



Training Curriculum Development for Enhancing Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

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Abstract

Background: The Chinese economy is in the stage of recovery during the post-pandemic period. There are two forms of recovery, the first being that the Chinese economy maintains a "stable" trend; The second form is manifested in the fact that the foundation of recovery is not stable enough and has imbalanced characteristics. One of the problems is the high employment pressure. College graduates have an absolute advantage in the pressure sources for employment. This study aims to study, analyze, develop, and evaluate the training curriculum for enhancing entrepreneurship learning management abilities of vocational college lecturers in Henan province.

Methods: This research paper follows the mixed-methods design. The samples in this research were 365 vocational college teachers, 398 vocational college students, and 390 vocational college graduates from 5 vocational colleges in Nanyang City, Henan Province. A questionnaire was used as an instrument for gathering data in the present investigation. The obtained data were analyzed by using frequency, percentage, mean, and standard deviation. A semi-structured interview was analyzed by using the content analysis technique. The test scores were calculated to find out the mean and standard deviation. A dependent samples t-test was used to compare the test mean scores after the training program to detect a significant difference at the .05 level. The collected data were analyzed by using the mean and standard deviation.

Results: This study developed and evaluated a training curriculum to enhance the entrepreneurship learning management abilities of vocational college lecturers in Henan Province, People's Republic of China. Using a mixed-methods approach, findings revealed high levels of entrepreneurial skills post-training, with significant improvements in knowledge, innovation, and motivation.

Conclusion: The research shows that at high levels of the lecturers of entrepreneurship have learning management abilities in Henan Province. It emphasizes factors such as entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation, and highlights the importance of the training curriculum for improving entrepreneurship learning management abilities of lecturers in vocational colleges.

Keywords: Curriculum Administration; Curriculum Development; Entrepreneurship; Entrepreneurship Management Abilities; Lecturers

Introduction

The Chinese government has consistently been proactive in fostering the development of higher education teachers' capabilities and the progression of entrepreneurship education. "The Guiding Opinions of The General Office of the State Council on Further Supporting College Students' Innovation and Entrepreneurship" (General Office of the State Council, 2021) proposed to support college students to improve their innovation and entrepreneurship ability, support college graduates to start their businesses and find employment, improve the quality of human resources, promote the all-round development of college students, and realize more adequate and higher quality employment for college students.

Henan province has developed rapidly, and great progress has been made in training entrepreneurship education teachers, entrepreneurship practice bases, and college students' innovation and entrepreneurship competition. Institutions at all levels have formulated a number of measures to provide the policy support for them. "Supporting to promote the establishment of college students pioneer park guidance" (Henan province education department, 2023) points out that organization entrepreneurship education, full-time teacher training, employment entrepreneurship guidance, teachers teaching skills competition, strengthen



the provincial employment entrepreneurship guidance team construction, improve employment entrepreneurship guidance ability and level.

Although the innovation and entrepreneurship education in Chinese colleges and universities has made some progress, it has played a positive role in improving the quality of higher education. However, there are some problems with the innovation and entrepreneurship teachers in vocational colleges. For example, the number of full-time teachers in entrepreneurship education is insufficient; the staff structure is unreasonable. The purpose of this study is to explore the entrepreneurship components to enhance the Entrepreneurship management ability of teachers. Some scholars have conducted applied research on improving teachers' entrepreneurship learning management abilities, studied the current situation and challenges of entrepreneurship education for teachers in higher vocational colleges, and proposed corresponding solutions. However, some studies lack depth and are also supported by specific operational research methods and empirical data. These gaps indicate the need for more in-depth and specific research in order to better understand the quality of teacher education and the application of entrepreneurship learning management abilities.

Based on the above significance, the researcher is interested in the research of entrepreneurship teaching ability of teachers in vocational colleges in Henan Province, People's Republic of China. The expected findings will be guidelines for the design of more effective entrepreneurship management techniques for teachers in entrepreneurship education teaching methods, for these teachers to improve the level of entrepreneurship education teaching qualifications.

Objectives

1. To assess the current problems and needs in entrepreneurship learning management abilities of vocational college lecturers in Henan province, People's Republic of China
2. To design and develop the training curriculum for enhancing entrepreneurship learning management abilities of vocational college lecturers in Henan province, People's Republic of China
3. To implement the training curriculum for enhancing entrepreneurship learning management abilities of vocational college lecturers in Henan province, People's Republic of China
4. To evaluate the training curriculum for enhancing entrepreneurship learning management abilities of vocational college lecturers in Henan province, People's Republic of China

Literature review

Concept of curriculum development: Wiles and Bondi (2007) mention that curriculum development is a process of reconstructing cross-sections and processes based on the needs of social and academic development. Specifically, it is the entire process of determining Curriculum objectives through demand analysis, selecting teaching content and related teaching activities for a certain discipline (or multiple disciplines) based on these objectives, planning, organizing, implementing, evaluating, and continuously improving to ultimately achieve curriculum objectives. The four elements of curriculum development are a system composed of four interdependent and prerequisite systems: curriculum positioning, curriculum design, curriculum implementation, and curriculum evaluation. Curriculum development shall follow this complete closed loop. Based on the ISD model, the curriculum development in vocational colleges can be summarized into five steps: 1) Orientation and overall planning of curriculum development; 2) Scope and process of curriculum survey work; 3) Scope and process of curriculum content selection; 4) Establishment of curriculum structure; 5) Preparation and implementation of curriculum documents and final evaluation of curriculum development. Although previous studies have involved curriculum development, they lack a comprehensive discussion on the curriculum development of entrepreneurship education. Emphasis should be placed on the curriculum development of lecturers' entrepreneurship learning management ability.

