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Research on the Evaluation Index System Construction and Improvement Strategy of Higher Vocational Teachers' Entrepreneurship and Innovation Ability

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Abstract: *The development of mass entrepreneurship and innovation education in higher vocational colleges depends on the teachers with strong ability of mass entrepreneurship and innovation. A scientific and reasonable evaluation index system of teachers 'mass entrepreneurship and innovation ability is of great significance for effectively evaluating teachers' mass entrepreneurship and innovation ability level and promoting mass entrepreneurship and innovation education. In reference related literature and consulting experts, higher vocational teachers, on the basis of building the double gen double education teaching ability, the practice ability and other four primary indicators, as well as the double related knowledge, psychological knowledge, education, professional courses and double blend ability, double gen guidance, double gen practice and other 10 secondary indicators of higher vocational teachers double gen ability evaluation index system. And from the environment optimization, training strengthening, platform building and other aspects of the path to improve teachers' entrepreneurship and innovation ability.*

Key words: *entrepreneurship and innovation ability; higher vocational teachers; entrepreneurship and innovation education; evaluation*

Under the background of the creation of innovative countries in the new era and the high-quality development of the economy, innovative and entrepreneurial talents are particularly important. Colleges of higher learning are important positions to train talents for mass entrepreneurship and innovation. As important departments of higher colleges and universities, higher vocational colleges is also the responsibility of The Times to train talents for mass entrepreneurship and innovation. At present, the mass entrepreneurship and innovation education in higher vocational colleges is in full swing. Teachers are an important subject to carry out mass entrepreneurship and innovation education and cultivate students 'ability. Therefore, teachers' ability of mass entrepreneurship and innovation plays a vital role in the effectiveness of mass entrepreneurship and innovation education and the cultivation of students' mass entrepreneurship and innovation ability[1] . Then, how to evaluate teachers' ability of mass entrepreneurship and innovation should become an important concern in the education circle. The author plans to construct the evaluation index system of teachers 'ability of mass innovation in higher vocational colleges to provide reference for teachers' ability.

1 Research on the evaluation index system of teachers' mass entrepreneurship and innovation ability at home and abroad

Scholars at home and abroad have carried out relevant research on the evaluation index system of mass entrepreneurship and innovation capacity. Middleton combines entrepreneurial theories and project cases, and builds the competency model of entrepreneurship teachers, guided by the core competency of mass entrepreneurship and innovation[2] ; Ladeveze conducted a comparative study on the competency of entrepreneurship teachers in different regions of Spain, and the results show that teachers in different universities and different economic development regions have a very different understanding of entrepreneurship entrepreneurship education and teacher competency[3] ; Wang Tianqi introduced the optimized BP neural network model into the evaluation of the teaching ability of mass entrepreneurship and innovation, and the analysis results were objective and effective[4] ; Under the background of combining information technology and "innovation" strategy, Zhang Linhong analyzed and extracted the core evaluation indicators of information technology teachers' innovation ability and innovation[5] .

The above research is mainly to study the evaluation indicators of teachers 'mass innovation education ability or teaching ability. However, the mass innovation education ability or teaching ability is only a part of teachers' mass innovation ability. In addition, teachers themselves should also have the ability to carry out mass entrepreneurship and innovation activities.

2 Principles of Evaluation Index System of Mass Innovation Education Ability in Higher Vocational Colleges

The construction of the evaluation index system should follow certain principles. Combined with the characteristics of higher vocational colleges and their teachers, the construction of the evaluation index system of mass entrepreneurship and innovation ability should follow the principles of comprehensiveness, reliability, comparability and simplicity.

(1) The principle of comprehensiveness

In recent years, China's vocational education has entered a new stage, and entrepreneurship education in vocational colleges is a powerful measure to cultivate entrepreneurship and innovation talents. In general, mass entrepreneurship and innovation education is a complex project, so the selection of teachers' mass entrepreneurship and innovation ability indicators should be as comprehensive as possible, so as not to avoid the imbalance of indicators, and thus hit the enthusiasm of higher vocational teachers to participate in mass entrepreneurship and innovation education. It is worth noting that the principle of comprehensiveness does not cover all aspects. It is important to grasp the main contradiction in carrying out mass entrepreneurship and innovation education, and prevent it from deviating from the theme of the evaluation index system due to irrelevant details.

