



**THE RESEARCH OF INNOVATION AND ENTREPRENEURSHIP
COURSES IN CONTEMPORARY CHINESE RAILWAY HIGHER
VOCATIONAL EDUCATION: A SPECIFIC REFERENCE WITH
L VOCATIONAL COLLEGE**

JUN YANG

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN EDUCATION AND SOCIETY
INSTITUTE OF SCIENCE INNOVATION AND CULTURE
RAJAMANGALA UNIVERSITY OF TECHNOLOGY KRUNGTHEP
ACADEMIC YEAR 2024
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Dissertation	THE RESEARCH OF INNOVATION AND ENTREPRENEURSHIP COURSES IN CONTEMPORARY CHINESE RAILWAY HIGHER VOCATIONAL EDUCATION: A SPECIFIC REFERENCE WITH L VOCATIONAL COLLEGE
Author	Jun YANG
Major	Doctor of Philosophy (Education and Society)
Advisor	Dr. Yudhi Arifani
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ABSTRACT

Railway Higher Vocational Colleges (RHVC) play a vital role in cultivating skilled talent for the national rail transit industry. With the continuous advancement of modern rail transit technologies, integrating Innovation and Entrepreneurship (IAE) education into vocational training has become essential. IAE education supports the national goal of building an innovative society, enhances educational quality, and addresses employment challenges faced by graduates. This study examines how teachers and students perceive the reform of IAE courses in RHVCs, with a focus on course objectives, content, practical activities, and evaluation systems. Utilizing a mixed-methods approach, the research involved a questionnaire survey of 357 students and 10 teachers, supplemented by interviews. Key findings include: (1) Both teachers and students agree on the overall objectives of IAE courses, although teachers emphasize the development of students' innovative thinking. (2) Both groups recognize the importance of aligning course content with student interests and needs, with teachers favoring modular teaching approaches. (3) Students express concern over limited opportunities for hands-on innovation and entrepreneurship practice, while teachers highlight the need for increased investment in off-campus training facilities. (4) Regarding course evaluation, both groups stress the importance of assessing problem-solving skills, and teachers advocate for diverse evaluation subjects, content, and methods. Based on these insights, the study proposes aligning course objectives with current industry standards, integrating industry-relevant content with IAE, expanding practical learning opportunities, and diversifying evaluation mechanisms. These recommendations aim to enhance the effectiveness and relevance of IAE education in RHVCs, fostering talent suited to the evolving rail transit sector.

Keywords: Railway Higher Vocational Colleges (RHVC), Innovation and Entrepreneurship (IAE), course reform

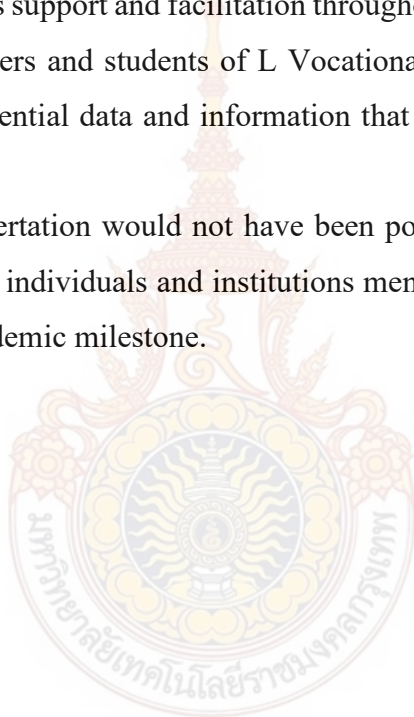
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CHAPTER I

INTRODUCTION

This chapter provides the background of the current study and highlights unresolved questions from previous academic research. The study's intended questions and goals were identified. Acknowledges the limitations of this study and provides a predictive topic for future research.

1.1 Background and Rationale

The rapid development of the global economy cannot be separated from the promotion of the entrepreneurial economy. The development of IAE is recognized by countries worldwide. IAE education has become the driving force behind the promotion of high-quality education. The high-quality development of vocational education in China requires vigorous support for the advancement of higher vocational education. The development time of higher vocational education in China is relatively short, and the talent training mode needs improvement to meet the social and economic demand for skilled talent. To ensure the rapid development of higher vocational education, the Party and the state attach great importance to the development of vocational education, introducing a series of policies to deepen the reform of vocational education (Lao et al., 2019).

To implement the reform and development of vocational education, the state has issued relevant policies to ensure that vocational reform can be effectively implemented in colleges and universities. The state has actively encouraged colleges and universities to explore IAE education, promoted young people to join entrepreneurial teams, and guided all walks of life to vigorously develop innovative industries, thereby creating a favorable environment for IAE. The concept of IAE has been widely recognized, and IAE education in colleges and universities has experienced unprecedented development under the guidance of the development strategy (Liu, 2017).

In line with the development of the times, colleges and universities have

incorporated IAE education into their entire talent training process, and schools of IAE have emerged within these institutions. More and more experts and scholars have joined the research and IAE education team, constantly improving the IAE education system. IAE education research has become a topic of great interest among experts and scholars worldwide (Backes & Lehnert, 2021). Dual apprenticeship graduates in such countries possess broad skill sets that accelerate innovation in firms and are willing to participate in innovation due to their high flexibility and employment prospects. As a carrier of education, courses play a vital role in building a comprehensive course system for IAE education, promoting the transformation and development of China's economy, cultivating innovative and entrepreneurial talents for innovative countries, and alleviating the increasingly difficult employment situations faced by college students.

1.1.1 Innovation is the Driving Force of the National Development Strategy

Today's era is characterized by rapid economic and technological change. Innovative development is the foundation of the country in international competition. Implementing an innovation-driven development strategy is crucial for the country to respond to the future and proactively address its challenges. Globally, vocational and lifelong education reform now emphasizes employability skills more than technical ones (Leung et al., 2010). Entrepreneurship is a crucial means to promote employment, and deepening the reform of IAE education in colleges and universities is a national need to implement the strategy of rejuvenating the country through science and education, thereby promoting the high-quality development of education. Liu et al. (2022) argue that innovation policy is crucial for sustainable development. In recent years, China has issued a series of policy documents emphasizing the importance of IAE education in colleges and universities and has put forward requirements for developing an IAE course system. The General Office of the State Council of China (2015) issued the Implementation Opinions on Deepening the Reform of IAE Education in Institutions of Higher Learning, requiring universities to integrate IAE education in the process of education and teaching, accelerate the improvement of the mechanism of innovative talents, establish and improve the courses system of IAE education, and build the IAE training mode. Chinese Ministry of Education (2017) to point with surface chooses a batch of high-quality universities to become "national

deepening the reform of innovation entrepreneurship education demonstration universities", actively implement the national innovation entrepreneurship policy, explore the innovation entrepreneurship education model with Chinese characteristics, drive the national universities into the innovation entrepreneurship education reform, innovation entrepreneurship education wave quickly swept across the country.

To steadily promote the development of vocational education, Reforms have built upon previous ones (Martinez-Morales & Marhuenda-Fluixa, 2020). So, a series of policies have been introduced to support them. Since 2012, vocational education has been placed in an unprecedentedly prominent position, and its development holds great potential. As the world is transforming into a value-based economy, viable new venture ideas are recognized as the precursor to all entrepreneurial activities that drive economic growth (Promsiri, 2018). Vocational education has become a crucial factor in ensuring the steady development of China's economy. The state attaches great importance to the development of vocational education and continually promotes reforms in this area. Since 2019, the state has consistently implemented a reform policy for vocational education to promote educational reform and the development of China's higher vocational colleges.

The Ministry of China's Ministry of Education et al. (2019) issued on the colleges and universities' implementation of a "diploma + some vocational skill level certificate" system pilot scheme, 1 + X certificate to explore the construction of vocational education national "credit bank", the diploma and vocational skill level certificate reflects the learning results of certification, accumulation, and conversion, indicate the direction of reform for vocational colleges. The Ministry of Education of China (2019) issued the Measures for the Provinces (autonomous regions and municipalities directly under the Central Government) with Significant Achievements in Vocational Education Reform to mobilize the enthusiasm, initiative, and creativity of all localities in promoting the reform and development of vocational education, and encourage provinces (autonomous regions and municipalities directly under the central government) with obvious achievements in vocational education reform. The Ministry of Education of China and other departments (2019) issued the Implementation Plan for Deepening the Reform of the Construction of "Double-qualified" Teachers in Vocational Education in the New Era to promote the reform of the construction of

teachers in vocational colleges, build a high-quality "double-qualified" teachers, and promote the in-depth construction of teachers in vocational colleges. By enhancing the professional level of teachers and increasing practical opportunities, vocational colleges and universities can cultivate high-level teachers and refine their teaching skills to meet the demand for advanced technical skills training in the new era (Zhu et al., 2022).

These policies promote industrial demand throughout the entire talent training process and continuously optimize the human resource supply structure to ensure the deepening reform of higher vocational colleges. The research on IAE education courses in railway vocational colleges aligns with the development needs of The Times, helps vocational colleges enhance their IAE courses system, and promotes vocational colleges in cultivating more innovative and entrepreneurial talents.

1.1.2 IAE Education is the Need to Improve the Quality of Talent Training in Railway Vocational Colleges

With the continuous development of the social economy and the transformation of enterprises, society requires numerous innovative and applied talents. This requires universities to continuously deepen comprehensive reform and strengthen cooperation between schools, enterprises, and industry-education integration (Wang et al., 2019). As the driving force behind the social and economic transformation, IAE education is a crucial starting point for gradually promoting the reform of vocational education, building an innovative country, and addressing the objective need to foster high-quality vocational education and help students find employment opportunities, thereby alleviating social employment pressure. With the continuous development of science and technology, Kain (1988) states that rail transit technology is constantly advancing, and artificial intelligence technology is being increasingly applied in the daily management of rail transit. The diversified operation model is steadily implemented in the rail transit industry. The rapid rise of the rail transit industry cannot be separated from the complex talents with innovative spirit. The rail transit industry itself is one of continuous innovation and reform. As the characteristic schools rely on the rail transit industry, the RHVC shoulders the important task of cultivating compound talents for building transportation power (Zhang, 2016).

The high-quality development of contemporary education, innovation, and

entrepreneurship education puts forward higher requirements. There is a need for higher vocational colleges to combine professional characteristics and cultivate students' innovative entrepreneurial consciousness, guiding them to take an active part in innovative entrepreneurial activities and constantly improve the innovation and entrepreneurship course system. Autio (2014) states that this article and the special issue aim to enhance our understanding of the theoretical, managerial, and policy implications of entrepreneurial innovation. It is essential to enhance college students' employment and entrepreneurial skills, enabling them to make a more significant contribution to their economic and social development. The reform of vocational education in higher vocational colleges has a long way to go. It not only needs to carry out systematic reform of professional and technical education and introductory courses but also needs to continuously enhance creative knowledge and entrepreneurial skills to encourage students to achieve the goal of quality education. The reform of IAE education involves a comprehensive reform of the education system, and there are some contradictions in promoting the overall reform. Such as the uneven distribution of teaching resources, the policy fund support is limited. At the same time, vocational education reform cannot rely solely on reforming select courses to address problems. However, it must also permeate all aspects of vocational education to enhance the high-quality development of higher vocational colleges. The reform of IAE education should be based on the reform of IAE courses and actively develop a teaching mode that caters to students with the characteristics of RHVC (Wilson & Cole, 1991). Due to the current state of IAE courses in contemporary RHVC, reform measures are proposed through theoretical analysis, investigative analysis, empirical analysis, and other methods, all of which are combined with the actual situation of RHVC.

On the one hand, the RHVC begins by serving the needs of the national transportation development strategy and regards the innovative spirit and entrepreneurial ability as an integral part of its education system, with the goal of talent training. By combining students' cultural literacy, social responsibility consciousness, and professional practice skills, IAE education will be integrated into the entire rail transit personnel training process, further promoting the innovation of rail transit personnel training modes. It not only meets the needs of the rail transit industry for IAE talents but also meets the needs of students for IAE ability training. On the other hand,

RHVC is the basis for training professional transportation skills. With the deepening of vocational education reform, the teaching reform of IAE courses in RHVC is imminent. RHVC needs to integrate various professional courses and IAE education resources across different platforms, establish IAE education courses with professional characteristics in rail transit, strengthen collaborative education in IAE, and provide high-quality IAE talents for national rail transit construction. The courses are an effective carrier of IAE education (Wang, 2017), and the construction of IAE education courses is key to realizing the cultivation effect of IAE talents in RHVC.

1.1.3 Deepening Research on IAE Courses in RHVC

Countries worldwide attach great importance to IAE education, and experts and scholars from various countries deepen their research on IAE courses. IAE has become the driving force for promoting vocational education reform and the core of IAE courses, thereby facilitating the rapid development of IAE education. In 1947, Professor Myles Mace introduced the course "The Management of New Enterprises" at Harvard Business School (Kuratko, 2005); the United States became the first country to offer entrepreneurship education courses. Now, entrepreneurship courses in the United States can cater to multiple levels and establish a management agency responsible for developing, implementing, and evaluating entrepreneurship courses (Shen, 2014). Over ten years (1995-2004), to analyze in-depth qualitative data relating to developing and implementing various approaches to entrepreneurship education in a sample of 40 new and established universities in the UK (Matlay & Carey, 2007). Australia is also one of the earliest countries to carry out research and practice in entrepreneurship education. After more than 60 years of development, entrepreneurship education has undergone popularization and systematization, progressing from point to comprehensive coverage. It has formed a course system comprising three levels: primary, intermediate, and advanced, along with multiple flexible modules (Gu & Qu, 2015). Although entrepreneurship education in Japan began in the late 1980s, it has garnered significant attention in the 21st century. Currently, the mode of entrepreneurship education courses has evolved from high to low, from professional to universal (Xie, 2010). According to research conducted by experts and scholars, incorporating IAE courses as a core element can further explore the educational function of IAE education.

Experts and scholars have always been concerned about the development of IAE education. In recent years, the research on IAE education has achieved fruitful results. The international IAE education has achieved results and has been unanimously recognized. IAE education has become the "third education pass" for young people in the 21st century (Cao, 2008). Driven by this concept, higher education re-examines the talent training mode and education system, and society expects college graduates to be job seekers and entrepreneurs who can foster successful entrepreneurship in their careers. IAE education upturns the perception of the term 'degree = work' formula. It marks the deep reform of the talent training mode in higher education, and IAE education will become a brand-new perspective on education, talent, and teaching (UNESCO, 1995). IAE education has become a strong driving force for economic development, gradually changing people's definition of interdisciplinary talents. The development of innovation and innovation education has become a crucial strategy for talent development in various countries.

From the perspective of national development, IAE education can not only help the manufacturing industry provide a steady stream of compound talents to overcome the dilemma of a lack of innovation power but also become a breakthrough for college graduates to encourage them to invest in entrepreneurship, thereby actively relieving employment pressure. To this end, the national government has actively issued documents encouraging college students to innovate and be entrepreneurs. Wang (2016) Mass entrepreneurship and innovation will spark brilliant sparks. With the advent of the era of "mass entrepreneurship and innovation", the course reform of IAE will become one of the important measures to promote the reform of higher vocational education. The vocational education reform policy emphasizes that higher vocational colleges should strengthen their cooperation with enterprises and explore a new mode of school-enterprise collaboration. As higher vocational colleges with distinct industry backgrounds, the RHVC needs to grasp this golden opportunity and keep up with the development trend of rail transit. Accurately grasp the development direction of rail transit, relying on the rail transit industry to run schools, and give full play to the advantages of the industry. Highlighting the characteristics of the industry, seeking development with characteristics, strengthening students' participation in enterprise practice teaching, forming a school-enterprise cooperation mechanism integrating

industry and education, and cultivating compound talents for the development of the rail transit industry.

As China's rail transit industry gradually saturated under the Belt and Road strategy guidance, the pan-Asia orbit industry development potential is enormous, needs much innovative consciousness of management talents, and railway vocational colleges need to put the rare historical opportunity into its inherent advantages of education, explore transnational cooperation to promote railway professional construction, build railway international professional teaching team, university-enterprise cooperation construction railway experimental training base, to carry out technical research and service. The rail transit industry has actively promoted international exchanges and cooperation to jointly train rail transit talents, broaden students' horizons, and assist graduates in overcoming employment difficulties.

1.1.4 Key Research Questions

This study mainly addresses the following issues:

(1) How do vocational teachers and students view the reform of IAE courses? Through the above background analysis, we can understand that vocational teachers and students have various views and attitudes towards the IAE reform, both positive side, but also some concerns and confusion. From a positive point of view, IAE courses reform is conducive to cultivating students' innovative consciousness and entrepreneurial ability, and laying a solid foundation for the future development of vocational education. For teachers, IAE courses also provide an opportunity to encourage them to update their educational concepts and methods, thereby enhancing the quality and effectiveness of their teaching. However, some students and teachers are skeptical about IAE reform. They believe that a conflict between IAE courses and traditional vocational education may negatively impact students' academic performance and employment prospects.

(2) Whether there are significant differences between the cognition of vocational students and teachers regarding IAE course reform and whether the research on the difference between vocational students and teachers provides an in-depth understanding of the effect of IAE course reform. By understanding the differences and characteristics of students in the learning of IAE courses, the appropriate learning methods and strategies can be selected more targeted to improve the learning effect and

interest. Research on course differences can help teachers better understand student needs and characteristics and design and implement effective teaching strategies. To understand the differences and characteristics of students in the learning process of IAE courses, teachers can adjust the teaching content and methods to meet the needs of different students, thereby improving the teaching effect and continually refining their teaching methods and quality.

(3) How can IAE course systems in RHVC be improved? There are still significant gaps between China's IAE education level and those of European and American countries. The continuous promotion of vocational education reform provides an opportunity for research on IAE courses. Through the analysis of policy courses theory, it is found that the accumulation of IAE courses in China is insufficient, and some research is still in the initial and pilot stages. It is hoped that this research can promote the accumulation of IAE courses.

1.2 Research Questions

1.2.1 What are Teachers' and Students' Perceptions Regarding IAE Reform in Vocational Colleges?

Social and economic transformation has placed higher demands on training high-level vocational talents. To promote the healthy development of vocational education, the state has proposed reforms to help higher vocational colleges cultivate compound skilled talents who meet the requirements of social and economic development. At the same time, vocational education reform can effectively help students improve their quality of life and promote their development. With the deepening of vocational education reform, the reform of IAE has become an inevitable trend. Higher vocational colleges take the reform of IAE as the starting point to comprehensively promote the high-quality development of higher vocational education.

For higher vocational teachers, the course reform of IAE is not only a change in course content and teaching methods but also a significant shift in teaching concepts, abandoning the traditional teaching mode and starting anew. In this way, teachers should establish the concept of lifelong learning, ensure the continuous

learning of new things, accept IAE thinking, and explore the quality of IAE. In the context of vocational education reform, constantly strengthening personal skills and professional quality in the teaching concept has also broken through the previous concept. By utilizing network teaching and developing Internet courses, the time and space limitations of traditional teaching have been overcome, encouraging students to actively engage in professional innovation and entrepreneurship practices, thereby improving the quality of teaching.