Concept of entrepreneurship: The concept of entrepreneurship refers to starting a business with creativity, ideas, and ideas of curriculum. These entrepreneurship concepts must be innovative, at least in the industry or field they plan to enter, to seize market opportunities and attract the attention of venture



capitalists. At the same time, these unconventional ideas must also have operability, rather than fantasy. Four major models: whimsical, problem-solving, cross-industry replication, and foreign transplantation, as follows: whimsical type, conceptual entrepreneurship problem-solving type, conceptual entrepreneurship and cross-industry replication, and conceptual entrepreneurship overseas transplantation type. Although there have been many previous studies on entrepreneurship, they lack in-depth discussions on entrepreneurship research in vocational colleges. Special attention should be paid to entrepreneurship research in vocational colleges of Henan Province.

Concept of entrepreneurship learning management ability: Entrepreneurship learning management ability refers to the ability to discover or create a new field, committed to understanding and creating new things (new products, new markets, new production processes or raw materials, new methods of organizing existing technologies), able to use various methods to utilize and develop them, and then produce various new results. Entrepreneurship learning management ability is divided into hardware and software, where hardware refers to human, material, and financial resources; Software is the personal abilities of entrepreneurs, including professional skills and entrepreneurship qualities. Summarize high-frequency words through literature. Factors affecting entrepreneurship learning management abilities are entrepreneurship skills, entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation. Entrepreneurship Skills refer to a high-level, comprehensive ability. The most important parts include cooperation ability, interpersonal communication skills, and autonomous learning ability. Entrepreneurship Knowledge refers to the knowledge system and structure of individuals who have significance for the entrepreneurship practice process, mainly including human resource administration ability, entrepreneurship management, entrepreneurship law, entrepreneurship policy, etc. Innovation Thinking refers to the thinking process of solving problems with innovative and original methods. The most important parts include problem-solving ability and divergent thinking. Entrepreneurship Motivation refers to a motivating factor for entrepreneurs to take various risks to establish new businesses. In general, it can be summarized as self-actualization, entrepreneurship experience, entrepreneurship environment, and personality traits. Although previous studies have involved entrepreneurship education and entrepreneurship learning management capabilities of vocational college lecturers, they lack operational training models and focus on the entrepreneurship management abilities of lecturers in the context of Chinese occupations.

Concept of vocational college lecturers: Vocational college lecturers mean that master solid basic theories and specialized knowledge in the field of this major, especially those directly related to the professional practice of applied talents, be able to correctly analyze and evaluate the professional activities and work processes in the field, and have a certain degree of course development ability; Mastering a wide range of professional practical abilities and possessing certain practical experience in this professional field. Having the basic theoretical foundation and ability of vocational education, able to correctly analyze, evaluate, design, and implement the teaching process of vocational education according to the laws of vocational learning. Having the basic ability to engage in vocational education management work and handle relevant public relations. Having the ability to guide the comprehensive development of students' morality, intelligence, physical fitness, and aesthetics, as well as their career development. Possesses certain career development abilities. Although previous studies have involved the learning ability of vocational college lecturers, they lack targeted training in the management of lecturers' entrepreneurship learning, with a focus on enhancing their entrepreneurship learning management ability in the context of Chinese occupations.

Related Research on the Framework of Curriculum Administration, Curriculum Development, Entrepreneurship, Entrepreneurship Learning Management Ability, Vocational College Lecturers found as follows: 1) Wang & Guo (2016) adopted the viewpoint of American educator Brubeck, believing that no matter what teaching form is adopted, it is necessary to conduct in-depth analysis of the logic and motivation of Curriculum selection, organization, structure, and content; 2) Shi (2020) studied and mentioned that entrepreneurship education can effectively promote the development of students' innovative spirit and

entrepreneurship ability; 3) Wang (2020) investigated the perspectives of the significance and essence of entrepreneurship education. The significance of analyzing entrepreneurship education lies in recognizing that everyone has the potential and needs for entrepreneurship and is willing to provide appropriate conditions; 4) Wu (2022) analyzed the concepts of innovation and entrepreneurship community, based on the multi helix theory, an organizational structure of entrepreneurship community has been constructed from four levels: the main body layer, the behavior layer, the functional layer, and the target layer; 5) Ji (2022) proposed five countermeasures: clarifying the hierarchy of entrepreneurship curriculum goals, structure and content, implementing diversification, evaluation system, and guarantee measures, providing reasonable reference for the construction of entrepreneurship curriculum system in applied undergraduate universities in People's Republic of China; 6) Li & Yu (2023) investigated the construction of entrepreneurship ecosystems in universities is an important means to achieve high-quality development of entrepreneurship and entrepreneurship education", and advocate for "immersive entrepreneurship practice guided by action learning, and building a symbiotic, interdependent, and regenerative entrepreneurship education community; 7) Jin and Luo (2023) studied the core essence of entrepreneurship education lies in the "overall coordination and unity of people, society, and organization"; 8) Ren (2023) and Liu & Sun (2024) analyzed the impact of the vocational education track of the entrepreneurship competition on entrepreneurship education in universities from the perspective of the college student entrepreneurship competition.