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(2) Reliability principle

The construction of the evaluation index system must fully reflect the main theme of "mass entrepreneurship and innovation ability", that is, to fully display the professional skills, teaching ability and entrepreneurial spirit of higher vocational teachers, and should not be mixed with any subjective imagination, let alone evaluation for the sake of evaluation, so that the construction of the evaluation index system should deviate from the main theme. The principle of reliability focuses on matching with the goal of cultivating innovative and entrepreneurial talents, and striving to be objective and fair. Based on this, higher vocational colleges need to guide the students in the selection of evaluation indicators, and the indicators should not be repeated.

(3) The Principle of comparability

Higher vocational colleges have many professional, but the double gen education in cultivating students double gen thinking and consciousness, therefore, double gen ability evaluation index system building process can do unified regulation at the macro level, by the education department set general standard, for the same type of higher vocational colleges set up standard evaluation index, the higher vocational colleges in the horizontal comparison than learning to help super, but also can learn from each other, complement each other, make up for the higher vocational teachers double gen ability, cultivate dare to do high-quality talents[6] .

(4) The principle of simplicity

Higher vocational colleges is different from the undergraduate colleges, its purpose is to cultivate more high quality technical skills, so in the design of double gen ability evaluation index system not only to be objective and reasonable, more to be concise and clear, distinct, should pay attention to numerous for simple, the abstract or complex evaluation index connotation simplification, strengthen the practical operability. If the content of the evaluation index is vague and the internal and external environment of the school is not effectively connected, it will inevitably affect the sustainable development of mass entrepreneurship and innovation education in higher vocational colleges.

3 The composition of higher vocational teachers' mass entrepreneurship and innovation ability index system

On the basis of combing and analyzing relevant literature and interviewing a number of higher vocational teachers, the author refers to the quality scale of mass entrepreneurship and innovation education designed by Guo Liying[7] And, combined with the opinions of relevant experts, the double gen education effect oriented, set the double gen teaching ability, double gen practice ability, double gen spirit, professional ability four key elements as a primary evaluation index, secondary index 10, tertiary index 33, and according to the Delphi method, set the weight of the indicators, build the higher vocational teachers double gen teaching ability evaluation index system (as shown in table 1).

(1) Teaching ability of mass entrepreneurship and innovation education

The teaching ability of mass entrepreneurship and innovation education refers to the ability of teachers to integrate the related content of mass entrepreneurship and innovation in professional and curriculum teaching, and to effectively stimulate students' innovative spirit and entrepreneurial consciousness with effective teaching skills, means and methods. The secondary indicators include knowledge related to mass entrepreneurship and innovation, pedagogy and psychology knowledge, and the ability to integrate professional courses with mass entrepreneurship and innovation. In the third level of indicators, teachers 'knowledge of entrepreneurship and innovation is reflected by entrepreneurial knowledge, venture capital knowledge, entrepreneurial laws, regulations and policies, pedagogy knowledge, psychology knowledge and basic teaching skills; and the combination of professional development, demonstration professional curriculum construction, guiding students to entrepreneurship and innovation in professional teaching, and stimulating students' entrepreneurial awareness, etc.

(2) Practical ability of mass entrepreneurship and innovation

The practice of mass entrepreneurship and innovation refers to the ability and quality of teachers to engage in mass entrepreneurship and innovation practice activities and to guide students to participate in mass entrepreneurship and innovation activities and competitions. In the evaluation index system, the practice ability of mass entrepreneurship and innovation is specifically divided into two-level indicators of the guidance and mass entrepreneurship and innovation practice. The former focuses on the selection ability of mass entrepreneurship and innovation projects, guiding students 'competitions and the achievements of mass entrepreneurship and innovation, while the latter focuses on teachers' ability to develop opportunities for mass entrepreneurship and innovation opportunities and participate in specific entrepreneurial activities.

(3) The Spirit of mass entrepreneurship and innovation

In terms of the practice of mass entrepreneurship and innovation, the spirit of mass entrepreneurship and innovation refers to the spirit and quality of taking risks and risks, pioneering and innovative, and bold attempts[8] . Teachers 'spirit of mass entrepreneurship and innovation refers to teachers' recognition of mass entrepreneurship and innovation, and the individual quality of mass entrepreneurship and innovation. In the "spirit of mass entrepreneurship and innovation" is mainly divided into three two indicators: the identification of mass entrepreneurship and innovation, the will of mass entrepreneurship and innovation and the spirit of mass entrepreneurship and innovation. Among them, entrepreneurship recognition includes two three levels of identification of entrepreneurship education and entrepreneurship consciousness; three levels of indicators of perseverance, risk tolerance and stress resistance; and practice spirit of entrepreneurship and innovation includes three indicators of initiative, adventure spirit and practical spirit.