At the same time, the IAE course reform enables students to challenge the traditional employment concept, change their original employment thinking mode, cultivate the ability to take risks, constantly try, persevere, and improve their entrepreneurial abilities. This helps students grasp opportunities to realize their value and change their future. In-depth research on the teaching objectives, content, implementation, and evaluation of IAE courses can provide a more accurate understanding of the views of higher vocational teachers and students on IAE courses, promoting the high-quality development of innovation and innovation courses.

1.2.2 Why Do Higher Vocational Students' and Teachers' Cognition of IAE Course Reform Differ?

As the primary teaching body, teachers are the key component in the implementation process of IAE courses. As the primary teaching body, teachers focus on disseminating and accepting knowledge throughout the process. According to the characteristics of different students receiving knowledge, teachers should teach students according to their aptitude. Help the students grow up. During the process of teaching IAE courses, differences emerge in teachers' personal qualities and abilities, as well as their cognitive understanding, business acumen, entrepreneurial knowledge reserves, and teaching methods. These differences directly affect the recipients of knowledge.

As the main acceptance object of IAE courses, students' acceptance of knowledge directly reflects teaching results. General office of the Ministry of Education in 2012, in order to clarify the importance of innovative entrepreneurship education in colleges and universities, issued by the ordinary undergraduate school entrepreneurship education teaching basic requirements (try out) " notice, promote the innovative entrepreneurship course education in the process of college education, innovation

courses in colleges and universities to encourage the development of elective courses to promote practice course, form a rich and colorful courses system, allowing students to accept innovation entrepreneurship education better. This notice is of great significance to the development of IAE education. It promotes the integration of IAE education into the educational systems of colleges and universities and IAE courses to achieve considerable development. Due to the late start of IAE education, the course system of IAE needs improvement. Teachers inevitably explain more theories and less practical exploration, making the content boring, the course teaching simple, and the practical teaching form single. It is difficult for students to study systematically and have little experience with IAE. In addition, higher vocational students have varying abilities, and the effort to obtain a degree and recognition of IAE courses is inconsistent, which leads to differing understandings of IAE course reform among them. Actively explore the cognitive differences of vocational students and teachers in terms of the objectives, content, implementation, and evaluation of IAE courses, seek common differences, and promote the in-depth development of vocational education reform in colleges and universities.

1.2.3 How Can the Course System of IAE Teaching in RHVC be Improved?

The reform of vocational education has been deepened, and higher standards for IAE education have been established under the policy of high-quality development education. On the one hand, the state issued policy documents to encourage higher vocational colleges to combine their advantages and actively explore the development of innovation entrepreneurship education, the Ministry of Education released in 2012, "Ordinary undergraduate school entrepreneurship education teaching basic requirements (try out)", with policy documents for innovative entrepreneurship courses in colleges and universities, and attached "entrepreneurial" syllabus, require higher vocational colleges in the process of talent training "entrepreneurship" as a required course into the teaching plan, for all students alone, not less than 32 hours, not less than 2 credits. General Office of the State Council in 2015 and issued "On deepening the reform of colleges and universities innovation entrepreneurship education implementation opinion", with a special emphasis on improving the innovation entrepreneurship education courses system for all students development,

open research methods, discipline frontier, entrepreneurship, employment entrepreneurship guidance required courses and elective courses, into the credit management, construction in turn, organic link, scientific and reasonable innovative entrepreneurship course construction. Higher vocational colleges, on the other hand, give priority to cultivating professional skills; innovation entrepreneurship education started relatively late, and attention is not enough, innovation entrepreneurship courses system on the whole, in the absorption of foreign excellent theory system into the local stage, there are many problems in the process to be further solved. For example, the course evaluation system of IAE courses is imperfect; it is difficult for students to provide feedback on the course, the distribution of course resources is uneven, and some students have access to high-quality resources. The number of courses in RHVC is small, which cannot meet students' personalized needs, and the allocation ratio between theoretical courses and practical courses is uncoordinated. At the same time, the overall teaching mode of the course is single, the lack of professional teachers, and the employment guidance for students is not apparent.

Huang and Zhao (2015) stated that the current course system of IAE theory in higher vocational colleges lacks unified standards, unity in management, and a hierarchical course setting, and the teaching quality of IAE theory courses needs improvement. The assessment and evaluation methods are more traditional in nature. In railway vocational colleges, a teaching mode that promotes learning through competition has been established. There are many opportunities for students to participate in IAE practice, but it is easy to see the separation of rights and responsibilities when determining students' grades. The management of the school is also difficult to organize. The management of IAE courses is shared among the Academic Affairs Office, the Student Affairs Office, the school Youth League Committee, and professional teachers from each college, who are responsible for organizing students to participate in the competition. The overall management is chaotic. At the same time, IAE teachers can combine IAE and professionalism to guide students in IAE practice. The researcher actively organized students to participate in IAE competitions, achieving many notable successes. However, there is a lack of dedication to the construction of the IAE theory course; the overall course remains relatively weak, and a disconnection exists between the theoretical aspects and practical

activities. It is challenging for students to respond to course feedback promptly, and the course evaluation system requires improvement. These problems need to be further improved.

RHVC, according to their own professional characteristics and innovative entrepreneurship education-related teaching materials, such as Liuzhou Railway Vocational College of vocational students 'innovative entrepreneurial foundation, the college students' innovative entrepreneurship tutorial, the college students 'employment, and entrepreneurship guidance theoretical results, also opened the courses related to innovation, to promote students' innovative entrepreneurial ability. However, there are still many shortcomings in the theoretical research and course system of IAE education.

First, there is direct theoretical misappropriation of relevant foreign theoretical achievements, such as typical theoretical achievements of American entrepreneurship. Some RHVC treats foreign teaching materials as teaching materials, ignoring that various factors of China's social background differ from those of foreign countries. Significant differences exist between the IAE courses and the educational environment in China and Western entrepreneurship science. Direct transplantation to use, leads to theoretical results that are difficult to guide students to innovative entrepreneurial exploration; these theoretical results are not suitable as railway vocational college textbooks to guide students to innovation entrepreneurship education-related courses; we must constantly deepen theoretical research to form the appropriate theoretical results of the actual situation of our country.

Second, the theoretical research is not deep enough. Some unrelated IAE activities are summarized, and successful cases are identified and combined to form entrepreneurship IAE courses. These theoretical achievements are rich in content and process. However, they are often subject to the theme, lack in-depth theoretical and scientific analysis, and do not reveal the market law in the practice process. This results in a lack of overall correlation with entrepreneurs.

Three is a few related to innovation entrepreneurship education, simple merger, put together into "innovative entrepreneurship system", or simply the business administration, marketing, enterprise management, legal knowledge to write the content of the course, this combination into the project course to a certain extent, can

reflect the multidisciplinary breakthrough and cross penetration, but the lack of overall methodology. The discipline construction of IAE has a long way to go. The course system can be continuously improved only through in-depth research and a search for complementary disciplines.

1.3 Research Hypothesis

Paper using Statistical hypothesis to test L vocational college students, and then the statistical evidence is applied to the results, from the railway school students to the conclusion of the innovation entrepreneurship course overall reform, in order to get what students think of innovation entrepreneurship courses reform and the cognition of innovation entrepreneurship course difference data, based on the research question and background of the following hypothesis:

H1: Students significantly differ in their cognition of IAE courses based on different individual background variables.

H1a: There are significant differences in the perception of IAE courses based on gender.

H1b: Significant differences exist in student cognition of IAE courses based on nationality.

H1c: Students significantly differ in their cognition of IAE courses based on majors.

H1d: There are significant differences in students' cognition of IAE courses based on their family location.

The paper employs the one-way variance method to analyze the differences among students in terms of gender, nationality, grade, and family location and to explore students' views on four dimensions of courses: course objectives, content and form, course practice, and assessment. Use the Results of Pearson correlation analysis to analyze the four dimensions of students in the courses: course objectives, content form, course practice, and evaluation. The paper aims to recommend an overall reform of IAE courses by examining the content of IAE courses at L Vocational College. According to the national IAE course requirements for innovation, it can be used as a starting point for students. In the process of course innovation, teachers' initiative

should be given full play, and the course research and development should be carried out in close combination with regional economy, industry development, and professional characteristics so that the content, characteristics, and needs of IAE courses are close to the needs of students in railway colleges.

1.4 Research Objectives

1.4.1 To Improve the Recognition of Higher Vocational Teachers and Students for IAE Course Reform

To promote the improvement of higher vocational college quality and deepen the education mechanism, enabling colleges and universities to train students in line with social and economic development, IAE education is committed to promoting higher vocational colleges in exploring new educational methods and talent training modes. It is an important starting point for promoting the reform of higher vocational colleges in the era of a knowledge economy and Industry 4.0. Innovation entrepreneurship education reform has become an indispensable part of vocational education reform due to the innovation entrepreneurship education in the development stage, specific flaws in the courses system construction, the theoretical research of "paradigm" and "regulation" needs to be perfect, need from basic theory research to education practice exploration gradually transformation. Further study and draw on foreign advanced IAE education theories, absorb foreign excellent teaching methods, take measures according to local conditions, start from the overall idea of IAE education concept, respect the primary needs of students and all-round development, and promote IAE education by levels and stages according to the characteristics of students in higher vocational colleges. Lead students to invest in IAE practice to foster a positive cultural environment and secure comprehensive support from the government, society, enterprises, and families. As the carrier of education, strengthening the construction of IAE courses is key to reforming IAE education.

The course reform at IAE is a general trend that can help students gain a correct understanding of the employment problem. However, from the point of view of overall courses reform in higher vocational colleges, innovation entrepreneurship courses reform did not cause great attention; even though innovation entrepreneurship

course is an edge discipline, there is no necessary for large-scale investment, and the construction of professional disciplines is the root of the development of higher vocational colleges, reform resources basically to professional construction. As a result, the construction of IAE courses lacks policy and financial support, teachers' sense of existence, and an insufficient atmosphere for campus IAE. Additionally, the teaching content is somewhat dull. Teachers' teaching methods in the classroom are often outdated, and they frequently overlook the effective integration of educational theory and practice. As a result, students' theoretical foundation for IAE is weak, and their practical learning is unsatisfactory.

Higher vocational colleges have a new understanding and positioning of IAE education in response to the increasing pressure of employment. In the face of such difficulties, higher vocational colleges have taken corresponding measures to increase investment in IAE education, integrate various platform resources, and apply them to course construction, as well as improve the treatment of course teachers. Utilize course teaching to promote IAE policies and encourage students to integrate entrepreneurship practice with their majors. The deepening of vocational education reform has also led governments at all levels to continuously improve and strengthen their service functions, formulate and implement policies to support IAE and create a positive public opinion environment for IAE. The school has enhanced its support for IAE course teachers, encouraging them to improve all aspects of the course continually. It has tracked key areas for improvement, closely followed professional frontier innovations, and provided students with opportunities for employment choices. Courses that encourage students to engage in the practice of IAE actively foster the development of entrepreneurship and enable them to reasonably select IAE projects, thereby identifying opportunities in practice and stimulating the endogenous motivation for students' entrepreneurial endeavors. There are still many unknown challenges on the road to course reform. Only the recognition of IAE course reform by higher vocational teachers and students will be an inexhaustible driving force on the road to reform.

As a college with an industry background, railway vocational colleges have distinctive characteristics, and their students' employment is mainly with railway bureaus or rail transit-related enterprises. Although students learn professional skills at school, they often find that the need for these skills is relatively comprehensive after

working in the rail transit industry. Officially, due to the outstanding industry background, the employment prospects of students are relatively narrow compared to those of other universities. IAE education among students of railway vocational colleges will not only encourage them to excel in professional technology but also help them explore entrepreneurship. The employment view helps students identify suitable development directions in response to subtle changes in their employment. By collecting literature on innovative entrepreneurship education at home and abroad, grasping the current research situation and trends, tracking the academic frontier and complex problems, and providing theoretical and practical support for course construction, innovative entrepreneurship courses should have an unavoidable reality and certain feasibility, and more need to transcend certain limitations. IAE education has always adhered to the basic principle of basing everything on reality, and the courses begin with the reality of social and economic development. Carefully analyze the national employment policy and industry employment environment from the objective facts to promote students' employment, based on the objective facts to develop a scientific, reasonable, and humanized, rich connotation of the course system. At the same time, the course can help students explore entrepreneurship, develop career plans, and cultivate an employment concept aligned with The Times' development requirements. At the root of this problem is solving the ideological understanding of railway higher vocational college students' employment and enhancing the effectiveness of education.

1.4.2 To Make Reasonable Use of the Cognitive Differences between Higher Vocational Students and Teachers to Improve the IAE Course Reform

In the process of reforming IAE courses, we must follow the goal of higher vocational talent training and carefully analyze the rules and growth characteristics of higher vocational students' knowledge acceptance. Higher vocational teachers have their unique perspectives and viewpoints in promoting the course reform of IAE. They follow the rules in the teaching process and guide the reform with the course theory. Therefore, they view the course reform from a specific perspective, change the teaching concept, and reform the existing teaching content and methods. As the carrier of implementing teaching activities, the courses make full use of the educational function of IAE education. Combined with the current research results of IAE by experts and

scholars at home and abroad, in-depth research on the problems existing in promoting IAE courses in railway vocational colleges to help railway vocational colleges exercise the mission of educational function. In addition to undertaking the tasks of scientific research and teaching, RHVC also shoulders the important responsibility of training skilled personnel and serving society. RHVC can not only indirectly educate students' awareness of IAE but also transform scientific research achievements into school-enterprise cooperation, helping students with entrepreneurial practice.

RHVC assumes the important responsibility of shaping the output of future innovators and promotes RHVC to exercise its educational duties. The in-depth course reform helps students improve their comprehensive quality, enabling them to meet the demand of the rail transit industry for high-quality rail transit talents. The transformation of scientific research achievements in RHVC can further excavate the ideas of commercial potential and the source of invention. Increasingly, studies both at home and abroad have demonstrated that students are more likely to start their businesses through IAE education. Peterman and Kennedy (2003) found that entrepreneurship education courses can significantly affect participants' willingness to start businesses. Therefore, the courses serve as the core to promote railway vocational colleges in exercising their educational function, helping students participate in entrepreneurship. This enables the concept of entrepreneurship to be rooted in students' psychology, encouraging them to start businesses.

Students are the subject of course knowledge acceptance, and they can think independently and understand the course reform. According to their knowledge accumulation, thinking habits, and life experiences, they examine the IAE course reform from their perspective, identify problems, and consider them. The foothold of competition in today's society is still knowledge competition. The strength of a country's core competitiveness can be reflected in its IAE ability. Management master Drucker (1989) pointed out that the development of start-ups has become one of the primary drivers of economic growth in the United States, providing significant support to help the country address its employment problems. It has also become crucial in addressing the country's employment issues. After years of research, GEM results have also verified that a country's entrepreneurial activities promote economic growth, and the social and economic transformation has undergone fundamental changes in the

demand for talent. China is building an innovation-oriented country, which requires many innovative and entrepreneurial talents to advise on the country's development. In cultivating talents, colleges, and universities need to transform a large amount of knowledge and technology promptly, provide productive forces for social development, and accelerate the training of the compound talents required by society. As a new force in social development, college students should fully use their professional advantages, seek to transform their professional knowledge into achievements, serve national development, and take the initiative to undertake the important task of national revitalization and economic development. Students presented reasonable opinions from their perspective, helped reform the IAE courses to address actual problems, and attempted to explore the logical relationship behind the course reform.

The cognitive difference between higher vocational students and teachers presents new challenges to the course reform of IAE, and different theoretical viewpoints promote the development of high-quality courses. In the teaching process, higher vocational teachers should tailor their instruction to students' aptitudes and respect the development of their personalities. Diversified forms of IAE courses separate teaching practice from teaching guidance, make classroom teaching a favorable environment for students' independent learning, and give reasonable guidance to students' IAE practice so that students can accept and deal with IAE knowledge from their own needs and understanding.

1.4.3 To Improve the Course System of Railway IAE

Research on IAE education began early and yielded fruitful results. The development of IAE education in China is relatively slow; the course system is still in the stage of development and improvement, and further theoretical research is needed. The research in this field will expand the research content in the field of IAE in Chinese universities and promote the development of China's Chinese system theory.

Every year, a large number of graduates from colleges and universities enter society, but only when these graduates can transform their knowledge into the ability to promote social forces can they be considered the pillars of society. As students have been studying in school, they have few opportunities to gain work experience and lack social practice, which hinders their ability to apply the professional knowledge they have learned in school at the beginning of their careers. The overall comprehensive

quality of graduates needs to be further improved. The railway industry plays a pivotal role in driving social and economic development, and the track industry has great development potential. This industry is also one that fosters continuous innovation, requiring a large number of innovative talents to drive its rapid development. As a school with a background in the railway industry, railway vocational colleges must grasp the industry's development trends in terms of talent training and adapt their training modes to meet the demand for rail transit talents. Comprehensively promoting IAE education can enhance the comprehensive quality of students in RHVC, transform the traditional talent training mode of higher vocational colleges, and adapt to the internal requirements of the transportation industry's development. Grasp the reform direction of IAE education, construct the coupling model of the integration of IAE courses and majors, and put forward the idea of integrating IAE courses into railway majors. The framework model of the railway vocational colleges system is constructed from four aspects: external policy, public opinion environment, internal system, integration of industry and education, and operational mechanism. The IAE education model, in line with the characteristics of railway vocational colleges, is explored. The future trend of IAE education in railway vocational colleges, from the perspective of vocational education reform, is clarified, and the organic coupling of IAE courses and professional education is proposed. In addition, it aims to study the demand for innovative management talents in the pan-Asia Railway sector, explore transnational cooperation to jointly promote railway specialty construction, establish an international professional teaching team for railways, develop a railway experiment and training base, and conduct case studies on technical breakthroughs and service innovations. Apply the research results from the courses to specific educational practices, constantly optimizing and improving them to promote the Railway Higher Vocational College in fulfilling its educational mission.

The paper takes the IAE course of RHVC as the breakthrough point, selects L RHVC for investigation and research, collects comprehensive information, and identifies the problems in the RHVC course process and the root causes of these problems. For these reasons, relevant countermeasures have been put forward. It provides a reference for the practice of IAE education courses in higher vocational colleges, helps the IAE education to conduct scientific positioning in RHVC, and

establishes and improves the IAE courses system to promote the integration of industry and education. The course reform at IAE emphasizes the central position of students, focusing on the application of guiding and experiential teaching methods in the teaching process. It encourages students to participate actively in IAE activities, thereby comprehensively improving their overall quality and helping them find their development direction. Promoting the improvement of the course system is conducive to enriching the research of IAE courses at the middle level, effectively helping students to multiply, conform to social development, and grasp the law of entrepreneurship to solve the employment problem.