Conceptual Framework

The author of the aforementioned review has constructed a conceptual framework for the research, which can be seen in Figure 1.

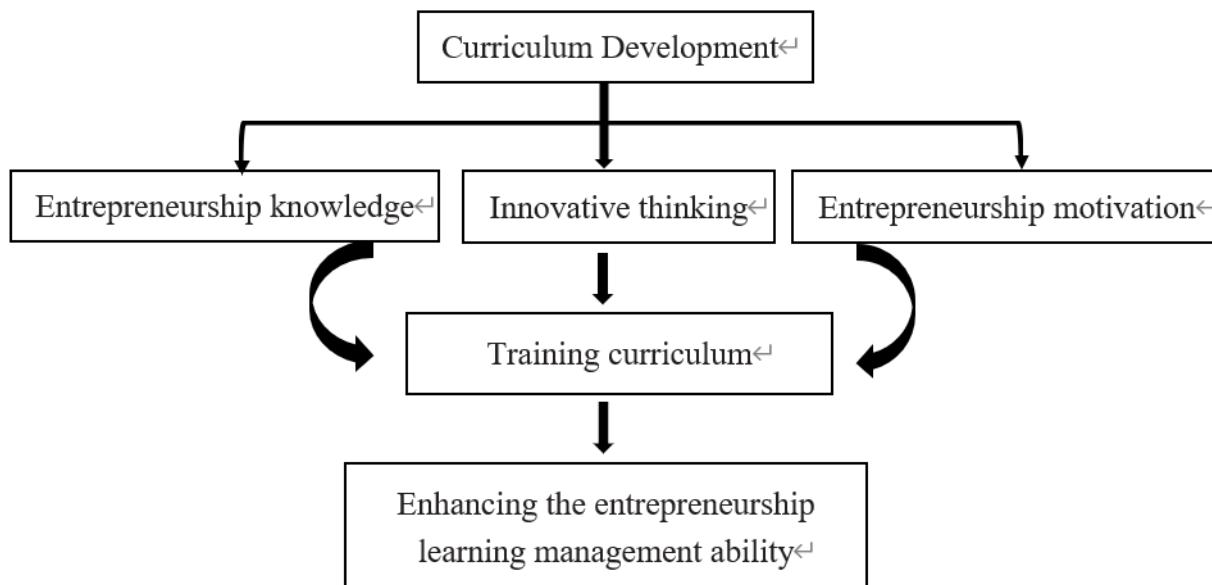


Figure 1 The conceptual framework of this study

Note: Constructed by the researcher

Figure 1 shows that combining curriculum theory with entrepreneurship education, develop and design the generation process of the entrepreneurship learning management ability course training for lecturers in higher vocational colleges, enhance the entrepreneurship learning management abilities of lecturers in vocational colleges, provide ideas and lay a theoretical foundation for further research, and offer a reference blueprint for the development of entrepreneurship lecturers in Henan Province.



Methodology

1. Population and Sample Size

In the phase of the assessment current situation, the population included 4,158 vocational college teachers and 66,424 vocational college students in Nanyang City, Henan Province, People's Republic of China. The sample of this research was 365 vocational college teachers, 398 vocational college students, and 390 vocational college alumni from 5 vocational colleges in Nanyang City, Henan Province, People's Republic of China. In the phase of implementing the training curriculum, the target group included 23 lecturers who teach the innovation and entrepreneurship course in Nanyang Vocational College of Science and Technology in Henan Province, People's Republic of China.

2. Research Tools

The documentary analysis form, which includes the content summary, was used research instrument.

The questionnaire was used as a research instrument to ask about the current situation of teaching and learning entrepreneurship of vocational college lecturers in Nanyang Vocational College of Science and Technology in Henan Province, People's Republic of China.

The semi-structured interview was used to ask about designing and developing the training curriculum to enhance the entrepreneurship learning management abilities of vocational college lecturers.

The research instruments also included: 1) the training curriculum for enhancing the entrepreneurship learning management abilities of vocational college lecturers, 2) Post-test mean scores after the training program of entrepreneurship knowledge, innovative thinking, entrepreneurship motivation, and overall are 8.96, 8.78, 8.91, and 26.65 respectively, which post-test meant scores with the criteria of 70 percent of the test score were statistically significant differences at the level of 0.05, 3) The satisfaction questionnaire towards the training curriculum for enhancing the entrepreneurship learning management abilities of vocational college lecturers, and 4) The suitability of the teacher training curriculum for enhancing entrepreneurship learning management abilities of vocational college lecturers in Henan Province, People's Republic of China, included 5 items: feasibility, propriety, accuracy, comprehensiveness and utility.