(4) Professional ability

Mass entrepreneurship and innovation is closely linked with majors, and is generally carried out based on majors. Therefore, professional ability is the basis of teachers' mass entrepreneurship and innovation ability.

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Without professional ability, the ability of mass entrepreneurship and innovation will lose its foundation. The professional ability of teachers refers to the teacher's subject professional knowledge and the ability of its application. The professional ability of teachers includes two secondary indicators: professional knowledge and research and development application ability. The three-level standard indicators are: discipline and professional knowledge, grasp of professional frontier knowledge, speech at academic exchange meetings; technology research and development projects, transformation of scientific research achievements, various patents, etc.

Table 1. Evaluation Index system of Mass entrepreneurship and innovation ability of higher vocational teachers

Level 1 indicators	Secondary indicators	Level 3 indicators
Mass Entrepreneurship and Innovation Education and Teaching Ability (30%)	Knowledge related to mass entrepreneurship and innovation(9%)	Rich venture capital knowledge (3%)
		Rich knowledge of mass entrepreneurship and innovation (3%)
		Familiar with relevant laws, regulations and policies on mass entrepreneurship and innovation (3%)
	Educational psychological knowledge(6%)	Rich knowledge of pedagogy and understand the law of vocational education (2%)
		Have rich knowledge of psychology, understand students' psychology and development rules (2%)
		Familiar with basic teaching skills (2%)
	Ability to integrate professional courses with mass entrepreneurship and innovation(15%)	Development of mass entrepreneurship and innovation education courses (3%)
		Construction of demonstration professional courses for mass entrepreneurship and innovation (3%)
		In the process of professional teaching, students are guided to innovate with majors and courses, and mass innovation with future positions (3%)
		Explore the elements and resources of mass entrepreneurship and innovation in professional courses and integrate them into professional knowledge teaching and skill training (3%)
		Using heuristic, participatory, case type and other teaching methods to stimulate students' innovation and entrepreneurship (3%)

Practical ability of mass entrepreneurship and innovation (30%)	Mass Entrepreneurship and Innovation Guidance (15%)	Selection capacity of mass entrepreneurship and innovation projects (3%)
		Quality of mass entrepreneurship plan guiding students (4%)
		Guided students to participate in the mass entrepreneurship and innovation competition (4%)
		The increase rate of guided students' mass entrepreneurship and innovation achievements (4%)
	Mass Entrepreneurship and innovation practice (15%)	Opportunity development capability (4%)
		Project operation and organizational management capability (3%)
		Engaged or participate in specific entrepreneurial activities (4%)
		Mass entrepreneurship and innovation projects (4%)
The Spirit of Mass entrepreneurship and innovation (20%)	Mass entrepreneurship and innovation identification (6%)	Generally agree with mass entrepreneurship and innovation education (3%)
		Strong entrepreneurial awareness (3%)
	The Will for Mass Entrepreneurship and Innovation (9%)	Strong tenacity (3%)
		Strong risk tolerance (3%)
		Strong pressure resistance (3%)
	The Practical Spirit of Mass entrepreneurship and innovation (10%)	Strong initiative spirit (3%)
		Strong adventurous spirit (4%)
		Strong practical spirit (3%)
Professional ability of mass entrepreneurship and innovation (20%)	Expertise (10%)	Rich professional knowledge of the subject (4%)
		Professional frontier knowledge (3%)
		Exchange and speech at academic conferences (3%)
	R & D and application capability (10%)	Responsible and participate in technology R & D projects (3%)
		More transformation of scientific research achievements (4%)
		Obtain various patents (3%)

4 The improvement path of higher vocational teachers' ability of mass entrepreneurship and innovation

In the evaluation index system of higher vocational teachers, although professional ability is the foundation of their double innovation ability, the professional ability of teachers is generally solid; ——, the teaching ability and practice ability are the most lacking abilities of teachers, and the double innovation spirit is the foundation of these two abilities. Therefore, the ability to improve teachers' ability of entrepreneurship and innovation should focus on three aspects of entrepreneurship and innovation, education and teaching ability of entrepreneurship and innovation.