1.5 Scope and Limitation of the Research Study

1.5.1 Scope

The paper takes L RHVC as the research entity to analyze and study the case in detail. The paper employs general and specialized research methods to analyze the research results on IAE education by domestic and foreign experts and scholars, finding a relative lack of research on IAE courses in higher vocational colleges. This can be attributed to the limited research theories on IAE education in RHVC. Currently, the professional level of IAE course implementation in railway vocational colleges is not high, and the course system needs improvement. This raises questions about how higher vocational teachers and students perceive the reform and whether there is a significant difference in the cognition of IAE reform among higher vocational students and teachers.

The empirical analysis method will be employed to examine the current state of IAE courses in RHVC, including their challenges in development, and to identify the factors influencing the growth of IAE courses in RHVC. Representative L RHVC was selected for investigation and research, and first-hand data were obtained. In the professional railway higher vocational college courses description, based on the survey and interview, the L Railway higher vocational college students and teachers respectively carry out the investigation and interview a comprehensive understanding of L professional Railway higher vocational college courses objectives, courses content, courses implementation, courses evaluation and higher vocational teachers and

students' view of innovative entrepreneurship reform, higher vocational students and teachers whether there is a significant difference in innovation entrepreneurship reform, RHVC innovation entrepreneurship education courses system construction is not perfect, teachers and students and Suggestions on the opinions of the course,

The paper further studies and discusses the situation of L railway courses in higher vocational colleges, introducing the railway innovation entrepreneurship course survey strategy and implementation process. The results of reliability and validity ensure that the data are reliable and valid, helping RHVC to address some problems in course construction. When analyzing the survey data, descriptive statistics are used to understand students' views on IAE courses, the effect of students' knowledge acquisition, and specific teaching methods in the course's overall implementation process. According to L railway class survey data analysis of higher vocational colleges, in higher vocational teachers and students' view of innovative entrepreneurship reform, higher vocational students and teachers cognition of innovation reform whether there is a significant difference, railway innovation in higher vocational colleges entrepreneurship education courses system construction is not perfect the specific problems. Optimization measures are based on the course system's objectives, content, implementation, and evaluation. Propose corresponding suggestions and countermeasures, grasp the development trends of the rail transit industry, center on students, utilize the IAE atmosphere created by campus culture, establish an incubation base with the most distinctive characteristics of a rail transit major, and focus on establishing a collaborative education innovation mechanism and combining railway specialty and IAE education, actively exploring the coupling mode suitable for the two, and dealing with the problem of the practice path. Promote the comprehensive reform and innovation of IAE courses to enhance the high-quality development of these courses. Utilize the coupling mode of road specialty and IAE education to conduct a case study, promote the international development of RHVC, and support the national Belt and Road strategy by providing Chinese wisdom for constructing the pan-Asia railway.

1.5.2 The Limitation of the Research Study

There are some limitations in content research. As for the concept of IAE, experts, and scholars from developed countries in Europe and the United States

conducted early research and developed a theoretical framework. They can analyze the concept of IAE from different perspectives and fields, with fruitful research results. In foreign education systems, entrepreneurship education is a core and essential part. The state and schools attach great importance to developing numerous human and material resources, and the overall social entrepreneurial atmosphere is ideal. In course teaching, we focus on integrating entrepreneurial factors into students' thinking, guiding students to think about problems, and cultivating the rise of students' learning. It is not purely for profit as a genetic code in student behavior. In the teaching process of IAE in China, more attention is paid to cultivating students' IAE consciousness and thinking and improving students' abilities. There is a lack of in-depth understanding of IAE education concept research from foreign countries, and it remains at the level of preparing students for entrepreneurship. So that students can master the methods of IAE and develop their entrepreneurial skills to contribute to a better local economy. It is challenging to sort out the theory of IAE courses, especially when collecting and analyzing foreign literature on IAE courses, and to grasp foreign research trends, academic frontier research results, and complex problems. There is a lack of foreign literature studies, and domestic literature research is not in-depth, with insufficient detail in concept interpretation.

In terms of research methods, IAE research is a dynamic process that is undergoing continuous and rapid development and evolution. This research can only grasp the course problems of IAE on the nodes, which is similar to the paper's research. Currently, rapidly changing railway vocational colleges are adjusting their teaching courses in response to the industry's development and social demand for talent. Some railway vocational colleges have adjusted their course content and practical parts to develop their IAE ability through Internet+ and competition. As a result, the timeliness of the research is slightly reduced, and it is necessary to improve the research method of tracking the course development. In this way, the research results can yield more forward-looking conclusions and further assist RHVC in improving course construction.

The research process also found some problems and directions worth in-depth research. Most of the course research in railway vocational colleges still stays at the level of theoretical speculation. Although the empirical research is extensive, the

sample size is small. The theoretical speculation and empirical research are not standardized, which determines that the scientific nature and effectiveness of the research are not high. Course research requires breakthroughs in new scientific research methods, such as adopting research methods that involve observation and detailed analysis of the course content during the course process. As a result, the index dimension design of the research investigation is not comprehensive enough, and the research methods require innovation.

There are certain limitations in the breadth of the research. This paper primarily focuses on the research and teaching of innovation entrepreneurship courses in railway vocational colleges, driven by the development of these institutions. The different regional characteristics show diversification and complexity when exploring railway vocational colleges. Innovation entrepreneurship courses should be considered a new subject. It is necessary to cooperate more actively in various fields, seek international cooperation, and utilize foreign advanced technologies or concepts. At the same time, there will be a lack of vision in the research process. For example, the pan-Asia Railway requires innovative and entrepreneurial talents, and there are few papers involved, which is also the direction the researcher needs to consider next.

1.6 Research Framework

The paper is based on the theoretical basis of the Objective model course theory, the IAE course ecosystem principle, the IAE activity course principle, and the E-CDIO model principle of entrepreneurial engineering talent training. Following the discovery of the problem, analysis, empirical research, and problem-solving research ideas were developed for the study of IAE Courses in Contemporary Chinese railway higher vocational education, specifically at L Vocational College. The study framework is as follows.

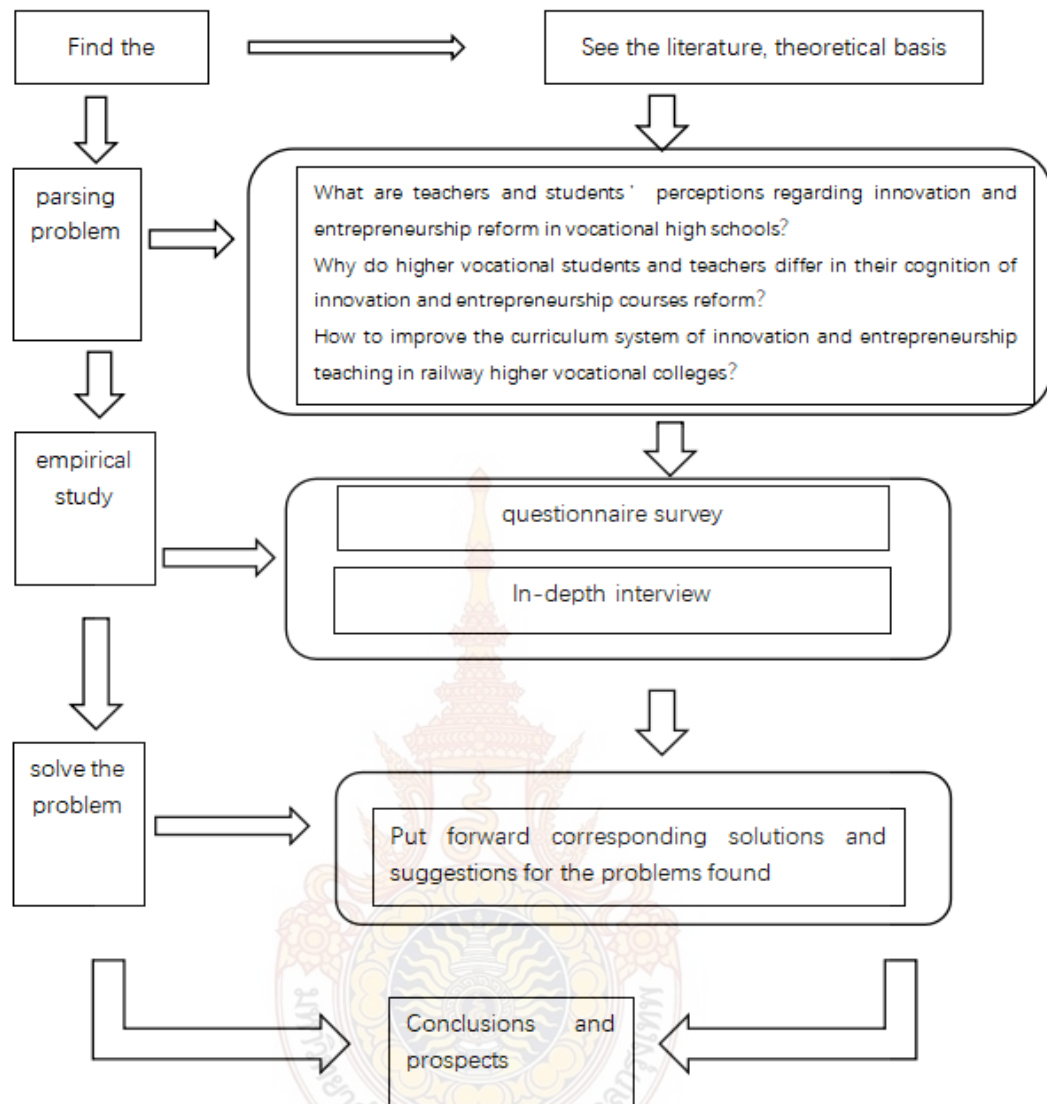


Figure 1.1 Research Framework

1.7 Definition of Key Terms

(1) RHVC

RHVC refers to the schools established and supervised by railway enterprises under the planned economy system. The majors are primarily focused on the railway and rail transit industry, with their education and teaching, talent training, and scientific research centered around the railway or rail transit sector.

(2) IAE

IAE refers to the entrepreneurial activities carried out at one point or several aspects of technological innovation, service innovation, product innovation, brand innovation, organizational innovation, market innovation, management innovation, and channel innovation.

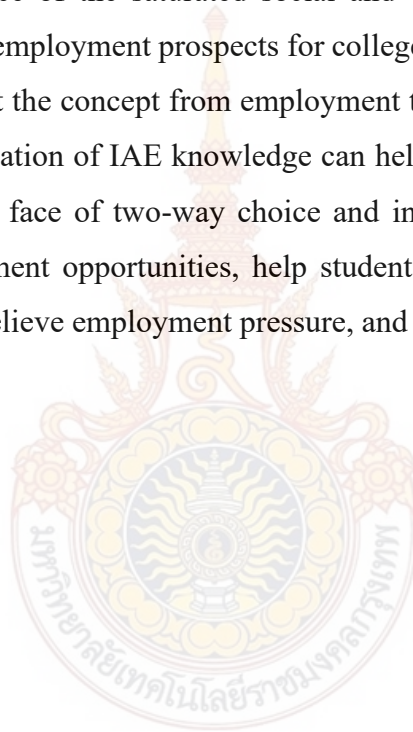
(3) Courses

In a narrow sense, the course concept refers to the sum of specific subjects offered by the school, along with their status and order in the teaching plan. In a broad sense, the courses refer to the sum of all the comprehensive efforts made by the school to guide students in obtaining the expected learning results in a planned manner (Lin, 2011).

Summary: Vocational education represents a significant breakthrough in deepening education reform. Vocational education can effectively divide the college entrance examination, avoid the phenomenon of "thousands of troops and horses crowding into a single bridge", and provide diversity for students to grow up and become talents. Good development of vocational education can promote high-quality development and strengthen the real economy. China is changing from "Made in China" to "Made in China" and "Made in China", which requires a large number of big craftsmen who "do not have them, have their advantages and superior" (Zhuang et al., 2019). China's vocational education personnel training has entered a phase of connotation development, and comprehensive deepening of reform has become the new normal. The researcher prioritized vocational education in education reform and innovation, as well as economic and social development, to deepen the reform of the school-running system and the mechanism for educating people and promoting employment, thereby meeting the needs of industrial development. RHVC to professional and practical requirements is very high, formed the industry characteristic, highlight the characteristics of the industry, characteristic to survival, with the characteristic development, unique orientation, dominated by the government, industry guidance, enterprises to participate in vocational education mechanism, every year for railway and urban rail transit development delivered a large number of high-end skilled talents. Under such a background and situation, research on IAE courses in RHVC has been conducted; however, IAE education in China remains a "marginal discipline,"

characterized as "hot outside and cold inside" and "dispensable" within the higher vocational college education system. In particular, railway vocational colleges lack an in-depth understanding of cultivating students' entrepreneurial abilities, as well as programs and models that can integrate industry and education to better absorb and apply excellent teaching concepts into practical teaching and transform the achievements of IAE. Given this, we should strengthen the research of the IAE courses system, change the unreasonable employment concept of "low, not high", and improve the quality of employment.

In the face of the saturated social and economic transformation of the railway industry, the employment prospects for college students are not optimistic, and it is necessary to shift the concept from employment to entrepreneurship through IAE education. The application of IAE knowledge can help college students improve their employability. In the face of two-way choice and independent job choice, they can better grasp employment opportunities, help students promote employment through entrepreneurship to relieve employment pressure, and realize their life and social value as soon as possible.



CHAPTER II

LITERATURE REVIEW

This chapter introduces the theories applied in the research process, reviews and analyzes the research literature on course objectives, content, practice, evaluation, and other aspects, and then acknowledges the contributions of the literature to the research, as well as the research limitations.

2.1 Related Theories

2.1.1 Objective Model Courses Theory

In his published book, *The Basic Principles of Courses and Teaching* (2013), Tyler put forward the most influential theoretical framework in the field of modern course research, which consists of four steps or stages in the course preparation process: determining goals, selecting experiences, organizing experiences, and evaluating results. Since "determining the course goal" is the core part of the theory, and the other steps are elucidated and explained around this core goal, Tyler's courses theory is also named "target mode courses theory". In selecting and determining educational goals, Tyler considers three aspects of information: the study of students, the study of contemporary social life, and advice from subject experts. After determining educational objectives in learning, Tyler summarized the five principles and four main features of selecting a learning experience: continuity, order, and integration. Tyler discussed the structure of the organizational learning experience and divided the school courses into their respective structures. The emphasis is on developing a comprehensive implementation plan that spans from the highest to the middle to the lowest levels. In the process of evaluating the results, Tyler believes that the evaluation process is a means of determining the degree to which the course and teaching achieve their goals.

To summarize, Tyler's course theory considers the course objectives as the central element. The other three parts of the course content, course implementation, and course evaluation are all centered on this element: planning, implementing, and

providing feedback around it to ultimately achieve the course's objectives and form a closed loop. Under the guidance of this theory, research on IAE courses in ethnic colleges and universities reveals the first clear aspect: the objectives of IAE education talent training and courses. These objectives then influence the content selection, implementation of courses, and evaluation of IAE courses, centering on these objectives.

2.1.2 Principles of the IAE Courses Ecosystem

Roy Clapham proposed the ecosystem in 1930 to analyze the natural rings. The environment's various material and biological elements, along with their interrelations, were later introduced to sociological studies to describe social community structure.

In the 1930s, Waller introduced the concept of the ecosystem into the field of education and proposed the "ecological classroom." Columbia University's Teachers College, in the mid-20th century, Gremin proposed the concept of "education ecology." He believes that the internal factors of education form an organic, complex, and unified ecosystem, where the connection dynamics show both consistency and contradiction, as well as a dynamic balance (Tian et al., 2016).

Following the 1970s, research on the ecosystem theory of entrepreneurship education began to emerge, with representatives including Aldrich, Tan, Carroll, and Khessina, who primarily employed ecological theories and methods to investigate the relationship between entrepreneurship education and the social environment (Aldrich, 1990). Entrepreneurship courses differ from other courses due to their unique entrepreneurial approach, characterized by uncertainty, complexity, openness, and interactivity, much like the ecosystem itself.

Isenberg (2018) believes that the definition of an entrepreneurial ecosystem is that when the entrepreneur is under the support and encouragement of government policies, with human resources, capital, and expert guidance, the external environment in which he is most likely to achieve achievements is the entrepreneurial ecosystem, which includes market, financing, human resources, policies, and other support content.

Suresh and Ramraj (2012) believe that based on the external factors affecting the success of entrepreneurship, the entrepreneurial ecosystem is a dynamic balance system composed of newly established enterprises and other external

environments on which they exist and develop.

The author consulted the literature of domestic and foreign researchers and scholars on the IAE ecosystem and believed that the connotation of the IAE courses ecosystem is rich within the IAE courses system, characterized by multi-subjectivity, openness, multi-level, and internal and external coordinated development.

First, multi-subject participation among participants emphasizes the involvement of teachers and students, government, enterprises, and social organizations. They are all the main body of IAE education, closely related to each other, and jointly gather energy for the IAE ecosystem of colleges and universities. Second, open innovation entrepreneurship courses system construction to adjust at the macro level, the relationship between the government, schools, and enterprises, micro level to campus departments, teachers, students, and experts together, cooperate, realize the campus and outside enterprises achieve mutual benefit and win-win results, the development of campus innovation technology for enterprises to solve the problem, the enterprise resources and development guarantee for the school. Tian (2016) states that openness refers to the innovative entrepreneurship course system that is not limited to the school classroom teaching; it involves knowledge about society, enterprise, market, etc., and the required knowledge also, with the development of time, needs to update constantly, so innovation entrepreneurship education classroom should have the atmosphere of freedom, democracy, and divergence.

Secondly, regarding the teaching methods of IAE, we should not only use traditional teaching methods but also try to employ a variety of approaches to guide students toward divergent thinking without setting fixed answers. At the school management level, there should be a sufficiently open atmosphere to provide teachers and students with support for IAE education and learning, including adequate funding, clear policies, accessible resources, and sufficient time. In the IAE ecosystem, various levels of courses can be established to meet the diverse needs of students. At the micro level, we think about how to teach and how to learn in the basic classroom. The middle level pays attention to connections with subjects outside the school, advocates for course development, and focuses on the construction of teacher training and practice platforms. At the macro level, efforts should be made to cultivate single talents into compound talents, paying attention to their entrepreneurial consciousness and enabling

them to learn to solve problems creatively (Jian & Mei, 2018).

Finally, the specific measures for the internal and external coordinated development of IAE aim to promote coordination among universities, the government, and society and establish a variety of new cooperation mechanisms. Through school-school cooperation, the mutual employment of teachers, student exchange, mutual course selection, and mutual credit recognition are promoted. Liu (2017) believes that universities around the country are encouraged to utilize resources to establish university science and technology parks, college student entrepreneurship parks, business incubation bases, and small and micro-entrepreneurship bases.