This study mainly uses post-training evaluation and has no randomized control group, which limits causal reasoning.

3. Data Collection

The researcher sent the letter issued by the Graduate School asking for permission to collect the data. The researcher collected all the data by herself. The data were collected through the documents, academic textbooks, and related research works from various higher education institutions, libraries, and educational institutions in the People's Republic of China and online databases.

The researcher informally made an appointment with the stakeholders for an interview. The researcher asked permission from the Graduate School to issue the letter asking the stakeholders for an interview at least 15 days in advance. The researcher interviewed the stakeholders at the appointed times, dates, and places.

The researcher implemented the developed training curriculum for enhancing the entrepreneurship learning management abilities of vocational college lecturers as follows: 1) The target group was trained by the developed training curriculum for enhancing the entrepreneurship learning management abilities of vocational college lecturers, and 2) The target group did the 30 multiple choice questions with 4 alternatives related to the entrepreneurship learning management abilities of vocational college lecturers after the training program.

The researcher collected the data from the target group by using a satisfaction questionnaire on the training curriculum for enhancing the entrepreneurship learning management abilities of vocational college lecturers. The researcher collected the data from the target group by using the evaluation form to verify the teacher training curriculum for enhancing entrepreneurship learning management abilities of vocational college lecturers in Henan Province, People's Republic of China.

4. Data Analysis



The collected data were analyzed by using the content analysis technique, and then summarized and organized those data according to the documentary analysis form. Those findings were summarized as the conceptual framework.

The data obtained from the interview were analyzed by using the content analysis technique. After that, the findings were used to draft the training curriculum for enhancing the entrepreneurship learning management abilities of vocational college lecturers in Henan Province, People's Republic of China.

In order to evaluate the entrepreneurship learning management abilities of vocational college lecturers before and after training with the developed curriculum, the test scores were calculated to find out the mean and standard deviation. In addition, a dependent samples t-test was used to compare the test mean scores before and after the training program to detect a significant difference at the .05 level.

The quantitative data collected from the rating scale questionnaire were analyzed using mean and standard deviation. The five-point rating scale was interpreted as follows: a score of 5 indicated the highest level of satisfaction, 4 represented a high level, 3 a moderate level, 2 a low level, and 1 the lowest level. Based on Srisa-ard (2013: 109), the scores were further interpreted using specific ranges: 4.51–5.00 signified the highest level, 3.51–4.50 indicated a high level, 2.51–3.50 reflected a moderate level, 1.51–2.50 suggested a low level, and 1.00–1.50 denoted the lowest level of satisfaction. In addition, qualitative data from open-ended questions concerning challenges and suggestions for the training curriculum aimed at enhancing entrepreneurship learning management abilities among vocational college lecturers in Henan Province, People's Republic of China, were analyzed using content analysis. Descriptive statistics such as percentage, frequency, mean, and standard deviation were employed to summarize and present the data, facilitating a comprehensive understanding of the findings.

Results

The researcher summarized the study results based on the following topics.

1. Studying and Analyzing the Current Situations and Needs on Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

The results showed that the entrepreneurship learning management abilities were at a high level. When considering the various dimensions, it was found that the highest mean score was entrepreneurship skills, followed by entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation.

Through the investigation of four aspects of entrepreneurship learning management abilities of lecturers, this study found the existing problems of entrepreneurship learning management abilities of lecturers. The results showed that the main problems of entrepreneurship learning management abilities of lecturers in Henan Province were entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation. Given these improvements, some suggestions were put forward for vocational college lecturers, including transforming theoretical knowledge into practical ability and giving them more opportunities to practice their practical ability.

Through in-depth interviews, it was found that in terms of entrepreneurship knowledge, lecturers in vocational colleges should strengthen the study and application of entrepreneurship law and entrepreneurship policy knowledge, and learn to properly use this knowledge in entrepreneurship. In terms of innovative thinking, vocational college lecturers should learn problem-solving ability and divergent thinking ability to improve their adaptability to entrepreneurial changes. In terms of entrepreneurship motivation, vocational college lecturers should improve their self-actualization ability, increase entrepreneurship experience, adapt to the entrepreneurship environment, and show their personality traits.

At present, the problems of lecturers in vocational colleges are: 1) Lecturers' entrepreneurship knowledge is not comprehensive; 2) Lecturers' innovative thinking is backward; and 3) Lecturers lack entrepreneurship motivation. Firstly, the most important thing is to expand the lecturer's entrepreneurship knowledge; secondly, to strengthen the combination of theory and practice to enhance innovative thinking; thirdly, to increase the training of practical ability to improve the lecturer's entrepreneurship motivation.



In terms of training, respondents suggested that training should be carried out in three stages, namely the initial stage of development, the development growth stage, and the development maturity stage, with different training plans and contents. As for training methods, respondents suggested increasing theoretical learning and practical learning. For training evaluation, respondents suggested establishing an evaluation system for entrepreneurship teachers. In addition, respondents wanted support from the colleges, training platforms, and national policies.

