creation, identifying opportunities, risk management, communication skills, leadership skills, business skills, self-development capabilities and resource integration. It consists of 12 elements including ability. Among them, there are 7 observation points for social responsibility, 8 observation points for identifying opportunities and business capabilities, and 9 observation points for other elements. Ries (2011) and Samit (2015) also expressed similar views, but this study further expanded and supplemented the basic elements and observation points of the short course on innovative entrepreneur.

The ability of innovative entrepreneurs is embodied in five key abilities. Based on the analysis of feedback from interviews with entrepreneurs, these five abilities are, in order of importance, the ability to dare to challenge, the ability to think innovatively, the ability to create value, business capabilities and the ability to integrate resources. Compared with other ability factors, these five abilities are mentioned and paid attention to much more frequently, indicating that these abilities play a very important role in the cultivation and construction of innovative entrepreneur capabilities. Therefore, these five key abilities should be fully considered in the development and design of short courses. The findings of this study support Worrell et al.'s (2013) research conclusion that creativity, critical thinking, and problem solving are key skills for innovative entrepreneur.

The developed and designed short course on innovative entrepreneur has good rationality and feasibility. Course lesson plans mainly include specific elements of behavioral objectives, content and themes, teaching methods, teaching resources and teaching time. For the rationality evaluation of curriculum settings, experts mainly check the consistency of training content and training objectives, the consistency of training results and behavioral objectives, the fit between training content and training topics, and the consistency between training methods and behavioral objectives. The evaluation results are good from 7 aspects including consistency, supportability of training content, training evaluation based on behavioral objectives, and fit between training duration and training objectives, which reflects the rationality and feasibility of the course setting in a scientific and accurate manner. This is consistent with Ulrich and Eppinger's (2015) view that entrepreneurship education textbooks and teaching resources must be updated in a timely manner.

The development and design of short courses on innovative entrepreneur can significantly improve college students' innovative entrepreneur abilities. After the course was implemented, the scientific nature of the curriculum and the effectiveness of the course were evaluated through the degree of satisfaction with course implementation and changes in students' abilities. Data statistical analysis showed that students' innovative entrepreneur abilities had significantly changed before and after the training. Explain that the development and design of short courses on innovative entrepreneur are effective. The course results developed in this study provide feasible solutions to the research findings of Blank (2013), Zhang (2021), Zhao (2022) and make up for the shortcomings of related research.

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