2.1.3 Course Principles of IAE Activities

Zhong (2018), based on the ability to let the students organize their activities to implement the course, is the leading advocate of the American pragmatic educator John Dewey. The idea of the activity course originated from the 18th-century French enlightenment thinker Rousseau, who advocated that students should go to nature and gain experience through physical exercise, labor, and observation. Dewey advocates the three-center theory of activity course: activity center, experience center, and student center. It proposes that students can learn through simulated life activities, allowing them to "learn from doing."

The activity course is tailored to the student's needs and interests, making learning real and meaningful, and it considers students' differences. Activity courses have the characteristics of diversified activity-making. The activity course helps students solve problems in the communication activity and improves students' skills in solving practical problems. The activity course integrates all aspects of the school's resources, enabling students to gain comprehensive knowledge of all subjects. The content of the activity course is closely aligned with the needs of students and social needs while also considering the design, content structure, and teaching methods of the course. Subjectivity is the primary criterion for judging activity courses, which refers to the self-activities of students in extracurricular activities. Teachers have less guidance, and activity courses can fully utilize students' autonomy, initiative, and creativity. Systematic courses are a prerequisite for the activity courses, offered as an independent form of study. The course should be designed and implemented in accordance with norms, goals, content, and methods. Activity courses cover a range of

topics and offer a free space for learning activities.

IAE practices and competitions are activities conducted outside the classroom that are tailored to students' interests and passions. Students form their project teams based on their practice situation and carry out in-depth learning through these projects. The competition promotes the development of students. By participating in the competition, students constantly use their accumulated learning knowledge in class, inspire innovative thinking, and solve the practical problems faced by the project. In IAE practice and competition, the school invests a significant amount of resources. Through careful planning, organization, and management, it emphasizes students' initiative in the process of activities, which has a strong practicality and belongs to the activity course.

2.1.4 E-CDIO Model Principle of Entrepreneurial Engineering Talent Training

In 2001, four international universities, including the Massachusetts Institute of Technology, officially established a new engineering education model through cooperative development, known as the CDIO model (Bai, 2015). The model is composed of four stages: conception (Conceive), design (Design), implementation (Implement), and operation (Operate). Engineering students' entrepreneurship is the characteristic of "technology commercialization." The CDIO model can effectively combine engineering technology and entrepreneurship. In the conception stage, students must learn to identify opportunities, assess product feasibility, conduct risk forecast analysis, and establish an awareness of intellectual property rights protection.

Additionally, they should develop a reasonable strategic plan and conduct detailed market research. Especially in the design stage, it can combine technical and commercial activities, design a product prototype, test the product by the market, raise funds, and write a business plan. In the implementation phase, the product prototype can be released to the market to gauge the market's response. In the operational stage, students acquire knowledge in marketing, finance, operations, management, and other relevant areas.

Test the results of innovative entrepreneurship course construction need to students to participate in entrepreneurial activities; CDIO model theory embodies the practice of the concept of "middle school" in education, in the actual process to let

students try happy entrepreneurship, learning entrepreneurial knowledge, the knowledge of their professional subjects into entrepreneurship education, CDIO model theory is specifically for engineering students and creates entrepreneurial learning method. The model reflects entrepreneurial training based on a comprehensive project and embodies the principle of simplicity to complexity in the course design. The project training meets the needs of students at different primary, intermediate, and advanced levels. Enterprise internships are also categorized according to students' conditions, including cognitive, production, and comprehensive internships. Entrepreneurship courses are categorized into introductory entry courses, expansion courses, and practice courses. This course design effectively reflects the engineering learning process, progressing from easy to more challenging tasks.

CDIO mode creates a real practice environment for IAE for students. With the project as the driving force, students can experience the working atmosphere of the enterprise, pay attention to the evaluation of the student process during the student assessment and evaluation stage, and emphasize the subjectivity of students' participation. Generally, this mode is adopted, including practical courses and competitions in IAE courses. Students form teams to explore entrepreneurship through various projects and initiatives.

2.1.5 IAE Courses

The term course originates from Latin. Against the backdrop of differing knowledge and learning perspectives among scholars at home and abroad, the definition of a course has various interpretations. Educator Spencer (1962) was the first scholar who put forward the word "course", and in his works, he defined the course as "the process of learning". Later, after the research and interpretation of many scholars, three types of course theories emerged in the mid-20th century: student-centered course theory, subject-centered course theory, and social transformation course theory. Scholars from different schools have varying emphases on the definition of the word "courses" (Husan & Postlethwaite, 1991). The courses comprise continuous experiences that children gain under the school's guidance, emphasizing the students' real-life experiences in the activities (Ren, 2015). Pan and Wang (2013) proposed that courses refer to the system of various disciplines and various education and teaching activities constructed by schools according to specific educational purposes. The IAE

course consists of theoretical and practical components, including competitions, which are integral parts of the teaching process.

In the Chinese Encyclopedia dictionary, the word "courses" is defined as the subject of teaching, referring to the sum of all teaching subjects offered by a school or major, including their purpose, content, scope, weight, and process. It is also sometimes used as a subject (Yuan et al., 1990). Wang and Wang (1987) believe that courses are divided into two broad categories and two narrower categories. The broad courses refer to the comprehensive subjects and various teaching activities stipulated by the school to achieve the student training goals, including all course forms both inside and outside the classroom. The term is used in its narrow sense to refer to a separate subject in the teaching and training plan. Xie (2007) believes that an entrepreneurship education course is a teaching activity designed to spread the culture of IAE, inspire students to think critically, help students understand the employment environment, enhance their entrepreneurial abilities, and interpret the definition from the perspective of students' learning acquisition.

Suppose broad courses are not limited to classroom teaching. In that case, IAE courses are characterized by strong practicality, but they also place more emphasis on students' participation in IAE practice activities and competitions. Currently, research on IAE courses in China primarily focuses on the development of course systems, the innovation of teaching methods, the comprehensive design of courses, and the application of Massive Open Online Courses (MOOCs) in these courses. Ding (2017) proposed creating a course teaching design according to students' personalized needs to cultivate students' innovative consciousness and ability. Progressive or modular entrepreneurship courses are structured according to students' learning progress, emphasizing the multiple subjects covered in the course implementation. Zhang and Wang's (2013) entrepreneurship course has a multi-level, theory with practice, the implementation process of open and cooperation characteristics, the implementation process to teaching theory knowledge and campus practice and university-enterprise cooperation, innovation entrepreneurship courses system in the design follow people-oriented from the perspective of students, according to the students accept law design, follow the internal logic of the discipline. Lao et al. (2018) proposed that the OBE concept should grasp the development of students' ability in the

course construction process to tap and stimulate students' potential continuously. Teaching evaluation is more personalized, and an output-oriented approach to teaching can help reform courses and improve the operability of IAE course practice, enabling schools to understand social needs better.

Based on the views of the above experts, the IAE course promotes the IAE culture and cultivates students' innovative consciousness, perseverance, and entrepreneurial spirit. It possesses the characteristics of multi-subjectivity, hierarchy, openness, and strong practicality and is primarily carried out to solve practical problems. The course design should follow the logic of entrepreneurial development, take various forms, focus on the interdisciplinary integration of different majors, and cater to students with diverse needs according to their aptitudes and abilities.

2.2 Theories of the Study

Innovation entrepreneurship course is the purpose of spreading innovative entrepreneurial culture, helping students set up the correct employment concept, and cultivating the students to develop an innovative entrepreneurial spirit; this spirit is the spirit of a student's development, realizing its life value in the future life on the road to learn how to face difficulties, thinking about how to solve difficulties to help students build confidence. The process of students experiencing the systematic IAE course is more important than the significance of participating in the establishment of enterprises or their success. There is a saying in academic circles that those who can rise in IAE education can grasp the future direction of education development. Therefore, research on IAE education has attracted the attention of experts and scholars, and it has been studied from different fields and perspectives.

2.2.1 Study Status

(1) Research on IAE Course Objectives

In the study of the course objectives of IAE education, scholars believe that the goal of entrepreneurship education is not only a specific course but also the cultivation and transmission of ideas. Bridges (2000) studies the goal orientation of entrepreneurship education courses from the perspective of school education objectives. By comparing the objectives of entrepreneurship education courses with

those of school education courses, he proposed that the goal orientation is the same, allowing students to effectively improve their learning and life skills after participating in the IAE education courses. Some scholars study entrepreneurship education in British universities and propose course objectives that emphasize the cultivation of quality and entrepreneurial practice among entrepreneurs. These can be divided into four aspects: entrepreneurial logic, entrepreneurial thinking, entrepreneurial ability training, and entrepreneurial practice. Bi (2016) From the perspective of application-oriented undergraduate talent training, he is engaged in setting IAE courses under the background of four directional standards, namely, the standards of overall coordination, diversified development, and systematic promotion. IAE courses are constructed from four aspects: entrepreneurial quality, entrepreneurial behavior guarantee, creative integration degree, and course characteristics, ultimately achieving the goal of cultivating comprehensive talents with the spirit and ability of mass entrepreneurship and innovation. Zhao (2015) proposed that combining utilitarian and non-utilitarian goals, fully considering social needs, and establishing a new target system for IAE education courses is necessary. He (2011) believes that IAE education aims to cultivate students 'desire for knowledge, enrich students' imagination, and develop innovation ability. It requires people to break the existing knowledge scope, advocate the multi-dimensional diversity and autonomy of learning, and combine professional knowledge with other disciplines. Kang and Yao (2016) believe it is cultivating students 'thinking about problems, ability to deal with problems, and a pioneering and innovative spirit. Yang (2014) believes that the goal of IAE education is to cultivate people with a scientific spirit who dare to criticize, doubt, and take risks, who dare to break through thinking patterns and have strong independent character, and who can comprehensively use innovative knowledge to transform innovative consciousness and to think into valuable spiritual or material products. Gu (2015) believes that innovative education aims to cultivate innovative talents for social and economic development, providing a steady stream of driving forces for economic growth. Yu and He (2017) believe that the course objectives of IAE education mainly influence the needs of society and students, as well as the reality of resources and teaching tasks. McKellar (2020) suggests that creating a culture of IAE within the university sector may have two important objectives: the first is to foster that culture among the academic and professional staff

of the institution, thereby engaging the business community more effectively. The second objective is even more important. It involves the IAE of the current students and recent graduates produced by universities. Du and Du (2018) believe that correctly grasping the course value and reasonably positioning the course objectives are conducive to further improving the effectiveness of developing and implementing IAE courses for college students. Zhang and Bai (2014) believe that IAE education aims to cultivate students' innovative consciousness, spirit, and ability. Therefore, in carrying out IAE education, students are encouraged to practice, enhance their sense of experience, and stimulate their' infinite creativity.

(2) Research on IAE Course Content

Zhang (2020) believes that the IAE education courses in French universities are divided into activity courses, comprehensive core courses, and practical courses. The course content also includes skills training for future entrepreneurs, such as creative thinking, new product development, public speaking, technological innovation, market development, and other relevant courses. At the same time, French universities will also add courses to cultivating entrepreneurship, emphasizing sustainable development, such as green entrepreneurship, social responsibility, and other courses. Courses such as business logic design, business plan writing, risk identification, and fund application are introduced to cultivating entrepreneurial student projects. Xu (2013) believes American universities specialize in entrepreneurship education, integrate their teaching concepts into the course organization structure, and design characteristic course systems and teaching plans. In terms of course organization, there are two types: subject courses and practical courses. The core theories of the subject courses are IAE consciousness, basic knowledge of entrepreneurship, entrepreneurial ability quality, and the integration of teaching with professional knowledge. After students have mastered the theoretical knowledge, they will be guided to participate in practical activities, such as entrepreneurship competitions, project-based learning, hands-on operations, and training. They will experience the entire process of practical courses. A single course can be divided into three modules: entrepreneurship theory elaboration, typical case analysis, and simulation exercise. Zhu and Zhang (2017) believe that IAE education should consider the differences between various majors and the required talent literacy and customize

the characteristic education content accordingly. Yin and Wang (2019) proposed establishing courses with continuity and differentiation for college students who are suitable for entrepreneurship and interested in continuing to start their businesses, thereby enhancing the course system of IAE education for college students. Huang et al. (2018) proposed that mass entrepreneurship and innovation education in colleges and universities should incorporate the characteristics of multidisciplinary integration, and diversity should be considered in the integration of course content. Build a practical course group with professional advantages and a depth and breadth of knowledge.

Zhou (2014) noted that IAE courses should focus on studying fundamental theoretical knowledge. Teachers should incorporate knowledge of IAE culture, employment policies, laws and regulations, financial management, human resource management, and other relevant topics into the teaching process to inspire their entrepreneurial thinking and enhance students' awareness of innovation. Yang (2018) concluded that Heilongjiang University has established 730 integrated IAE credit courses with classified training, emphasizing practical applications and breaking down special divisions. Wenzhou University has established four types of IAE classes, each with its own IAE course theory, practice, and application. Chen (2019) summarized an investigation and analysis of entrepreneurship courses at Shanghai Jiao Tong University, including core courses, characteristic courses, seminar courses, and practical modules. Shu and Xiao (2002) divided the types of entrepreneurship education courses into activity, subject, independent, environmental, and practical courses based on course orientation, activities, and content diversity. McMullan and Long (1990) proposed that the courses system of entrepreneurship education should focus on entrepreneurship courses, supplemented by introductory courses and specialized courses, to achieve the mutual penetration of various subject knowledge, including entrepreneurial awareness, entrepreneurial ability, entrepreneurial knowledge, and entrepreneurial practice. Mao et al. (1992) believe that the types of entrepreneurship education courses should include subject course, activity course, environmental course, and entrepreneurship practice, and the specific contents should cover entrepreneurship awareness course, professional skills class, operation and management course, learning guidance course, life guidance course and vocational guidance course. Ibrahim and Soufani (2002) believe that the entrepreneurship education course should contain three

modules: the course module on entrepreneurial tendency and entrepreneurial consciousness, the course module on creating new enterprises, and the course module on survival and growth management of new enterprises.

(3) Research on the Practical Construction of IAE Courses

A master's degree in IAE at MIT requires a hands-on course called "Silicon Valley Tour", and students need to visit IAE experts from different countries, visit innovative start-ups, and get guidance from entrepreneurs. In addition, the school has established training camps, entrepreneurship project incubators, MIT-inspired projects, 18 large entrepreneurial clubs, and 9 global entrepreneurial projects. There are various entrepreneurial practice projects with high student participation (Xu & Yan, 2017).

The University of Birmingham very pays attention to innovative entrepreneurship practice courses and pays attention to students in the real scene of entrepreneurial skills training; the innovative entrepreneurial activity content is rich in order to experience courses and activities; entrepreneurial education activities emphasize the lifelong learning concept, the entrepreneurship education and to society, professional work (Rae et al., 2007).

Singapore, in the process of innovative undertaking courses for students to cultivate entrepreneurship and social responsibility, pays more attention to the internationalization of innovative undertaking courses, invites foreign well-known scholars and entrepreneurs to share case and entrepreneurial experience, enhances students to innovative entrepreneurial experience, emphasis on build perfect course practice system, help students to master the ability of innovative entrepreneurship (Qiao, 2019).

Fetters et al. (2010) believe that the primary curriculum of business schools consists of three modules: basic, professional, and support. The target of introductory courses is all students, which primarily aims to popularize basic knowledge and cultivate fundamental skills. Professional courses aim to help students of different majors and train them to innovate and integrate. Mei and Xu (2009) believed that universities should consider gradients when conducting IAE education courses. At the same time, activity courses and subject courses should be organically integrated to maintain consistency in teaching content and methods. Based on the characteristics of different universities. Shao (2018) proposed that the state of the IAE courses system

should include solid theoretical courses, personalized and customized courses, and practical activity courses tailored to enterprise tasks. The teachers who teach the courses are not only traditional knowledge instructors but also become designers of the learning modules of personalized guidance courses. Fang (2019) proposed cultivating students 'craftsman spirit in the practical teaching of engineering majors and cultivating students' innovative and entrepreneurial skills through discipline competitions and practical guidance for entrepreneurial students.

Hu et al. (2010) believe that different types of universities should focus on the direction of IAE courses rather than unthinkingly following the trend. Shao (2018) proposed that the state of the IAE courses system should include solid theoretical courses, personalized and customized courses, and practical activity courses tailored to enterprise tasks. The teachers who teach the courses are not only traditional knowledge instructors but also become designers of the learning modules of personalized guidance courses. Fang (2019) proposed cultivating students 'craftsman spirit in the practical teaching of engineering majors and cultivating students' innovative and entrepreneurial skills through discipline competitions and practical guidance for entrepreneurial students. Tan (2017) proposed that it is essential for IAE competition teams to obtain results supported by a perfect IAE course system. Teachers encourage students to actively participate in IAE practice activities and utilize teaching resources to help them improve their team-building skills and refine their entrepreneurial projects. Li and Zhang (2018) proposed that IAE courses must expand the teaching content, pay attention to students 'participation in IAE practice, encourage start-up enterprises to enter the campus, jointly develop IAE projects, and improve students' participation. Shao (2018) proposed that the state of the IAE courses system should include solid theoretical courses, personalized and customized courses, and practical activity courses tailored to enterprise tasks. The teachers who teach the courses are not only traditional knowledge instructors but also become designers of the learning modules of personalized guidance courses. Fang (2019) proposed cultivating students 'craftsman spirit in the practical teaching of engineering majors and cultivating students' innovative and entrepreneurial skills through discipline competitions and practical guidance for entrepreneurial students.

(4) Evaluation and Research on IAE Courses

Liu and Li (2016) proposed to use the credit system to promote the course reform of IAE, especially the course practice docking course credit system, pay attention to students' participation in the course practice, observe students' performance in the practice process, and do not identify their results because of the final results. Yan (2018) from the school level of educational philosophy and management system, teachers' teaching staff construction and courses system setting, student level of innovation entrepreneurship learning effect perspective of innovative entrepreneurship courses system construction, quantitative analysis, and qualitative analysis, evaluation method with campus evaluation, enterprise expert evaluation, peer review, social evaluation and so on a variety of ways. Xu et al. (2015) proposed that administrative departments of colleges and universities should establish and improve the school-enterprise cooperation mechanism, enhance the overall evaluation mechanism for enterprise-to-school and enterprise-to IAE education, and help students expand their entrepreneurial project resources. Block et al. (1990) studied the evaluation of the number of students starting businesses and the value of students in the enterprise to rank the IAE performance of colleges and universities. Elert et al. (2015) studied a group of entrepreneurs with entrepreneurship education. It conducts a long-term follow-up survey of entrepreneurs from the perspectives of entrepreneurship time and entrepreneurship income and then forms the evaluation results of entrepreneurs. Robinson and Haynes et al. (1991) focus on graduates and use their ability in IAE as the evaluation index of IAE education, including the number of IAE projects, the scale of courses offered, the number of entrepreneurial student organizations, the course framework, social human resources, and scholarship distribution strength. Vesper (1997), in the American schools, after field investigation and research, designed the evaluation of several big cores: course development, teachers' scientific research and academic achievements, social appeal, entrepreneurship education projects, external academic contacts, alum entrepreneurship, and graduation rate, at the same time the entrepreneurship education input-output efficiency as one of the evaluation index. Through the sampling analysis of 8 universities, Liu and Deng (2014) found that current universities lack a systematic and operational course system, as well as a corresponding course evaluation mechanism. Tian (2016) proposed that the evaluation system of IAE

education in colleges and universities should consider three factors: the difference in the evaluation system, the scientific nature and efficiency of the evaluation methods, and the diversity of the evaluation subjects.