2. Designing and Developing the Training Curriculum for Enhancing Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

According to the current situation, existing problems and needs of entrepreneurship learning management abilities of lecturers, as well as the results of in-depth interviews with stakeholders related to entrepreneurship learning management abilities, the training curriculum for enhancing entrepreneurship learning management abilities of vocational college lecturers in Henan Province was developed as follows:

Table 1 Training Curriculum Structure

Training Modules	Training Units	Training Content
Module 1 Entrepreneurship Knowledge	Unit 1 Entrepreneurship Law	Lesson 1. Basic Knowledge of Entrepreneurship Law, Risk Prevention, and Case Analysis Lesson 2. Entrepreneurship Law Teaching Skills and Teacher Quality
	Unit 2 Entrepreneurship Policy	Lesson 3. Basic Theory of Entrepreneurship Policy Lesson 4. Entrepreneurship Policy Teaching, Assessment, and Literacy
Module 2 Innovative Thinking	Unit 3 Problem-solving Ability	Lesson 5. The Importance, Constituent Elements, and Core Contents of Problem-solving Ability Lesson 6. Training and Practical Application of Problem-Solving Ability
	Unit 4 Divergent Thinking	Lesson 7. A Basic Overview of Divergent Thinking and Its Importance to Entrepreneurship Lecturers and Entrepreneurship Education Lesson 8. Application, Evaluation, and Feedback of Divergent Thinking Ability in Entrepreneurship Teaching
Module 3 Entrepreneurship Motivation	Unit 5 Self-actualization	Lesson 9. The Connotation, Role, and Responsibility, Application, and Cultivation of Self-actualization Ability Lesson 10. Practical Teaching of Self-actualization with Case Studies and Social Values
	Unit 6 Entrepreneurship Experience	Lesson 11. The Basic Theory and Teaching Method of Entrepreneurship Experience Lesson 12. Teaching Content, Teacher Responsibility, Assessment and Feedback, Case Analysis, Prospect Trend of Entrepreneurship Experience
	Unit 7 Entrepreneurship Environment	Lesson 13. The Basic Theory of Entrepreneurship Environment and the Role of Entrepreneurship Teachers Lesson 14. Entrepreneurship Environment Teaching, Teacher Ability Improvement, Evaluation, and Optimization
	Unit 8 Personality Traits	Lesson 15. The Basic Theory of Personality Traits and The Relationship between Personality Traits and Entrepreneurship Lesson 16. The Combination of Personality Traits and Entrepreneurship Teaching Process

Table 1 shows that the training curriculum consisted of three modules: entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation. Each module consisted of 2 days of intensive training and practical training for a total of 4 weeks; the total training time was 30 days.

Module 1: Entrepreneurship knowledge, including entrepreneurship law and entrepreneurship policy; Module 2: Innovative thinking, including problem-solving ability and divergent thinking; Module 3: Entrepreneurship motivation, including Self-actualization, entrepreneurship experience,



entrepreneurship environment, and personality traits. These three training modules covered the support that lecturers most need in entrepreneurship learning management abilities in Henan Province, People's Republic of China.

3. Implementing the Training Curriculum for Enhancing Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

This section presents the implementation results of strengthening the training curriculum for enhancing the entrepreneurship learning management abilities of vocational college lecturers. The 23 vocational college lecturers from Nanyang Vocational College of Science and Technology in Henan Province, People's Republic of China, participated in the training curriculum, including three steps as follows:

Step 1: Post-test and t-test entrepreneurship learning management abilities

The researcher compared the changes in entrepreneurship learning management abilities after training the participants.

Table 2 One One-sample statistics and One-sample t-test (n = 23) part 1

	n	Mean	S.D.	S.D. Error Mean
Entrepreneurship knowledge	23	8.96	.878	.183
Innovative thinking	23	8.78	1.043	.217
Entrepreneurship motivation	23	8.91	.733	.153
Overall	23	26.65	1.434	.299

Table 2 One One-sample statistics and One-Samples t-test (n = 23), part 2

	t	df	Sig. (2-tailed)	Mean. Different	Test Value = 7	
					Difference 95% confidence interval	
					Lower limit	Upper limit
Entrepreneurship knowledge	10.688	22	.000	1.957	1.58	2.34
Innovative thinking	8.22	22	.000	1.783	1.33	2.23
Entrepreneurship motivation	12.514	22	.000	1.913	1.60	2.23
Overall	18.908	22	.000	5.652	5.03	6.27

Tables 2 and 3 show the post-test mean scores after the training program of entrepreneurship knowledge, innovative thinking, entrepreneurship motivation, and overall are 8.96, 8.78, 8.91, and 26.65, respectively, which post-test mean scores with the criteria of 70 percent of the test score are statistically significant differences at the level of 0.05. It points out that the training effect is obvious, and the teaching ability of the lecturers is improved. The training courses enhance the lecturers' entrepreneurship learning management ability and improve the teaching quality. The lecturers' entrepreneurship learning management abilities have been improved, and a high-level entrepreneurship lecturer team has been created.