(1) Optimize the environment and enhance teachers' spirit of mass entrepreneurship and innovation

The spirit of mass entrepreneurship and innovation is also an important indicator of experts. In addition to

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the teachers' own personality and psychological quality, the spirit of entrepreneurship and innovation requires schools to create a good educational environment for entrepreneurship and innovation. The spirit of mass entrepreneurship and innovation is subtly stimulated through the influence of the mass entrepreneurship and innovation education environment. At present, special courses of mass entrepreneurship and innovation education have become a compulsory course for higher vocational students, but most of the teachers are counselors and teachers of the School of Innovation and Entrepreneurship Education, while there are not many other teachers, and even few teachers of professional courses closely related to mass entrepreneurship and innovation. One of the important reasons is that mass entrepreneurship and innovation education has not been implemented in the whole process of personnel training, the environment and atmosphere for mass entrepreneurship and innovation education are not strong enough, teachers' participation in mass entrepreneurship and innovation education is not very universal, and the spirit of mass entrepreneurship and innovation is not strong. Therefore, from the perspective of promoting the teachers' double gen spirit, double gen education environment needs to be further optimized, innovative entrepreneurial talents should be one of the talent training goals of higher vocational colleges, and accordingly to reconstruct the professional curriculum system, open professional double gen is closely related to professional courses, and requires teachers in the professional course teaching into the double gen education concept, promote curriculum double gen, promote all teachers to participate in the double gen education.

(2) Strengthen training, focusing on improving teachers' teaching ability of mass entrepreneurship and innovation

The teaching ability of mass entrepreneurship and innovation education is a very important part of the ability, which accounts for a large proportion in the evaluation index system. The interview shows that the teaching ability of mass entrepreneurship and innovation education is also the very lacking ability of teachers in higher vocational colleges. Teachers hope to carry out mass entrepreneurship and innovation education in combination with the teaching of professional courses, but they do not know how to start, lack the ability to implement it specifically, and lack the ability to integrate professional courses teaching with mass entrepreneurship and innovation education. Therefore, higher vocational colleges should vigorously strengthen the training of teachers' mass innovation education and teaching ability. In terms of training content, in addition to the basic teaching skills training, we should focus on strengthening the training of professional courses and mass entrepreneurship and innovation ability. For professional leaders, it is necessary to strengthen the training of professional curriculum system reconstruction and combine the professional development of mass entrepreneurship and innovation education courses, and to strengthen the training of curriculum mass entrepreneurship and innovation teachers. In terms of training methods, in addition to the usual special lectures and theoretical knowledge training, more attention should be paid to practical training, demonstration training, case training and other methods, so that teachers can really learn how to carry out mass entrepreneurship and innovation education in the teaching of professional courses.

(3) Build a platform to improve teachers' practical ability of mass entrepreneurship and innovation

The practical capacity of mass entrepreneurship and innovation is also a very important part of its capacity,

which also accounts for a large proportion in the evaluation index system. Although higher vocational colleges emphasize the "double-teacher" quality of teachers, there are still relatively few teachers really coming from the front line of enterprise production, and even fewer teachers who have the experience of enterprise mass entrepreneurship and innovation. Therefore, the practice ability of higher vocational college teachers is generally very weak. The practical ability of mass entrepreneurship and innovation needs to be exercised and cultivated through practice. Therefore, higher vocational colleges should build platforms to improve teachers' practical ability of mass entrepreneurship and innovation. First, build an incubation base for mass entrepreneurship and innovation to provide a platform for teachers to carry out specific mass entrepreneurship and innovation practice activities. Second, we will organize and carry out various mass entrepreneurship and innovation competitions, requiring teachers to serve as instructors of the competitions, and allowing teachers to exercise their practical ability in guiding students to write the competition plans and participate in the competition competitions. Third, set up special entrepreneurship and innovation projects, let teachers lead students to carry out research and practice of specific entrepreneurship and innovation projects.

5 Conclusion

The high-quality development of higher vocational mass entrepreneurship and innovation education requires teachers to have a strong ability of mass entrepreneurship and innovation. The strength of teachers' mass entrepreneurship and innovation ability needs to be evaluated by an effective evaluation index system of mass entrepreneurship and innovation ability. However, the theoretical research on the composition and evaluation indicators of teachers' mass innovation ability is very weak, based on which this research explores the evaluation index system of the innovation ability of higher vocational teachers. First of all, on the basis of the literature related to the ability of mass entrepreneurship and innovation, teachers were interviewed, and combined with the opinions of experts, the structure of teachers, including their educational ability, practice ability, spirit and professional ability of mass entrepreneurship and innovation, was formed. Secondly, on the basis of the composition of mass entrepreneurship and innovation ability, the specific indicators are further refined, and according to the Delphi method, the evaluation index system of mass entrepreneurship and innovation ability of teachers is constructed. Finally, based on the composition of the evaluation system of teachers 'innovation ability, we put forward strategic suggestions for improving teachers' innovation ability.

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