(5) Research on the Teaching Methods of IAE Courses

The Massachusetts Institute of Technology emphasizes the case teaching method, which requires students to read 2-3 business cases every day; teachers will also use many cases introduced in the classroom teaching as teaching material, regularly invite entrepreneurs to share students' business case stories, and let the students solve the enterprise in real problems (Xhou, 2014). The Science and Technology Pioneer Park at the University of Kansas offer professional entrepreneurship training to students, establishes a team of entrepreneurship mentors, and encourages students to form their entrepreneurial teams (Shi & Tian, 2018).

The Western University of Applied Science and Technology in Finland is application-oriented. Its teaching method combines separate entrepreneurship courses with the penetrating approach of integrating entrepreneurship knowledge into professional subjects. The university has 11 IAE student organizations representing various majors, which integrate different professional knowledge to form interdisciplinary learning groups (Yang, 2018).

The University of Waterloo in Canada was founded in 1957, emphasizing the combination of education and industry. The university has been named the most innovative university in Canada by Maclean's Magazine for 24 consecutive years. The University of Waterloo has established a comprehensive set of school-enterprise cooperation teaching modes, and its perfect course system supports IAE research, yielding fruitful results. In 2016-2017, a total of 6,300 corporate institutions participated in more than 120 collaborative education programs belonging to the University of Waterloo, Student participation was 62, Requires students to combine classroom theoretical knowledge with enterprise work practice, The school has established a sound cooperative education system: Co-operative Education Council, Set up a communication bridge between employers and students- one Cooperative Education & Career Services, Characterized by helping students find job opportunities, Find qualified students for the employer, IAE Education Base- -Conrad Business, Entrepreneurship and Technology Center, Combine business activities with IAE, and

technology research and development, Using experiential teaching methods, There are also specialized graduate degree programs (Master of Business Entrepreneurship and Technology, MBET) and business incubator, innovation incubator, enterprise development booster and a series of complete IAE departments (Xiang & Yi, 2019).

IAE courses have the characteristics of solving practical problems. British universities emphasize the reorganization of innovative courses and the innovation of teaching methods (Gibb, 2012). British university entrepreneurship education teaching mode, business school mode, and interactive mode mainly to teach students and give priority to knowledge; interactive mode teaching way more diverse, with emphasis on "middle school" teaching methods have work access, simulation, and games, field training, work project internship, mentoring, etc. (Li, 2018).

Wang (2017) proposed building a customized teaching system tailored to all students, oriented to their needs, to promote the reform of IAE courses, carry out classroom teaching and "embedded" teaching, establish entrepreneurship classes, and combine quality-oriented education with entrepreneurship education. Mei and Meng (2016) to develop experiential learning way, make full use of teaching resources or innovation entrepreneurship, let students organize their teams, complete their project, the whole process of immersive experience innovation, can also try to learn from foreign lean, entrepreneurial learning mode, efforts to use the minimum cost feasibility products and out of the classroom test. Wang et al. (2019) proposed the innovative course teaching method of "students one mooc + flipped classroom one enterprise". A large number of students can get guidance from professionals. Entrepreneurial ideas and practices can be combined with timely professional feedback to improve the learning effect. Sun (2019) proposed that engineering majors integrate their majors into IAE courses and establish a teaching team that incorporates professional innovation, transformation, and integration. Chen (2019) proposed promoting the teaching module of the "Internet +" IAE competition, allowing students to personally experience the entire entrepreneurship process and grasp the integrity and practical characteristics of the course, which is conducive to integrating teaching materials and arranging learning time flexibly.

(6) Research on the Construction of IAE Theory Courses

MIT has built the "Online Open Course for IAE". Since 2014, over 500,000

students have voluntarily registered. Under the guidance of the course, some students have established their own IAE teams to promote their entrepreneurial aspirations (Bonnici, 2016).

The popularization of IAE knowledge can inspire young people to start their businesses. The course teaching has encouraged more students to participate in the practice of IAE. During the course practice, students' entrepreneurial awareness and ability have improved, and their psychological ability to deal with real IAE situations has also improved (Solomon, 2007). Arizona State University has established 16 degree and certificate programs related to entrepreneurship, as well as after-school internship programs and interdisciplinary teaching, aiming to address social problems through entrepreneurship courses (Yang & Zhuo, 2016).

The University of Cambridge offers Entrepreneurship lectures on Tuesdays and evenings, as well as online discussions, to help students develop multi-skilled teams comprising ten modules (Bridges, 2000).

Munich Industrial University Entrepreneurship Institute set up four groups; each group has a responsible teacher; each group has all kinds of innovative entrepreneurship courses and entrepreneurship seminars, in addition to various types of interdisciplinary innovation entrepreneurship courses, innovative innovation entrepreneurship course strong practicality and attention to the cooperation with foreign exchange (Casar, 2000).

IAE education in Japan is closely tied to enterprises and is tailored to meet students' personalized needs, making it highly practical. The company will consider its talent training needs in the course development and form a supporting course system. Japan has also established a faculty enterprise training system and introduced international IAE projects (Chen et al., 2019).

Chen et (2018) focus on start-up type double gen system design, guiding students to form a learning community, relying on professional kechuang activities, striving for the support of the financial system, power kechuang of the construction of the Internet ecosystem, graduate school of Beijing university of Shenzhen youth innovation entrepreneurship center, set up double and general course system, the master, doctoral students set targeted entrepreneurship courses.

Huang (2006) believes that the Entrepreneurship Science and Technology

Park offers an elective course, "Science and Technology Entrepreneurship," for undergraduates. Its teachers come from the front line of enterprises, and the teaching content is closely tied to practical experience. Students in the class form teams freely, and the class and after-class homework involve practical tasks similar to those found in real-world entrepreneurship. After completing the course, students are required to submit their business plan. A well-crafted business plan will be eligible for financial support upon review by the teachers. The teaching method of this elective course is worth promoting in colleges and universities.

Chen (2019) proposed building a course teaching system that teaches people following their aptitude, which should carry out targeted teaching and tailor IAE courses to students with different needs.

Liu (2019) based on the 4S concept (Stimulate, Support, Search, Share) of the college students' innovative entrepreneurship course-specific planning and design, the classroom observation method, classroom content analysis, and interview method to investigate the demand for the course, in turn, from the teaching objectives, teaching content, teaching evaluation of 18 class course detailed planning and design, for other universities how to develop the course have reference. Xu (2019) noted that there are still issues with emphasizing theory over practice in the teaching process of IAE courses. The primary forms are lectures and reports, and the teaching methods of IAE theory courses need improvement.

From a disciplinary perspective, some scholars conduct research on enterprise growth theory, innovation ability theory, entrepreneurial opportunity theory, and other theories related to entrepreneurship education among college students. Zhang and Song (2012) believe that, from the perspective of integrating social resources, different groups of people receiving entrepreneurship education should be given classified guidance based on the theory of entrepreneurship opportunities, which can significantly improve the effectiveness of education. Ge and Ye (2010) investigated the application of enterprise growth theory to college students, aiming to enhance the performance of entrepreneurship education. The reform of entrepreneurship education can promote the improvement of teaching quality, enhance the attractiveness of courses to students, and help them find their direction in entrepreneurship, ultimately improving the success rate of student entrepreneurship.

Regarding research on educational modes, the academic circle is based on the practical experience of various universities, including the "trinity" entrepreneurship education mode, characterized by "courses penetration, practical training, and management first," as represented by Ningbo University. Led by Jiangnan University, "relying on the resources of the park to build a 'park boost' entrepreneurship education model integrating the entrepreneurship education chain of 'education, practice, incubation, and research' " (Wu, 2011). Taking Wenzhou University as the representative, advocating the Wenzhou entrepreneurship education mode of "inheriting the entrepreneurial spirit of Wenzhou people, cultivating the entrepreneurial consciousness of college students; drawing on the entrepreneurial experience of Wenzhou people, guiding the entrepreneurial practice of college students, integrating the entrepreneurial resources of Wenzhou people, and supporting the entrepreneurial education of college students" (Xie, 2011). Based on the practical experience of Central University of Finance and Economics, the "systematic entrepreneurship education and training and students' entrepreneurship practice activities (Xu, 2008).

Regarding innovation and entrepreneurship education research, Zou (2014) proposed that entrepreneurship education can be divided into broad and narrow categories. The broad definition of entrepreneurship education encompasses cultivating individuals with a pioneering spirit. In contrast, the narrow definition of entrepreneurship education refers to a system that can truly form disciplines, core courses, and professional advancement. The university stage is the best stage for the development of entrepreneurship education. Cultivating ability requires a certain knowledge base, rich knowledge storage, and a relatively comprehensive knowledge structure that fosters the generation of new ideas. The word "entrepreneurship" has a rich history in China, encompassing a multitude of meanings. The meaning of "Cihai" is "to create a foundation" (Xia, 2002). Entrepreneurship education It also includes education in business management, such as business planning, capital development, marketing, and capital flow analysis (Entrepreneurship Education in China, organized by the Department of Higher Education, Ministry of Education, PRC, 2006). Liu (2017) believes that it can be understood from three levels of the macroeconomy: organization, individual, and societal. Current research on entrepreneurship education focuses on four aspects: understanding entrepreneurs, understanding the entrepreneurial process,

cultivating entrepreneurial cognition, and training entrepreneurial methods. He (2011) believes that innovative education aims to cultivate students' desire for knowledge, enrich their imagination, and develop their ability to innovate. It requires people to break the existing scope of knowledge, advocate multi-dimensional, pluralistic, and autonomous learning, and combine their professional knowledge with other disciplines.

Kang and Yao (2016) believe that innovative education fosters an innovative spirit, cultivating students' critical thinking, problem-solving abilities, and the courage to take risks. Gu (2015) believes that innovative education cultivates innovative talents for social and economic development, providing a steady stream of driving forces for economic growth. Charles (2017), a British scholar, pointed out that innovation is about providing solutions to people's hesitations in choosing jobs, while entrepreneurship is about turning the solution to a problem into a commodity to sell. Management master Drucker believes that innovation is about endowing resources with new wealth-creation capabilities (Peter, 2007). Yang (2014) believes that innovative education is about training people with the scientific spirit of daring to criticize, doubt, and take risks, the courage to break through established thinking, and strong independence, who can comprehensively apply innovative knowledge and transform innovative consciousness and thinking into valuable spiritual or material products. Cao and Lei (2009) believe that IAE education, in a broad sense, is an educational activity focused on the great cause of social development. In a narrow sense, IAE education is a teaching activity that spreads IAE knowledge.

Regarding research on problems and countermeasures, scholars conduct problem-oriented research, identifying problems in the teaching process of entrepreneurship education and highlighting corresponding solution strategies.

Starting from the practice of entrepreneurship education in colleges and universities, it is believed that the current theoretical research of entrepreneurship education in colleges and universities is not in-depth and systematic, the teaching content of some courses still adopts foreign theories, the scope of teaching work is narrow, and the connection between teaching practice and major is insufficient (Huang et al., 2011). Currently, entrepreneurship education faces several challenges, including the following issues: low student participation in practical courses, an outdated course structure, a lack of integration between entrepreneurship education and professional

education, and uneven teacher quality (Gao, 2011). When analyzing the teachers of entrepreneurship education, it is found that the level of teachers is uneven, the proportion of faculty and the number of students are seriously unbalanced, the structure is unreasonable, and there is a lack of backbone (Jiang, 2001).

Qu et al. (2019) put forward that the current Chinese innovation entrepreneurship course construction course system is not perfect; the shortage of teachers and students who lack innovative entrepreneurial consciousness and ability suggests the entrepreneurship courses in the general course suggest entrepreneurship courses embedded in professional courses, suggest to optimize teaching methods and teachers and reform the course assessment way. Wen et al. (2018) pointed out that there is still an unreasonable allocation of class hours in the construction of IAE courses in Chinese universities, traditional teaching methods are still adopted, and the evaluation method makes it difficult to provide timely feedback to students on teaching proposals. It was suggested that IAE course teaching activities should be carried out at different levels according to students' personalized needs. Wang (2019) proposed that IAE courses should be taught according to students' aptitude, and general courses, practical courses, and professional courses should be carried out based on students' acceptance ability. Students freely choose courses based on their academic abilities, interests, and hobbies and are encouraged to excel in IAE courses. Furthermore, the guarantee mechanism of IAE courses should be enhanced to ensure that IAE education can provide comprehensive support to students. Liu (2019) proposed that the only way to eliminate the current predicament is to reform, utilize network resources to enrich teaching content, enhance the timeliness of courses, conduct course teacher training, and rectify the uneven teaching level of teachers.

2.2.2 Analysis of the Study Value

Through the collection, consultation, sorting, and research of relevant materials related to the above IAE courses, it is found that course research is a relatively complex, scientific, and systematic engineering process involving a wide range of levels, numerous elements, and a lengthy process. As a result, more experts and scholars will conduct research on a theoretical basis, engage in course practice discussions, develop a course evaluation system, and reform course teaching methods, among other initiatives. Researchers can conduct in-depth research from different perspectives,

theoretical construction, and practical applications, which positively improves the IAE course system and promotes the development of IAE education. Now, the main points are summarized as follows:

(1) Academic Theoretical Value

The United States is the first country to develop IAE education. In 1947, a Professor At Harvard Business School offered "Innovative Business Management", which was recognized as the world's first IAE course in the United States (Li & Wang, 2019). McMullan and Long (1987) To better reflect the connotation of entrepreneurship, the courses of IAE should be designed according to the development of students' personalities. The courses should include introductory theory courses, practical courses, entrepreneurship courses, and others, and advocate for the integration of multiple disciplines and fields to cultivate students' entrepreneurial awareness better. Gibb (2007) noted that the effective integration of majors and IAE education has become a key direction in teaching reform at European and American universities. Mars and Metcalfe (2009) believe that students should start businesses based on professional education and integrate professional learning with entrepreneurship education, which is conducive to the more reasonable improvement of professional education and promotes the reform of entrepreneurship education to help students solve the employment problem.

IAE education in China began at the end of the 20th century. In 1997, the first "Business Plan Competition", sponsored by Tsinghua University, introduced the entrepreneurship competition into the campus for the first time, promoting the dissemination of IAE education in universities. In 2002, the state selected nine colleges and universities as the pilot institutions of IAE education to comprehensively popularize the knowledge of IAE among college students and enhance the status of IAE education in the education system. In recent years, domestic academic circles have made significant achievements in research on IAE education.

For example, Li et al. (2004) compiled "College Students Entrepreneurship and College Entrepreneurship Education, which introduces the typical foreign entrepreneurship education mode and extracts and summarizes the training mode and implementation plan of entrepreneurship education in China. The Concept, Ideas, and Practice of Entrepreneurship Education in Chinese Universities, compiled by Xi (2008),

examines the development and evolution of entrepreneurship education within the context of university education, starting with the recognition of students' subjectivity. The New Research on Innovative Talents and Educational Innovation, compiled by Lin (2009), presents the era of the knowledge economy, where the quantity, quality, and structure of innovative talents determine a country's overall creativity. The Entrepreneurship Education Research Series, edited by Xu (2010), sorted out foreign entrepreneurship education and clarified the development process of entrepreneurship education.

(2) Enhance the Value of Recognizing IAE Education

IAE education has received significant attention in European and American countries, becoming an integral part of quality education for citizens and an important national strategic direction. In 2000, the European Union emphasized at the Lisbon Conference that the overall education reform of the EU is developing in the direction of modernization, and the development of IAE education is widely incorporated into the policy proposals (Huang et al., 2015).

For students, courses that help them solve practical problems can stimulate them to strive and improve their ability in in-depth learning. Students will closely integrate the knowledge of IAE learned in school with social development (Wang et al., 2015). Katz et al. (2014) proposed that students of any major should accept IAE courses, and the technological revolution has driven social and economic development. In recent decades, the development process in most industrialized countries has been closely tied to the driving force of IAE education (Ejo, 2016). In the 1970s, the American educational community targeted cultivating innovative talents. In 2013, the US government published "Innovative and Entrepreneurial Universities: Focusing on IAE in Higher Education", which proposed that the overall quality of teachers and students, teaching improvement, regional development, industry combination, and technology upgrading are all the main activity areas of the course (Case & Coleman, 2015). The University of Oxford and the University of Cambridge in the UK explore personalized educational models according to their students' different characteristics, discover their students' inner potential, and encourage their creative spirit. Mei (2010) believes that the United States uses entrepreneurship as the entry point for IAE education, focusing on cultivating students' innovative thinking and entrepreneurial

abilities. Britain and Finland pay more attention to professional skills education, which is integrated into the International Academic Exchange (IAE) program. Australia employs entrepreneurs with both a theoretical basis and practical experience as teachers. Singapore, Canada, Japan, and other countries place importance on student participation in practical activities, creating a new model of school-enterprise cooperation, and implementing IAE education within their national education systems. IAE education has been recognized by governments and universities in various countries.

In addition, China regards IAE education as an important starting point for vocational education reform, as the development direction and strategic decision for the national implementation of entrepreneurship in the future, and as an integral part of the reform and improvement of the national economic system. Strengthening the driving force and implementing key measures to encourage college students to start their businesses after graduation is crucial for comprehensively promoting the high-quality development of China's education system. The *Compilation of Experience in Entrepreneurship Education in Higher Education*, compiled by the Department of Higher Education (2011) of the Ministry of Education, summarizes the achievements of entrepreneurship education in colleges and universities over recent years, providing valuable insights for the development of IAE courses.

(3) Expand the Depth Value of IAE Courses

Ronstadt (1985) believes colleges and universities must integrate IAE education into the professional education process. IAE education can help students understand entrepreneurs and their entrepreneurial endeavors. Students' participation in course and practice activities can cultivate students' entrepreneurial spirit to supplement the missing part of professional education. Change the students' concept of employment and facilitate a role transition from employment to entrepreneurship. Kazt (2003) proposed that to develop educated individuals into professional and innovative talents, relevant pioneering ideas and technologies must be incorporated into daily teaching and development. Li et al. (2017) believe that the corresponding course system is based on the general law of entrepreneurial activities, which involves opportunity identification, enterprise growth, continuous growth, or withdrawal. Wang (2013) pointed out that the current Chinese innovation entrepreneurship course is not perfect, resource shortage of

complex background, using the case teaching method is wise, teachers and students are not in the classrooms, but in the case discussion to solve the problem, make the students in the creation of a virtual environment, simulated entrepreneurial process, teachers inspire students to independent thinking, solve the problem, and produce different ideas spark collision. These research results expand the IAE courses from different perspectives, including theoretical construction and practical applications, and promote the in-depth exploration and development of IAE education.