Step 2: Evaluation of lecturers' curriculum reports and practical operations during training

A four-week follow-up survey evaluation was conducted after the training ended. The results showed that the lecturers' entrepreneurship learning management abilities reached a high level and achieved obvious results. At the same time, the vocational college lectures themselves had a trend of significant improvement in Module 1: Entrepreneurship knowledge, Module 2: Innovative thinking, and Module 3: Entrepreneurship motivation.

Step 3: Issues and Countermeasures

Through the tracking, feedback, and summary of the curriculum trial process and results, the curriculum contents and methods were feasible. However, some problems were also found. It was necessary to comprehensively and systematically optimize the training content, training experts, training methods,



training assessment and training resources to effectively improve the quality of training, lay a solid foundation for cultivating a high-quality and professional entrepreneurship lecturers' team, and then promote the vigorous development of entrepreneurship education and cultivate more outstanding talents with innovative spirit and entrepreneurship ability for the society.

4. Evaluating the Training Curriculum for Enhancing Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

There were two methods, a satisfaction survey and expert evaluation, to evaluate the designed and developed entrepreneurship learning management abilities training curriculum for vocational college lectures in Henan Province, People's Republic of China.

Table 3 Evaluating the satisfaction towards the training curriculum development for enhancing entrepreneurship learning management abilities of vocational college lecturers in Henan Province, People's Republic of China

Evaluation Contents	Satisfaction		
	\bar{X}	S.D.	Level
Curriculum Content	4.01	0.69	High
1. The content of the training curriculum met my expectations.	4.18	0.72	High
2. The organization and arrangement of curriculum content are reasonable.	4.26	0.75	High
3. The materials and resources provided by the curriculum are very helpful for my study.	4.04	0.71	High
4. The explanation of curriculum contents is clear and easy to understand.	4.43	0.59	High
5. In the case study, case analysis helped me understand the methods of applying entrepreneurship learning management abilities.	4.43	0.58	High
6. The assessment tools provided in the curriculum are very helpful for my learning.	4.39	0.49	High
7. Practical operation helped me learn how to create creative and inspiring teaching content	3.65	0.49	High
8. The practice of teaching with entrepreneurship is helpful.	3.57	0.51	High
Teacher Performance	3.78	0.49	High
9. The teacher is very proficient in the curriculum content.	4.00	0.37	High
10. The teacher's teaching methods and skills are effective.	3.57	0.51	High
11. Teachers actively interact throughout the curriculum.	3.87	0.46	High
12. The teacher answered all questions efficiently and provided clear explanations.	3.70	0.47	High
Training Methods	4.02	0.45	High
13. The training methods are diverse and interactive.	4.09	0.42	High
14. These training methods effectively stimulated my interest in learning.	3.96	0.47	High
Training Effects	4.26	0.65	High
15. These methods helped me better understand the content of the curriculum.	4.26	0.69	High
16. This training significantly improved entrepreneurship for learning management abilities.	4.26	0.62	High
Total	3.99	0.63	High

Table 3 shows that the lecturers in vocational colleges were highly satisfied with the training courses for improving entrepreneurship learning management abilities ($\bar{X} = 3.99$, S.D. = 0.63). Combining the evaluation items, it was found that the highest average score was in item 4, training effect ($\bar{X} = 4.26$, S.D. = 0.64), which showed that the training lecturers had achieved significant results. The third item, training methods ($\bar{X} = 4.02$, S.D. = 0.64), was followed by the second item, "Teacher Performance" ($\bar{X} = 3.80$, S.D. = 0.79), with low overall scores. It was worth noting that the first item, "The explanation of curriculum contents is clear and easy to understand." ($\bar{X} = 4.43$, S.D. = 0.59) and "In the case study, case analysis helped me understand the methods of applying entrepreneurship learning management abilities." ($\bar{X} = 4.43$, S.D. = 0.59) scores the highest, highlighting the scientific nature of the course content and the effectiveness of the case study, and enhancing the lecturers' interest in learning the training content.



4.2 Validating the Training Curriculum for Enhancing Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

The evaluation results of the five experts showed that the feasibility, propriety, accuracy, comprehensiveness, and utility of the training curriculum quality overall were at a high level. From the perspective of each quality factor, evaluation scores from high to low were: feasibility, accuracy, comprehensiveness, propriety, and utility. It shows that experts were not very satisfied with the role of practical application training in training instructors, but there was still a high level of satisfaction, and there was room for further improvement.

Discussion

The researcher makes the discussion of the study results based on the following topics:

1. The Current Situations of Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

According to the survey results, the level of entrepreneurship learning management abilities of vocational college lecturers in Henan Province was usually at a high level. Entrepreneurship skills were at a high level, followed by entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation. The results showed that the lecturers had a high level of entrepreneurship skills, but lacked entrepreneurship knowledge, which was manifested as: lack of entrepreneurship law and entrepreneurship policy knowledge.

Through interviews, the researcher learned that, in reality, entrepreneurship learning management ability still has some deficiencies. The entrepreneurship knowledge was mainly reflected in the lack of a comprehensive grasp of entrepreneurship laws and policies. The innovative thinking was mainly reflected in the need to improve problem-solving and divergent thinking abilities. The entrepreneurship motivation was mainly reflected in the need to continuously improve self-actualization ability, increase entrepreneurship experience, familiarize and utilize the entrepreneurship environment, respect personality differences, etc.

In the questionnaire survey, the college administrators and company administrators expressed their hope to get more detailed guidance and more practical opportunities in terms of entrepreneurship learning management ability.

This information indicated that students needed to acquire practical and specific skills to improve entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation. This establishes guidelines for the design and development of training courses.

2. Designing and Developing the Training Curriculum for Enhancing Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

In terms of curriculum design, it was goal-oriented. This was consistent with the famous "Taylor Principle" proposed by Tayler (1949), which was the four basic problems of curriculum development: determining educational goals, selecting educational experience, organizing teaching strategies, and evaluating educational effects. In the selection of learning experience, Dewey's empirical educational theory pointed out that experience is the foundation of education. Dewey (2023) believed that education was the reorganization or transformation of experience. He emphasized that experience was the result of the interaction between the individual and the environment, and was the core of education. Bobbitt's (1918) curriculum theory included the analysis of human experience; analysis of specific activities or specific work; acquisition of curriculum objectives; selection of curriculum objectives; and formulation of educational plans. Taylor's (1949) curriculum development theory emphasizes that the selection of curriculum content should be consistent with the objective. Bloom's (2019) taxonomy of teaching objectives divided educational objectives into three major areas: cognition, emotion, and motor skills, which provided a clear goal orientation for educational practice and helped teachers better design teaching activities and evaluate students' learning outcomes. In terms of organizing learning content, the course content was systematic and hierarchical, gradually improving teachers' entrepreneurship learning management abilities,



gradually deepening the application of complex entrepreneurship abilities such as entrepreneurship laws and policies, problem-solving skills, divergent thinking, self-actualization, entrepreneurship experience, entrepreneurship environment, and personality traits.

3. Implementing the Training Curriculum for Enhancing Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

In the training of entrepreneurship learning management ability of vocational college lecturers in Henan Province, the researcher mainly focused on three points.

First of all, in the concept of curriculum implementation, adhere to the learner-centered, individualized teaching principle. Through questionnaire data, for example, from the perspective of lecturers, it is more about how to enhance the management ability of entrepreneurship learning and improve the effect of students' entrepreneurship learning; From the perspective of students, more attention should be paid to aspects such as teachers' entrepreneurship knowledge and entrepreneurial teaching ability; From the perspective of graduation and promotion, it focuses on the practical application ability of entrepreneurship abilities. These three perspectives are conducive to obtaining a more comprehensive understanding of the current situation of the entrepreneurial learning management ability of lecturers in vocational colleges in Henan Province, and enhancing the scientific and authentic nature of the research. Combined with semi-structured interviews, this paper explores from the perspective of stakeholders whether the current situation of lecturers' entrepreneurship learning management ability is in line with social demands, making the research more valuable and meaningful. For example, we paid attention to the improvement of entrepreneurship learning management ability in three aspects: entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation. This helped lecturers to obtain the training content and focus in a targeted way, so that the training and practical work are closely related. We improved the quality of vocational education. This finding is consistent with Dewey's (2023) empirical teaching theory, emphasizing the connection between school teaching and social life.

Secondly, the implementation of the training course on entrepreneurship learning management ability for lecturers in higher vocational colleges in Henan Province has achieved good results, and the level of entrepreneurship learning management ability of lecturers has reached a high level. The design of the training curriculum is scientific and practical. The curriculum with three modules covers topics such as entrepreneurship theory, business model design, team management, and market analysis. At the same time, digital tools are integrated to enhance the modernity of teaching. Case teaching is good at introducing local successful entrepreneurial cases and enhancing the lecturer's sense of immersion through the analysis of real scenarios. Practice-oriented options include setting up sand table simulations, entrepreneurial project roadshows, and other links, encouraging teachers to complete the entire process of practice from planning to implementation in teams. The training instructors are of high quality, and the teaching methods are innovative. Establish a diversified teaching team, inviting university professors, enterprise executives, and entrepreneurship mentors to jointly teach, which not only has theoretical depth but also practical experience. For instance, well-known entrepreneurs or the heads of incubators in Henan Province shared their practical experiences. Interactive teaching is adopted, including workshops, flipped classrooms, and action learning methods, emphasizing the active participation of trainees. Problem-solving abilities are enhanced through role-playing, group debates, and other means. Meanwhile, with the assistance of digital tools, blended teaching is realized by using online learning platforms (such as virtual simulation experiments), enabling teachers to learn flexibly and consolidate knowledge. In the evaluation of curriculum implementation, researchers paid attention to detailed feedback on learning results to promote the development of lecturers' entrepreneurship learning management ability, which was similar to the evaluation theory of Bloom (2019). The lecturers of vocational colleges were evaluated after training, and data were collected to check the post-training effects. By combining classroom testing and evaluation with post-training follow-up evaluation, the evaluation results were analyzed to find out existing problems and provide references for the revision and improvement of training courses. This finding is consistent with Taylor's (1949) curriculum theory,



emphasizing a goal-oriented curriculum development model, which determines goals, selects experiences, and organizes experiences.