To summarize, this study is based on the research of experts and scholars actively exploring the practical, extended, and innovative IAE courses in RHVC. Through L RHVC for the entity, the detailed analysis of the case, find out the RHVC and other comprehensive vocational colleges differences in innovation entrepreneurship course, through the comparative study of the vertical and horizontal direction, detailed and reliable data analysis, in order to further explore the development of vocational education reform in higher vocational colleges, to railway vocational colleges innovation entrepreneurship course for case, a typical case study, boost vocational education reform further development.

2.3 Research Review

2.3.1 Study Review

Through continuous research by experts and scholars, the theory and practice of IAE courses in higher vocational colleges have been continually improved and expanded. According to their research fields and perspectives, many scholars have proposed new ideas and methods for IAE theories, expanding the research space and condensing new research results. These academic achievements provide a clear direction for the development of IAE education, thoroughly analyzing the root causes of actual problems and proposing effective solution strategies. To provide strong support for the IAE courses in railway vocational colleges, scholars from European and American countries mainly focus on the following aspects:

First, for the research on the construction of IAE courses, scholars interpret the concept of IAE, review the development process of IAE courses, course evaluation system, course content setting, course connotation, and other aspects, and pay great

attention to students' participation in courses practice, and the research results are vibrant.

Second, regarding the analysis of the reasons for undertaking IAE courses, these courses have various types, clear levels, and a strong systematization.

Cultivate students' entrepreneurial awareness and improve students' entrepreneurial ability. Students are encouraged to apply their knowledge of IAE, innovative science, and technology to contribute to national development, aligning their endeavors closely with national objectives. Secondly, developing IAE courses in colleges and universities is conducive to transforming college students from employees to entrepreneurs, enhancing students' confidence, and promoting the reform of the education mechanism virtually. Finally, IAE education in colleges and universities has attracted the attention of enterprises. Many enterprises have established cooperative relationships with colleges and universities, promoting the deepening of the university-enterprise cooperation mode, and enterprises urgently need entrepreneurial management talents who are willing to take risks.

Third, European and American countries advocate for the interdisciplinary integration of professional education and IAE education, and discipline integration is evident in aspects such as course design, teaching methods, and project practice. Course research primarily analyzes its characteristics and advantages. Entrepreneurship education has yielded significant results in terms of discipline construction, teacher training, and course offerings. In addition, the whole society formed an entrepreneurial atmosphere, and the government college people are very attentive to innovative entrepreneurship education, government policies, and regulations as the driving force of business development; colleges and universities for different levels of students open different types of innovative entrepreneurship courses, successful entrepreneurs widely donated, help to entrepreneurial young people realize an entrepreneurial dream.

Chinese academia mainly focuses on the following aspects: One is the innovative entrepreneurship research results; the primary data from university innovation entrepreneurship course practice involves the connotation of innovative entrepreneurship course, teaching mode, evaluation system, development present situation, existing problems, entrepreneurial practice system, etc., the second is for the university innovation entrepreneurship course status of the research report, for the

experimental data, three is for a region or a university to carry out the empirical study of innovative entrepreneurship courses.

To sum up, Chinese experts and scholars in different angles, theoretical construction, practical application of innovative entrepreneurship education, from the academic theory results to the discovery of practical problems, to put forward development implementation opinions or Suggestions, these research results for innovation entrepreneurship courses system in higher vocational colleges development laid an important foundation. With the research on IAE courses in railway vocational colleges, we can better understand students' feedback on the course, whether this course is helpful for students' future employment, and whether it can explore the perspective of students' employment. These research results also help higher vocational colleges identify and address course problems, promote the deepening of vocational education reform, and enhance the teaching quality of higher vocational colleges.

2.3.2 Insufficient Research

IAE education has evolved gradually from the initial innovative enterprise management course to a distinct subject field. The theoretical and practical research conducted in the IAE course has developed rapidly and yielded specific results, laying a foundation for the future disciplinary development of IAE education. However, the overall research is still not comprehensive, in-depth, and systematic enough. In particular, there are relatively few achievements in RHVC. Therefore, the research space of higher vocational colleges, as the background of the innovative rail transit industry, still needs to be explored and improved. Currently, research on IAE courses in China is primarily based on empirical studies, with a notable lack of in-depth investigations. The central contradiction encountered in the teaching process has been practical, and the in-depth study of the problems has not been sufficient, making it difficult to put forward effective strategies to help solve practical problems. With the increasing requirements of enterprises for compound talents, higher vocational colleges face unprecedented opportunities and challenges. Only through continuous reform of vocational education can the problems of IAE courses be solved, which are mainly reflected in the following points:

(1) The Course System of IAE Lacks Integrity

Innovation and entrepreneurship research is concentrated in Europe and

developed countries in the Americas. The advantages of innovation entrepreneurship course research focus on the traditional innovative entrepreneurial characteristics of colleges and universities, while research in other countries and universities is less prevalent. In the innovation entrepreneurship courses system, construction researchers often adopt the characteristics of multidisciplinary participation, conducting research from their respective fields rather than forming an integrated research paradigm. Compared to developed countries, China's IAE education is in the development stage, and generally speaking, it remains in a state of "scattered" and "fragmented" development. Domestic IAE courses have consistently adhered to the unified course standards set by the Ministry of Education, and the overall research results have not been noticeable. The problems existing in the course construction process are broad and general, lacking pertinence and providing insufficient detailed and specific solutions, which lead to the difficulty of constructing the IAE courses system. Vocational education is a fundamental component of career preparation, and practical skills are more important than theoretical knowledge. In higher vocational colleges, it should be practical to highlight the innovation and entrepreneurial skills that students need to master. Innovation entrepreneurship practice course mode diversity, form is more flexible, the method is rich entrepreneurial activity courses, they do business plan competition, all kinds of entrepreneurial activities, business incubators as the main way of implementation, course students will accept entrepreneurship from enterprise personnel concept teaching, let students perceive and understand how to develop entrepreneurial activities. There is also the issue that the analysis of empirical research on IAE courses is not deep enough, nor is it comprehensive and systematic. No set of systems suitable for higher vocational colleges to carry out practical courses requires continued study and practice.

(2) How Do Higher Vocational Teachers and Students View the Lack of Research on IAE Reform?

The professional attribute of vocational education means that students' individual and social development should be intertwined. Education is designed to prepare students for their future lives and careers, and more knowledge related to social and economic development should be integrated so that students can develop the ability to engage in continuous, independent learning and progress. There are many types of

professional education courses in higher vocational colleges, and some professional education programs have a natural fit with IAE education. Professional education is integrated into IAE courses to form interdisciplinary integration. Higher vocational colleges focus on developing professional courses, and combining IAE with professional skills and knowledge can be a challenging task. As a result, it is challenging for professional education to be integrated into IAE courses, and forming a discipline system is difficult. Teaching course issues, such as the lack of coupling research on specific disciplines, have become the focus of research. The reform of IAE is deepening continuously, but there are relatively few studies from the perspective of higher vocational teachers and students. Further research in this area is currently needed.

(3) Research on the Cognitive Difference between the IAE Reform of Higher Vocational Students and Teachers is Insufficient

The IAE course is based on training students 'innovative consciousness, entrepreneurial ability, and entrepreneurial spirit and promoting students' employment, distinct from The Times. How to grasp the law of students' cognition From the perspective of students and reform the courses of IAE, relatively little research is not in-depth enough. Teachers should make reasonable use of cognitive differences to carry out effective teaching research; innovative entrepreneurship education is designed to help students transition into new employment roles. Suppose the fundamental problem with college students' cognitive differences is their overemphasis on innovative entrepreneurship in their professional field of study. In that case, it will exclude many practical problems, and such research will lack a practical basis. Unable to play the role of IAE courses, IAE courses must stay at the forefront of development and continually carry out course reform.

(4) The IAE Course Standards of L Vocational College Need to Be Improved

Based on the Objective model course theory, innovation entrepreneurship course ecosystem principle, innovation activities course principle, entrepreneurial engineering talent training E-CDIO model principle of L railway vocational and technical college existing innovative entrepreneurship courses standard research, according to the Objective model course theory course objectives, course content,

course practice, course evaluation of L vocational college courses standard (Appendix C).

In terms of course objectives, L Vocational College firmly grasps the national requirements for students in IAE courses so that students can master the basic principles and knowledge of IAE, have the basic quality and ability of IAE, establish the entrepreneurial concept to meet the development needs of The Times and be familiar with the practical application of theoretical knowledge of IAE. The course aims to cultivate students' comprehensive quality, knowledge, and skills to master the systematic knowledge and basic ability of IAE. The course objectives reflect the characteristics of integrity, popularization, and improvement. The overall goal is to promote the all-round development of students and cultivate well-rounded talents with a creative, innovative, and entrepreneurial spirit, as well as the ability to meet the needs of the economy and society. L vocational College in the IAE courses objectives reflect the characteristics of integrity and popularization. The overall goal is to promote the all-round development of students, training to meet their economic and social needs with creativity, innovation, entrepreneurship, and the ability of interdisciplinary talents; the universal goal is to make all students master the basic innovative entrepreneurial knowledge, thinking methods, and theory, stimulate innovative entrepreneurial consciousness, cultivate an innovative entrepreneurial spirit.

In terms of course content, the basic knowledge of IAE, the innovation module, and the entrepreneurship module are the main components that impart knowledge of IAE. The course content is the core part of the course system and an important carrier to achieve the course objectives. IAE courses are offered to all students, and the entrepreneurship course module provides simulation guidance to improve students' entrepreneurial ability. Encourage students to take an active part in practice, cultivate students who have a strong social responsibility and mission, have a strong sense of innovation, entrepreneurship, and excellent entrepreneurial ability of high-quality talent as the goal, entrepreneurial spirit and entrepreneurial foundation module to cultivate students 'innovative spirit and entrepreneurial consciousness, make students master the basic knowledge of innovative entrepreneurship, entrepreneurial practice module in-practice training and improve the students' innovative entrepreneurial ability.

Table 2.1 L Vocational College Course Content

Number	Module	Unit	Content of Courses
1	Courses foundation	First lecture: the foundation of IAE	1. Why to learn this course and how to learn 2. Basic concepts of IAE 3. IAE and career planning
2	Innovation module	Second lecture: innovative thinking	1. Break the mindset 2. Innovate thinking patterns
		Third lecture: innovative methods	3. Basic knowledge of innovative methods 4. Standard innovative methods and applications
		Fourth lecture: entrepreneurs and entrepreneurial teams	1. Entrepreneurs and their characteristics 2. The formation plan of the entrepreneurial team
3	Entrepreneurship module		3. Entrepreneurial team problems and solutions
		Fifth Lecture: Entrepreneurial projects and entrepreneurial resources	1. Insight into entrepreneurial projects 2. Entrepreneurship risk 3. The integration of entrepreneurial resources
		Sixth Lecture: Internet plus IAE	1. Internet + meaning 2. Internet thinking 3. The Internet plus IAE 4. Introduction to the China International "Internet +" IAE Competition
		Seventh Lecture: Writing and presentation of the business plan	1. The role of a business plan 2. Writing a business plan 3. A presentation of the business plan

Table 2.1 L Vocational College Course Content (continued)

Number	Module	Unit	Content of Courses
		Practical training: business plan writing	Master the overall process of writing a business plan.

As shown in Table 2.1, the basic knowledge module in the general education course of IAE education primarily teaches the fundamental knowledge about the concept, significance, current status, spirit, and thought behind IAE activities. The innovation module aims to cultivate students' awareness of independent innovation, stimulate entrepreneurial thinking, and enhance their creative abilities to meet the needs of social and economic development. The course covers explicitly divergent thinking training, image thinking training, changing element thinking training, reverse thinking, and convergence thinking training, as well as the methods and ways of thinking power. In the entrepreneurship module, the course content primarily explores and summarizes the general principles of entrepreneurial activities, enabling students to master identifying, grasping, and controlling entrepreneurial business opportunities. It also helps students understand the success conditions and failure risks associated with entrepreneurship. The writing of the business plan emphasizes that students can systematically and scientifically analyze market segments for entrepreneurial projects, identify the purpose and environment of entrepreneurship, recognize entrepreneurial opportunities, assess entrepreneurial sources and resources, establish enterprises, create value, and understand entrepreneurial trends in the Internet environment. It also analyzes the characteristics of the entrepreneurial industry, process design and implementation of entrepreneurial practice projects, and analysis of success and failure cases of entrepreneurial enterprises. Entrepreneurship module content mainly introduces and analyzes the concept and significance of entrepreneurship, interprets the social quality of entrepreneurs, guides students to self-analysis and training based on the analysis of the current macro business environment to guide students to master micro-entrepreneurial environment analysis skills, and identifies and evaluate business opportunities, and teaching business plan writing specification and financing ways and skills.

Course modularization is the most significant advantage of flexibility and convenience; each course module has clear course objectives and content, the duplicate module course content distinguishes each other, internal connection and horizontal contact with other modules, the progressive course between different modules, organic cohesion, complement each other, the module according to the innovation entrepreneurship education logic formed into a bigger goal, a complete set of courses content system.

Regarding course practice, IAE education is a comprehensive and practical approach, which necessitates a fresh process of cultivating individuals, and the principal status of students should be fully respected.

Table 2.2 L Vocational College Courses Practice

Order Number	Module	Unit	Content of Courses
	Entrepreneurship practice	IAE project incubation and participation	1. Introduction of related IAE Competition 2. Brief introduction of the competition method 3. Cultivate high-quality entries
		Internet + IAE Competition project cultivation	1. Introduction of "Internet +" International College Students' IAE Competition 2. Entry method 3. Registration method 4. Relevant rules
		Incubation of entrepreneurial projects	1. Group roadshow 2. Road show defense

In the practice of IAE education, the principles of IAE activities are fully applied, with a focus on the interaction between teachers and students, as well as student participation in practical activities. Flexible and diverse teaching methods are adopted.

In addition to traditional teaching methods, case studies, experiences, projects, and competitions are commonly used teaching approaches. Case-based teaching refers to introducing successful or failed IAE cases at home and abroad into the classroom, summarizing relevant experiences and lessons, and inspiring students to broaden their minds and horizons. Discussion teaching allows students to work in groups as a unit, focusing on a classroom theme, through discussion or debate activities to consolidate the knowledge they have learned. Intuitive demonstration teaching, inviting entrepreneurs to teach the process, experience, and perception of IAE so that students can gain a perceptual understanding of IAE through observation. Experiential teaching enables students to visit start-up enterprises, gaining insight into daily operations and working environments. This approach fosters long-term cooperation between schools and society, organizing students to conduct internships in enterprises where they can apply their practical skills and gain valuable experience. In project-based teaching, students form an entrepreneurial project team, choose the direction of a specific entrepreneurial project, design the project under the guidance of an entrepreneurial mentor, and complete the associated activities within the entrepreneurial subject. Competition teaching involves organizing students to participate in various IAE competitions, including scientific and technological innovation and discipline competitions. These competitions include the China Internet + College Students IAE Competition, "Create Youth," and the College Students Entrepreneurship Competition, promoting teaching and learning through competition. Not only do different types and contents employ different teaching methods, but different teaching methods are also adopted within the same course. L Vocational College bases its course practice assessment on the Business Plan, which comprehensively examines students' mastery of innovative and entrepreneurial knowledge and encourages active participation.

Courses evaluation At present, L Vocational College has not explicitly established an innovative entrepreneurship education courses evaluation system; course evaluation follows the school unified courses evaluation standard, evaluation of the main body for the school, experts, teachers, and students, four groups of four groups, the corresponding evaluation method for leadership evaluation, expert evaluation, teacher evaluation, and student evaluation four, teacher evaluation by leaders, expert evaluation and students evaluation three parts, " leadership evaluation focuses on the

teachers observe the teaching norms, teachers teaching situation, students student participation, teaching discipline, etc. The expert evaluation focuses on teachers' teaching skills and academic level, including basic teaching skills, teaching preparation, teaching attitude, teaching content, teaching methods, teaching effectiveness, teaching wit, teaching art, and teaching characteristics. Students 'teaching evaluation focuses on teachers' attitude, teaching content, teaching methods, and teaching effect."The evaluation of students is primarily conducted through course assessments. Different teachers use roughly the same assessment methods, such as formative assessment (i.e., process assessment). Through the study of this course, whether the students have understood the connotation, characteristics, principles, and analysis steps of various innovative methods, whether they have mastered the basic methods of innovation, whether they have developed the behavior habits of innovation, and whether they have mastered the differentiation and practical application of innovative methods.

With the employment pressure increasing after 2022, innovation entrepreneurship courses and employment courses fusion form college students' employment and entrepreneurship guidance course, according to the principle of step-by-step teaching content is divided into "professional enlightenment", "career planning, and professional quality", "employment ability to expand and policy interpretation", "innovation entrepreneurship" four big modules, each module has systematic, at the same time has relative independence. IAE courses are gradually marginalized in L vocational colleges, and the reform of IAE courses is imminent.

From a comprehensive theoretical analysis of IAE courses and vocational college courses, it is evident that there are research gaps in the theoretical analysis of cognitive differences between students and teachers, as well as discrepancies in how students and teachers perceive the research on IAE course reform. There is considerable scope for researching IAE courses from both theoretical and practical perspectives.

2.3.3 Enlightenment and the Prospect of Literature Analysis

(1) Research Key Points and Difficulties

First, the railway vocational colleges innovation entrepreneurship course "why" (target), the railway vocational colleges innovation entrepreneurship teaching needs to return itself, not only to gain utilitarian economic benefits but also to highlight the principal position of students for the society to cultivate high rational and emotional

balance, the coordinated development of innovative entrepreneurial talents.

Second, "what to teach" in RHVC (content). From the active behavior of education, transcendence from the essence of the start to explore the core of the courses. What to teach in IAE courses is not determined by itself but rather by fully considering the object, namely, the needs of students from their perspective. The core is to cultivate students' ability to think and solve problems.

Third, the "how to teach" of the IAE courses in railway vocational colleges (implementation). From the point of view of teaching content, courses are a whole, not a single existence, but not a simple superposition. Separate and decentralized courses need to be integrated with methods based on entrepreneurial process models. From the perspective of teaching methods, the theoretical courses primarily focus on the indoctrination method. In contrast, the practical courses of IAE need to break through the traditional education method of indoctrination and adopt an experiential education method to cultivate active, non-obedient, and innovative talents. From the perspective of the teaching process, course knowledge is a complex transformation process, spanning from the acceptance of knowledge to the formation of wisdom, which enables students to develop their subject consciousness fully and encourages them to realize their potential, ultimately becoming the real subjects of their education.