Finally, the lecturer scientifically applied the entrepreneurship learning management abilities in entrepreneurship teaching. The students' learning enthusiasm was significantly enhanced. In classroom learning, the number of students actively speaking up increased, and the quality of homework improved. Students have a systematic accumulation of entrepreneurial knowledge, mastering the entire process of entrepreneurship, including market research, business plan writing, financing channels, legal compliance, etc. Be capable of integrating professional fields such as mechanical manufacturing and e-commerce to propose technology-driven entrepreneurial plans. During the practical session, students showed great enthusiasm for participating in practice; their hands-on abilities were enhanced, their interest in learning was strengthened, and they actively took part in various entrepreneurship and practical activities organized by the school. Students starting businesses has increased. Actively pay attention to market dynamics, policy trends, and industry pain points, and be able to keenly identify entrepreneurial opportunities. For example, if the problem of local agricultural products being unsold is discovered, propose an e-commerce solution. Have a rational understanding of entrepreneurial risks, be able to assess feasibility, and formulate response strategies. Such as designing alternative plans for a broken capital chain in advance. Students' innovative thinking is strengthened, breaking through the limitations of traditional thinking and proposing cross-border integration business models, such as "intangible cultural heritage + technology" and "agriculture + culture and tourism," and other composite projects. Students are good at using digital tools (big data analysis, AI technology) to optimize the design of products or services. This finding is consistent with Burton's (1979) theory of teacher development. The research advanced based on the collection and organization of data shows that the development of teachers has gone through the survival stage, the adjustment stage, and the maturity stage.

4. Evaluating the Training Curriculum for Enhancing Entrepreneurship Learning Management Abilities of Vocational College Lecturers in Henan Province, People's Republic of China

The evaluation strategy of entrepreneurship learning management ability promotion courses of vocational colleges in Henan Province included several parts.

Firstly, the overall satisfaction evaluation is combined with the local tracking observation evaluation of individual lecturers. Secondly, the expert evaluation was combined with the lecturer evaluation. Thirdly, the training effect of pre- and post-training tests was compared. Fourthly, the evaluation during the training process was combined with the follow-up observation and evaluation after the training.

When collecting course evaluation data, the researcher took into account the feedback of training courses at all levels as far as possible, so as to gain a broader and deeper understanding of the feedback results of relevant personnel on training courses. They emphasized that the feedback of evaluation results on educational purposes, goals, and objectives was the same concept as the teaching evaluation of Bloom (2019). The evaluation also reflected that the improvement of the entrepreneurship learning management abilities of lecturers in vocational colleges had further enhanced the impact on the learning effect of lecturers, and also improved the professional quality of lecturers to a certain extent. This finding is consistent with Bloom's (2019) curriculum evaluation, emphasizing that through formative evaluation, teachers can continuously assess students' mastery during the learning process and make adjustments as needed to ensure that all students can master the learning content.

Conclusion

The research finds that lecturers in vocational colleges maintain a high level of attention to the training of entrepreneurship, learning, and management capabilities. This study explores the improvement of the entrepreneurship learning management ability of lecturers in vocational colleges of Henan Province, People's Republic of China, with a focus on the influence of entrepreneurial knowledge, innovative consciousness, and entrepreneurial motivation on the improvement of entrepreneurship learning management ability. The training courses provide a course structure, course plan, course design, and course



evaluation for entrepreneurial knowledge, innovative consciousness, and entrepreneurial motivation ability, achieving a high level of training effect. This was consistent with Confucius' (2015) development view of teachers of "His body is right, but he will not do it; His body is not right, but he will not obey.", Burton's (1979) theory of "stages of teacher career development", Huberman M.'s (1979) theory of "life cycle of teacher career", and Berliner's (2011) theory of "expert teacher growth", Sun & Liu (2024) view of "The Development Context, Contemporary Value and Practical Path of the Educator Spirit". Although the results are promising, future studies should incorporate randomized controlled designs and long-term follow-ups.

Recommendation

Training Curriculum Recommendations

Based on the empirical evidence provided by this study, this paper can put forward the following suggestions for training courses: The curriculum of entrepreneurship learning management consists of three modules: entrepreneurship knowledge, innovative thinking, and entrepreneurship motivation. The curriculum plan is scientific and reasonable, the curriculum implementation is convenient and easy to understand, the curriculum effect is remarkable, and it has extremely high promotional value.

Further research Recommendations

Based on the empirical evidence provided by this study, this paper can put forward the following future research suggestions: For the short-term goal, firstly, digital technologies should be rationally utilized. Secondly, the integration of industry and education is developing towards "ecologicalization". Thirdly, the internationalization of entrepreneurship education and regional specialization go hand in hand. Finally, further studies should construct the training model optimization. In addition, the timeliness, depth, and breadth balance of training content also needed to be further studied to ensure that the training content kept up with the pace of The Times and effectively met the needs of lecturers. For the long-term goal, further studies should build a capability evaluation system. For example, to establish the Kirkpatrick four-level evaluation Model, to apply the practice of localized evaluation models, and to further construct a typical evaluation index system.

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