Fourth, the railway vocational colleges innovation entrepreneurship course "change" (evaluation), students through participating in innovation entrepreneurship course teaching, the overall evaluation of the course, as the teaching subject can point out the problem, the courses evaluation needs to arouse the enthusiasm of education main body to participate in, a more comprehensive courses evaluation feedback, constantly improve the evaluation system is an important means to promote courses reform.

(2) Solution

First, pay attention to following the target standards, adhering to the spirit of relevant national documents and policies, and carefully understanding the specific provisions of the national IAE course objectives during the research process. China's Ministry of Education (2012) issued "ordinary undergraduate school entrepreneurship education teaching basic requirements (trial)", with course objectives as a blueprint, combining with railway characteristics of higher vocational colleges, oriented to

students' employment, innovation entrepreneurship courses, innovation competition courses, innovative entrepreneurship training courses to cultivate students' entrepreneurial spirit, exercise students' entrepreneurial ability, promote innovation entrepreneurship courses system. Second, the focus should be on gradually enriching the course content according to the object of education, social development needs, the nature of the course content itself, and other content selection bases, combined with the professional background of rail transit. Integrate professional education into the IAE courses system to form interdisciplinary courses and enhance the coupling of IAE courses and professional education. Three is to pay attention to exploring various courses implementation way, by increasing the practice teaching proportion for courses construction and reform breakthrough, using the campus pioneer park, school incubators, and innovative entrepreneurial training base as the platform, increasing the cooperation base to carry out teaching activities, increase the proportion of the student team to participate in innovative entrepreneurial project incubation in class, let the students in the way of the team, in class according to the project incubation process to participate in the practice teaching, and in the classroom process gradually complete the early stage of the project incubation process, promote innovative entrepreneurship course practicality. Fourth, please pay attention to the implementation of multiple teaching evaluations; teaching evaluations should not only focus on students but also serve them, grasping the law of how students accept knowledge to provide effective guidance. From the student's perspective, we should construct a course evaluation system, attempt to carry out the course evaluation from different perspectives and introduce an enterprise evaluation mechanism to facilitate a more objective evaluation of innovative courses.

(3) Innovation Points

First is the innovation of the research content. In theoretical research, cultivating innovative and entrepreneurial talent for the rail transit industry is proposed. The IAE courses in RHVC must be developed in line with professional education, promoting the all-round development of students while fully leveraging their professional advantages. With an industrial background in higher vocational colleges, theoretical research has individuality and commonness. The results of theoretical theory can provide a new perspective for constructing IAE courses and help higher vocational

colleges expand the depth of theoretical research.

Second, the innovation of research methods. At L Vocational College, the research entity will conduct detailed analysis and research on individual cases to determine the differences between railway vocational colleges and other comprehensive higher vocational colleges. The IAE courses, which share the characteristics of railway vocational colleges, are explored through comparative research and vertical and horizontal data analysis. The paper takes the "goal- -content- -implementation- -evaluation" of the IAE course as the logical main line, through the process of "understanding- -experience- -entrepreneurship", awakens the students' primary consciousness of subjects, makes students become the main body of education, optimizes the whole course from the needs of students, and conforms to the law of students' growth.

Third, the innovation of the research perspective. A coupling model for IAE education and professional education is proposed. Make full use of the fit between railway specialty and IAE education, and integrate professional education into IAE courses to form interdisciplinary integration. Introduce the coupling linkage mode between IAE courses and professional education and explore this mode of coupling. Promote in-depth course reform to transition from the previous single teaching mode, making IAE courses more accessible to students and fostering continuous improvement in professional education.

Summary: Organize and analyze the research results of scholars from the aspects of the construction of IAE theory courses, the construction of IAE practice courses, research on IAE competition, and research on teaching methods of IAE courses. This will affirm the dedication of experts and scholars to the academic theoretical value, enhance the recognition of IAE education, and expand the depth of IAE courses. It was found that the course system of IAE courses needs improvement, as the practicality of the courses is weak, and the coupling between courses and professional education is lacking. The paper takes the reform of IAE courses as an opportunity to promote education reform and practical innovation in railway colleges and to explore the industrial cooperation path between railway vocational colleges and the pan-Asian region. To address the current employment challenges faced by higher vocational students, Cultivate helps students develop perseverance and

entrepreneurship, encouraging them to have the courage to pursue entrepreneurship and promote employment, thereby alleviating employment pressure.



CHAPTER III

RESEARCH METHODOLOGY

This chapter introduces the study design, analyzes the population and sample, determines the data collection and research instruments to use for testing, and assesses the validity, reliability, and data quality of the study content.

3.1 Research Design

The paper employs explanatory research, combining survey and interview methods. The investigation and research methods are familiar but challenging to grasp fully, allowing for a deep understanding of the connotations of educational investigation and research methods. The purpose of the student survey is to determine how students perceive the differences between IAE course reform and the cognition of IAE courses and to help address the issue of an imperfect IAE course system in RHVC. Teachers used interview research, and the interview can be deep into the teacher's inner world and help understand the point of view, stimulating the research problem of deep thinking; for teachers of innovation entrepreneurship courses, deep information achieves a deep understanding of how teachers think of innovation entrepreneurship courses reform and the cognition of innovative entrepreneurship courses, promote the railway innovation entrepreneurship courses system in higher vocational colleges.

A questionnaire survey is one of the most widely used survey methods for obtaining data through social research. For example, if researchers want to study a phenomenon through a questionnaire survey. First, they need to influence the phenomenon of various factors, and then, according to these factors, write specific problems, form a questionnaire print, and print the questionnaire to fill in the questionnaire, eliminate invalid answers, finally, the answer to the effective questionnaire summary statistics form, according to the different table data, choose different statistical methods for analysis, the corresponding conclusion according to the results of the analysis. There are many classifications of the questionnaires. There are different classifications according to the carrier and the answer paper.

The paper questionnaire combined with Tyler's courses theory, divided

into four parts, is the course objectives, course content, course practice, and course evaluation through the four understand how students view the innovation entrepreneurship courses reform, the cognition of innovation entrepreneurship course, promote the railway innovation in higher vocational colleges entrepreneurship education courses system construction. The questionnaire consists of single-choice, multiple-choice, and open-ended questions.

The preliminary design of the questionnaire consists of four parts. The first part decomposed the relevant background information of the investigators, including gender, major, grade, and other survey items. The second part primarily focuses on the students' attitudes towards IAE courses in railway vocational colleges, including the course format, teaching subjects, evaluation methods, and other investigation items. The third part is the central part of the IAE course in RHVC. It primarily focuses on students' investigation of the credits for IAE courses, including course numbers, course systems, teacher professional levels, course content, teaching methods, and assessment methods in RHVC. The fourth part consists of open-ended questions, which aim to gain a comprehensive understanding of students' views on IAE course reform.

Student questionnaire design reference: Lu (2019). University Innovation and Entrepreneurship Course Implementation: Designing a Student Satisfaction Questionnaire. Zhao (2019) W. University Innovation and Entrepreneurship education course implementation: The effect of a questionnaire as part of the design content. Huang (2020) designed the National College Innovation Entrepreneurship Education Courses Questionnaire (Student Version) in a specific way.

Teacher interviews using the combination of structured interview and unstructured interviews, an interview a person interview as far as possible around innovation entrepreneurship courses reform interview outline, an interview a person can get more unique interview data, not easy to influence by others, around, especially when answering some sensitive topics, easy to get real information.

The paper used survey research and interview research for mixed research, selected the representative survey of L RHVC, comprehensively understood the course setting objectives, course content, course implementation, and course evaluation of L RHVC, collected and sorted out the overall opinions of teachers and students on the courses, and put forward practical solutions.

3.2 Research Population and Samples

3.2.1 Population

L Vocational College is a demonstrative higher vocational college in Guangxi, the first batch of high-end applied undergraduate talents in Guangxi joint training reform pilot units, a school adhering to the "mingde burr knowledge relentlessly resourceful" school motto and "hard work, modesty, pragmatic innovation, dare to climb" spirit, formed the "relying on industry, university-enterprise cooperation, to post guide, service at the grass-roots level" school characteristics. Many RHVCs chose this college to carry out the survey. Because L Vocational College has distinct characteristics in IAE courses and has achieved remarkable success in IAE education research, it can ensure the smooth development of research.

The participants in the survey are primarily students who have taken L Vocational College IAE courses and are eligible to participate in the questionnaire survey. The teachers are selected mainly those who participate in teaching and managing IAE courses. They have a deep understanding and extensive research of IAE courses, which ensures that investigations and research are conducted more efficiently and promptly.

3.2.2 Samples

For the interview, the researcher selected 10 railway teachers from the Chinese Railway Vocational College as examples.

Table 3.1 Teacher Sample for Interviews

School Investigated	Survey Crowd	Method of Investigation
L Railway Vocational and Technical College	Full-time teacher of IAE courses Part-time teacher of IAE Instructor of IAE Competition	Interview
Total	IAE course management 4 Categories	

The number of students selected for the questionnaire survey was 380. The

survey group primarily focused on the IAE courses, having had a profound experience with them, which was conducive to the authenticity and accuracy of the data.

3.2.3 Sampling Method

The paper employs a random sampling method. Generally speaking, a sampling survey is more commonly used in the research. A representative part of the observation units is selected from the population to form a sample, and the target is according to the survey results of the sample. Sampling a survey saves time and effort, as it allows for the quick collection of required information. The survey itself is smaller, making it easier to carry out in-depth and detailed analysis.

Pre-survey preparation can be understood as the process of selecting routes and preparing tools to achieve the survey objectives, also known as the survey design phase. Route selection refers to the survey design work conducted in accordance with the survey's purpose, encompassing all aspects, from research ideas and strategies to methods, techniques, and specific approaches. Tool preparation mainly refers to the preparation of the measurement tool or information collection tool on which the survey depends. Of course, the source of the survey information and the selection of the survey respondents should also be considered. Through three aspects of preparation, the overall planning of the survey work, sampling design, data collection tools, and methods.

The overall plan of the survey shall be prepared in written form, outlining the design, purpose, content, and scope of the survey, as well as a description of the survey schedule. This plan serves two main functions: one is to act as an action guide for researchers to carry out the investigation and the entire investigation process; the other is to explain the objectives, content, methods, and feasibility to others. In order to more effectively complete the next step of the investigation, it is better to form a more detailed investigation workflow table in the preparation stage of the investigation, classify the work required in the process of the investigation and visit, list the work items of each category as entirely as possible, and preset the completion period of each work project.

The sample's representativeness determines the reliability and accuracy of the findings extrapolated to the target population. In order to obtain a "good sample", a careful sampling design is needed. Carefully understand the overall status and structure of the survey objectives, collect relevant information, and identify possible difficulties

and limitations when contacting respondents. At the same time, select and determine the sampling plan according to realistic conditions (including funds, time, manpower, relationships, etc.).

Sampling is not only partial coverage but also a science based on probability theory that controls and measures the reliability of valuable statistical information. A well-designed representative sampling study would perform unreliable or biased measurements of the whole population. The investigator should select a random sampling method that fully considers the study objectives, the respondents, the sample content, the available human resources, and the schedule. The paper adopts a random questionnaire among sophomore students,

Interview with four types of teachers, including part-time teachers, IAE teachers, IAE competition instructors, and IAE course management teachers, to conduct IAE courses.

3.3 Data Collection

The different types of questionnaire carriers it is divided into paper-based and online questionnaire surveys. The paper questionnaire is a method of printing the questionnaire and distributing it to respondents for completion. Finally, the questionnaires were collected and analyzed. Traditional questionnaire methods have several drawbacks, including the high cost of distribution and recovery, as well as the complexity of statistical analysis of questionnaire results. With the rise of computer-based questionnaire surveys, they are not bound by time and space, are flexible, and have been widely adopted and appreciated by researchers. Users can participate in a questionnaire survey by visiting the designated website. Generally, websites provide services such as questionnaire design, release, and analysis of results. Domestic websites currently have Questionnaire Star, Questionnaire Network, and Survey Group; foreign websites have Survey Monkey. The paper uses the online "Questionnaire Star" platform to distribute and collect data. Researchers thoroughly consider the research objectives, interviewees, sample content, actual human resources, and schedule, among other factors. The network questionnaire is flexible, saving time and cost.

The interview was arranged after the questionnaire survey to compensate

for its deficiencies, especially since the answers to the open-ended questions did not meet the original goal. After implementing the survey, the interview outline was formulated based on the answers to the open questions in the recovered questionnaire. The outline was divided into four parts: IAE course objectives, course content of higher vocational colleges, IAE course practice, and course evaluation.

3.4 Research Instrument

Using the "Questionnaire Star" network platform, the questionnaire was effectively issued and retrieved through the assistance of IAE teaching. After the recovery, all questionnaire data were screened and evaluated, and the relevant data were retained for further analysis. Statistical analysis was performed using the SPSS (Statistical Package for the Social Sciences) statistical software (Sirkin, 2006).

Telephone and one-to-one interviews were conducted with teachers, during which the interview outline for IAE courses was used. After the interview concluded, the content was organized on-site and coded to ensure the accuracy of the interview data.

3.5 Content Validity and Reliability

In the design analysis of the questionnaire, reliability analysis is primarily used to assess whether the scale samples in the questionnaire are reliable and credible. We measure the internal consistency reliability using the most commonly used reliability measurement method, the Cronbach coefficient (Cronbach Alpha coefficient). According to the routine, the Cronbach coefficient above 0.75 for the general questionnaire can be accepted. The questionnaire can be evaluated using Cronbach's alpha. The Cronbach's alpha coefficient for the entire questionnaire is 0.917, which exceeds 0.80, indicating that the questionnaire is generally reliable and stable.

Reliability was first introduced into psychometric measures by Spearman in 1904, referring to the degree of consistency or reliability of test results. Depending on the focus of concern, reliability can be divided into two categories: intrinsic reliability and extrinsic reliability. Intrinsic reliability refers to whether a set of questions in a questionnaire measures the same concept, i.e., the intrinsic consistency

between these questions. The most commonly used intrinsic reliability indexes are the Cronbach's Alpha coefficient and the half reliability. The most commonly used extrinsic reliability index is test-retest reliability, in which the same object uses the same questionnaire and then calculates the degree of agreement between the two administrations. Typically, the Cronbach's Alpha coefficient value ranges from 0 to 1. If the Alpha coefficient does not exceed 0.6, it is generally believed that the internal consistent reliability of the questionnaire design model is insufficient. When the scale reaches a coefficient of 0.7-0.8, it has considerable reliability; when the coefficient reaches 0.8-0.9, the scale's reliability is excellent (Zhang, 2018).

The validity of the questionnaire is used to reflect the correctness or validity of the questionnaire measurement results. Structural validity is one of the methods used to test the validity of a questionnaire, which assesses whether the questionnaire aligns with scientific significance and theoretical expectations. Factor analysis is one method for testing the scale's structural validity. Before factor analysis, the data is tested through the correlation matrix, and most of the coefficients are greater than 0.3. In addition, the KMO measure and Bartlett's sphere value can also be used to determine whether the data is suitable for factor analysis. It is generally believed that Bartlett's sphere value is less than 0.05, and a KMO value above 0.7 indicates that factor analysis is acceptable.

In contrast, a value above 0.8 is considered suitable for factor analysis. The KMO (Kaiser-Meyer-Olkin) test statistic is an indicator used to compare the simple and partial correlation coefficients between variables. The KMO statistic is calculated by taking values between 0 and 1. When the sum of simple correlation coefficients between all variables is much greater than the sum of partial correlation coefficients, the KMO value is close to 1; the closer the KMO value is to 1, the stronger the correlation between variables, the more suitable the original variables were for factor analysis when the sum of simple correlation coefficients between all variables is close. Then, the KMO value is close to 0, and the closer the KMO value is to 0, the weaker the correlation between variables and the worse the cooperative factor analysis.

To minimize researcher bias in the qualitative research process and ensure the validity of the teacher interview results, the data collected from the teacher interviews were verified through participant feedback and external audit methods,

thereby enhancing the credibility of the interview data.

3.6 Data Analysis

3.6.1 Descriptive Statistics

The data for the paper were collected through an electronic questionnaire, and the filling time was moderate, in strict accordance with the questionnaire's instructions. The samples with excessive data loss and obvious random answers were deleted. Questionnaires with more than 5 questions were considered invalid, and those with different scores across the entire questionnaire options were also excluded. After removing the invalid questionnaire collection, SPSS was used to analyze the questionnaire structure, employing both the item differentiation method and internal consistency analysis method to assess the item differentiation. The four parts of the IAE course in the questionnaire were identified for analysis, and Cronbach's alpha coefficient was used to assess the internal reliability of the questionnaire. After the reliability and stability of the questionnaire were tested, the corresponding statistical method was selected to answer the research question. The descriptive statistical method was used to calculate the proportion and mean value of the number of students. Through the evaluation of course objectives, content, form, teaching practices, assessments, and evaluations, it is possible to understand how students perceive the situation of IAE course reform and their cognition of IAE courses.

When processing the teacher interview data, it was found that excellent students or professors read the interview report and evaluated the credibility of the interview information source. They examined the methods employed in the research process, the conclusions drawn from the paper, and the connections between the data and the conclusions of the interviews. This information modified the paper's statement, listed the defects they identified, and accepted their suggestions and criticism to improve the research.

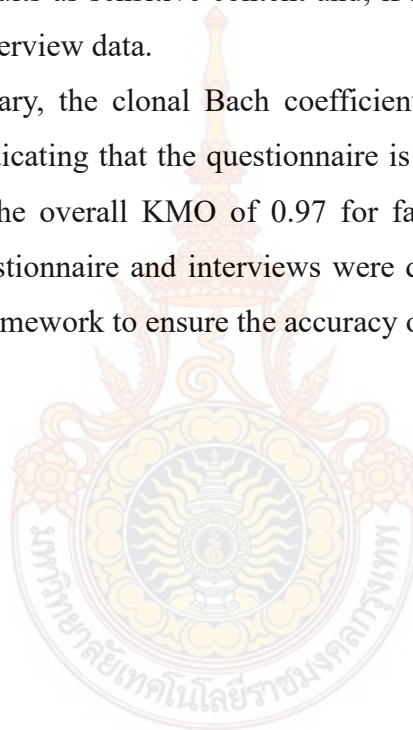
3.6.2 Inferential Statistics

The student questionnaire used SPSS to analyze the students' data, and the overall reliability value was obtained from the SPSS test questions. The factor analysis study item is reasonable and meaningful if the value is within the reasonable range.

Using variance factor analysis to explore whether there are significant differences in IAE courses among student groups in gender, ethnicity, grade, and family location. The correlation between the four dimensions of IAE courses and the overall IAE courses is tested using Pearson correlation analysis.

During the teacher interview data collection, respondents in different groups were asked to verify the accuracy of the transcription and interpretation of the interview. Make sure that they understand what they say. After the data were completed, the main research results of the paper were presented to the participants to determine if they regarded the results as sensitive content and, if not, to explain the accuracy and authenticity of the interview data.

In summary, the clonal Bach coefficient of the whole questionnaire is greater than 0.80, indicating that the questionnaire is generally reliable and has good stability. Obtaining the overall KMO of 0.97 for factor analysis is reasonable and meaningful. The questionnaire and interviews were designed in accordance with the study's conceptual framework to ensure the accuracy of the data.



CHAPTER IV

ANALYSIS RESULT

This chapter presents the data analysis of the study population, aiming to understand the data collected from students and teachers regarding course objectives, content, practice, evaluation, and other aspects.

4.1 Descriptive Statistics

4.1.1 Reliability Test

Reliability analysis is an analytical method used to assess whether a questionnaire exhibits specific stability and reliability. This paper employs the Cronbach's alpha method to assess the reliability of its internal consistency. According to the routine, the general questionnaire is above 0.75. According to the calculation results of the clonal Bach coefficient (as shown in Appendix D, reliability test results), the clonal Bach coefficient for the entire questionnaire is greater than 0.80, indicating that the questionnaire is generally reliable and exhibits good stability.

In order to ensure the internal consistency of the various variable items, that is, to test the degree of consistency of the items within the variables, this study conducted the reliability test of the questionnaire data (reliability test). If the α value of Cronbach's alpha within the variable is between 0.7 and 0.8, the measurement items of the variable have good internal consistency; if the α value of Cronbach's alpha is greater than 0.8, the measurement items of the variable have excellent internal consistency. As shown in Table 4.1, Cronbach's α values for all variables were greater than 0.7, indicating good internal consistency of the measurement items and more consistent measurement results.

For the course objectives, the Konbach α value for all items was 0.951, and the Konbach α value after removing any item was no greater than 0.951, so all items were retained. For the content form, all items had an α value of 0.950, and the α value for all items after removing any one item was no greater than 0.950; therefore, all items were retained. In course practice, Cronbach's α value for all items was 0.962, and all items had a value of 0.962 or greater, so all items were retained. For the assessment, the

α for all items was 0.947. If the item "You pay attention to evaluate the students' problem-solving ability in the assessment School IAE Course" is deleted, the Konbach α value is 0.955, greater than the Conbach's α value when the item is not deleted. Therefore, the assessment target should delete this item, keeping 3 items.

4.1.2 Validity Analysis

The validity of the questionnaire is used to reflect the correctness or validity of the questionnaire measurements. Structural validity is one method used to test the validity of a questionnaire, which assesses whether the questionnaire aligns with scientific significance and theoretical presuppositions.

Table 4.1 Analysis of Validity

Project	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Common Degree
Gender ()	-0.02	0.01	0.01	-0.01	0.96	0.926
Ethnic ()	-0.12	0.07	0.82	-0.12	-0.11	0.719
Major ()	0.00	-0.28	0.66	0.15	0.15	0.567
Grade ()	-0.05	0.04	-0.02	0.74	0.14	0.570
Family location ()	-0.02	-0.07	0.03	0.73	-0.15	0.559
1. Goals for the school's IAE courses	0.49	0.70	-0.14	-0.08	-0.00	0.757
2. The talent training goals and educational characteristics of different schools have varying influences on IAE education.	0.42	0.74	-0.13	-0.02	0.05	0.737
3. The primary purpose of your elective IAE courses is to meet your learning interests and to gain an understanding of the relevant knowledge.	0.44	0.81	-0.09	-0.03	-0.00	0.859
4. The goal of setting up IAE courses should refer to the policies and standards of entrepreneurship education and teaching issued by the state	0.43	0.83	-0.06	-0.00	-0.01	0.876

Table 4.1 Analysis of Validity (continued)

Project	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Common Degree
5. The goal of the IAE course is to cultivate students' ability to integrate entrepreneurial resources and write plans	0.53	0.73	-0.07	-0.01	0.01	0.818
6. The textbooks used in the school IAE courses	0.55	0.73	-0.01	-0.01	-0.03	0.836
7. Choice of school IAE courses is based on students' interests and need	0.51	0.70	0.02	-0.03	-0.00	0.760
8. School IAE courses focus on introductory entrepreneurship education courses and entrepreneurship guidance courses	0.54	0.75	-0.10	-0.03	-0.01	0.867
9. The current economic and cultural development situation of schools is more suitable for integration into the IAE courses. Can add the IAE courses to personal work development content.	0.54	0.74	-0.07	-0.04	0.02	0.850
10. Professional courses are incorporated into the IAE courses	0.60	0.68	-0.06	-0.01	0.01	0.822
11. Practical course arrangement for IAE courses	0.65	0.64	-0.07	-0.01	-0.03	0.841
12. School can provide many opportunities for IAE practice	0.65	0.61	0.03	0.01	-0.01	0.798
13. IAE course practice can help you	0.73	0.51	-0.09	-0.04	-0.00	0.803

Table 4.1 Analysis of Validity (continued)

Project	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Common Degree
14. Offer IAE practice courses to the school to increase the employment rate	0.72	0.53	-0.02	0.03	0.02	0.803
15. Increase of entrepreneurship practice bases inside and outside the school is to promote the practice of IAE courses	0.73	0.57	-0.04	0.03	-0.02	0.863
16. You integrate the school characteristics into the practice of IAE courses	0.77	0.50	-0.03	-0.01	0.01	0.847
17. Evaluation of school IAE education courses focuses on process evaluation	0.83	0.36	-0.08	-0.03	0.04	0.820
18. Assessment of the school's IAE courses focuses on the evaluation of students' problem-solving ability	0.84	0.42	-0.13	-0.07	0.02	0.895
19. The assessment method of the school's IAE courses is to write a business plan	0.85	0.27	-0.03	-0.03	-0.05	0.804
20. Master and can skillfully use it in practice as the core knowledge of evaluating the students' use of IAE courses	0.81	0.40	-0.14	-0.06	0.02	0.835
21. The school pays attention to the combination of professional education and entrepreneurship education in the training of students' IAE education	0.78	0.45	-0.12	-0.04	0.03	0.833

Table 4.1 Analysis of Validity (continued)

Project	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Common Degree
22. Besides the required courses you have participated in, you also take other online and offline IAE education courses.	0.81	0.36	-0.06	-0.05	-0.03	0.789
23. Teaching level of IAE courses	0.77	0.46	0.02	-0.02	-0.03	0.815
24. Teaching method of the school's IAE courses implementation	0.78	0.44	0.05	-0.01	-0.03	0.800
Characteristic root value (before rotation)	19.46	1.23	1.13	1.08	1.01	-
% Variance interpretation rate (before rotation)	64.86%	4.10%	3.77%	3.60%	3.36%	-
Cumulative variance interpretation rate (before rotation)	64.86%	68.95%	72.72%	76.32%	79.68%	-
Characteristic root value (after rotation)	11.45	9.02	1.27	1.14	1.02	-
% Variance interpretation rate (after rotation)	38.17%	30.08%	4.23%	3.81%	3.39%	-
Cumulative variance interpretation rate (after rotation)	38.17%	68.25%	72.48%	76.29%	79.68%	-
KMO price					0.970	-
Bart spherical values					14434.169	-
df					435.000	-
p price					-	-

Practical validity analysis is used to assess the rationality of the quantitative data design (especially the attitude scale) by examining the KMO value, which should be above 0.8. The study data is suitable for extracting information (good side validity). If this value is between 0.7 and 0.8, then the study data are suitable for extracting information (with good validity from this range). If this value is between 0.6 and 0.7, then the study data are suitable for extracting information (with good validity from this range).

This means that the research data is suitable for extracting information (the

validity is universal). If this value is less than 0.6, the data is unsuitable for extracting information (the validity of the extracted information is normal). The total KMO value of the questionnaire, obtained through a factor analysis of 0.97, is reasonable and meaningful.

4.1.3 Sample Selection and Questionnaire Distribution

Considering the convenience of questionnaires and recycling, the author selected questionnaire star questionnaire distribution and recycling, participants mainly L vocational college students, respondents for at least an innovation entrepreneurship course, their innovation entrepreneurship course impression is deep, using the collected students' fundamental ideas of innovation entrepreneurship course, to promote innovative entrepreneurship courses reform has a positive role. Send the electronic questionnaire link to the class group through the school counselor and familiarize students with it. The students will fill it out and submit it on their mobile phones. Teacher interviews: Interviews were randomly sampled among four types of teachers: part-time instructors of the IAE course, full-time instructors of the IAE course, IAE course management teachers, and IAE course management instructors.

4.1.4 Questionnaire Collection and Statistical Methods

Refer to Table for Determining Random Sample Size from a Given Population (Board, 2003) for the number of students participating in the questionnaire. The questionnaire was filled out strictly according to the instructions. Samples with excessive data missing and obvious random answers were screened and deleted. Questionnaires with more than 5 unanswered questions were considered invalid, and questionnaires with no significant difference in scores were excluded from the analysis. Three hundred seventy-five questionnaires were distributed, 18 questions were excluded, and 357 questionnaires were effectively returned, with an overall effective recovery rate of 95.2%.

After the questionnaire was collected, SPSS was used to test the questionnaire structure. The questionnaire item discrimination was assessed through item differentiation and internal consistency analysis, and factor analysis was conducted using principal component analysis. The specific survey items included in the four factors were named "course objectives," "course content," and "assessment," respectively, and Cronbach's alpha coefficient was used to test the intrinsic reliability

of the questionnaire. After establishing the reliability and stability of the questionnaire, descriptive statistics were used to gain an understanding of the overall situation of IAE courses and students' views on course objectives, content, practice, and assessment and evaluation. The variance test was used to investigate whether there were significant differences in IAE courses among student groups based on gender, ethnicity, grade, and family location. Perform a Pearson correlation analysis to test the correlation between the four dimensions of IAE courses and the overall IAE courses.

Teachers interviewed two part-time instructors of the IAE course, three full-time instructors of the IAE course, three instructors of the IAE competition, and two instructors of the IAE course management. Conduct teacher interviews, ask respondents from different groups, and verify the accuracy of transcription and interpretation during the interview process. After the data collation was completed, the main research results were presented to the participants to ensure the accuracy and authenticity of the data.

4.2. Inferential Statistics

4.2.1 Analysis of Teachers' and Students' Views on IAE Reform in Higher Vocational Colleges

Table 4.2 Results of Descriptive Analysis of Variable Items

Variables	Items	Mean	Standard Deviation
COURSE PURPOSE	Goals for the school's Innovation and Entrepreneurship courses	3.67	0.95
	Talent training goals and school-running characteristics of different schools have different degrees of influence on innovation and entrepreneurship education.	3.71	0.93

Table 4.2 Results of Descriptive Analysis of Variable Items (continued)

Variables	Items	Mean	Standard Deviation
	The primary purpose of taking a course on Innovation and Entrepreneurship is to satisfy your learning interest and to gain knowledge about the subject.	3.73	0.92
	The goal of setting innovation and entrepreneurship courses for your school should refer to the policies and standards of entrepreneurship education and teaching issued by the state	3.78	0.90
	The goal of the school's innovation and entrepreneurship course is to develop students' ability to integrate entrepreneurial resources and write business plans	3.74	0.92
	TOTAL	3.73	0.84
COURSE FORM	The choice of the content of the school's innovation and entrepreneurship course is based on the aspects that students are interested in and need	3.82	0.91

Table 4.2 Results of Descriptive Analysis of Variable Items (continued)

Variables	Items	Mean	Standard Deviation
COURSE PRACTICE	The content of the school's innovation and entrepreneurship course is a general course mainly composed of introductory courses in entrepreneurship education and entrepreneurship guidance courses	3.78	0.89
	The current economic and cultural development situation: You should add content that is conducive to personal work development to the courses of innovation and entrepreneurship in your school.	3.75	0.90
	Your professional courses are integrated into the content of innovation and entrepreneurship courses	3.73	0.92
	TOTAL	3.77	0.85
	Practice course arrangement for innovation and entrepreneurship course	3.73	0.91
	The school offers plenty of opportunities for innovative entrepreneurial practices	3.66	0.96
	Innovation and entrepreneurship course practice can help you	3.71	0.94

Table 4.2 Results of Descriptive Analysis of Variable Items (continued)

Variables	Items	Mean	Standard Deviation
ASSESSMENT AND EVALUATION	Set up the innovation and entrepreneurship practice course for the school in order to improve the employment rate	3.75	0.89
	Increase the entrepreneurship practice base inside and outside the school to promote the practice of innovation and entrepreneurship courses	3.76	0.85
	Integrate the characteristics of the school into the practice of innovation and entrepreneurship courses	3.74	0.90
	TOTAL	3.72	0.83
	Assessment and evaluation of school innovation and entrepreneurship education courses emphasized process evaluation	3.75	0.88
	Assessment of the school's innovation and entrepreneurship courses focuses on the evaluation of students' problem-solving ability	3.63	0.97
	Assessment of the school's innovation and	3.75	0.89
	The entrepreneurship course is about writing a business plan.		

Table 4.2 Results of Descriptive Analysis of Variable Items (continued)

Variables	Items	Mean	Standard Deviation
	Master and be able to use it proficiently in practice as the core knowledge of the application of innovation and entrepreneurship courses in the evaluation of students	3.76	0.87
	TOTAL	3.72	0.84

In this paper, a 5-point Likert scale was used to measure the items of all variables, with 1 indicating strong disagreement, 2 indicating disagreement, 3 indicating neutral, 4 indicating agreement, and 5 indicating strong agreement.

The descriptive statistical analysis of variable items in Table 4.2 shows that in terms of course purpose, the item with the highest score is "Your goal for establishing IAE courses in schools should refer to the national policies and standards for entrepreneurship education and teaching", with 3.78 points; the item with the lowest score is "Your goal for innovation and entrepreneurship courses in schools", with 3.67 points.

In terms of content form, the item "You choose the content of the innovation and entrepreneurship course of the school mainly based on the aspects that students are interested in and need" got the highest score, 3.82 points; The item "Your professional courses have been integrated into the content of innovation and entrepreneurship courses" scored the lowest, with 3.73 points.

Regarding course practice, the question "You think that the university should increase the entrepreneurship practice base inside and outside the school to promote the practice of IAE courses" got the highest score of 3.76 points. The item "Your school can provide many IAE practice opportunities" scored the lowest, with 3.66 points.

In terms of assessment and evaluation, the item "Master and be able to use it proficiently in practice as the core knowledge of the application of IAE courses in the evaluation students" got the highest score of 3.76 points; the item "Your evaluation of

students' problem-solving ability in the assessment of IAE courses" got the lowest score, 3.63 points.

Interview and analysis: Based on quantitative research, this study aims to thoroughly explore teachers' understanding of IAE courses and gather more detailed and comprehensive information. Interviews enrich the survey information, further supplementing the questionnaire survey and research. In this study, 10 teachers who have taught IAE courses were interviewed. They focused on four questions: first, the goal of IAE courses. Second is the content and practice of IAE courses, and the third is the evaluation of IAE courses. The results were summarized based on telephone and face-to-face interviews and analyzed as follows.

Objectives of IAE courses. In an interview, most teachers think innovative entrepreneurship course talent training target should implement the "of The General Office of the State Council on deepening the reform of innovative entrepreneurship education implementation opinions", build college innovation entrepreneurship education courses system, give play to the role of the main channel of innovative entrepreneurship education classroom, promote professional education and innovative entrepreneurship education organic integration, the implementation of the fundamental task, to improve the talent training ability as the core, with students' innovative spirit, entrepreneurial consciousness and innovative entrepreneurial ability training as the goal. The talent training objectives of IAE courses encompass three key areas: teaching objectives, practice objectives, and quality objectives. Higher vocational colleges should establish IAE education courses in accordance with the laws and characteristics of IAE education, integrate the ideas and concepts of IAE into daily teaching, and drive the reform of traditional teaching courses and the development of related disciplines through IAE education. The school makes adjustments according to the professional course settings and fully develops and enriches the IAE education resources for various professional courses. Practical goal positioning and practicality are the basic characteristics and foothold of IAE courses. Only by clarifying the practicality of IAE courses and transforming the theory and course education into students' IAE practice can the theory and formalization of IAE education be avoided. Vocational colleges must clarify that IAE education is a long-term project aimed at cultivating students' lifelong innovative spirit and entrepreneurial qualities. Fundamentally speaking, it is a

type of quality education with the core goal of cultivating the quality of IAE. This positioning determines that innovative entrepreneurship education is to cultivate and improve college students' decision-making ability, organization ability, management coordination, and leadership; the main channels and ways, through the development of innovative entrepreneurship courses, stimulate students' entrepreneurial consciousness, shaping students' entrepreneurial character, cultivate students' entrepreneurial ability, make students' comprehensive quality development, and through the transfer of students' innovative entrepreneurial spirit and innovative entrepreneurial practice drive the formation of an innovative society.

For innovative entrepreneurship courses to cultivate students' abilities, teachers, more importantly, cultivation students' innovative thinking abilities, innovative thinking refers to the original way to solve the problem of the thinking process, through this thinking can break through the boundaries of conventional thinking, with even unconventional methods, perspective to think, put forward different solutions, the novel, original, social significance of thinking, students through courses can improve students' innovative thinking ability, lay the foundation for later career development, relative to how to let you entrepreneurship than you how to think about entrepreneurship. The goal of IAE courses plays a guiding role for students. It has certain expectations for students once they are disclosed within a specific scope. It guides the allocation of workforce, material, and financial resources to the project, as well as the shift in spiritual discussion, expectations, and attention. Course objectives have an incentive effect on students. The course objectives of IAE are based on a solid foundation. Practical goals can inspire students' enthusiasm and motivate them to work towards the organizational objectives. At the same time, the course objectives have a normative role for students. After the school sets the goal, all school members must use it as a benchmark to formulate work objectives, action plans, rules, and regulations for each department and individual, ensuring they have a normative and binding role for the organization, its related organizations, and personnel. The goal of IAE courses is to guide the learning direction of college students, ensuring they stay on track in their studies. At the same time, the goal of each major and a single course can prompt students to evaluate their learning and improve their learning efficiency.

Content and practice of IAE courses. Some teachers believe that courses

are a process in which students use teaching materials to meet their needs for knowledge, skills, and attitudes. This learning process involves interpreting, understanding, internalizing, and practicing the course content, ultimately forming the ability to adopt the correct values and attitudes and aligning the course content with the student's development needs. From an economic perspective, the course content has both utility and use value. From the perspective of vocational education, the course content can generate social wealth, offering economic, social, and cultural benefits.

Course content is not a simple collection of knowledge; course content development includes the design of learning and teaching methods. Learning mode is the inherent requirement of teaching content. Teaching design and implementation are carried out according to specific teaching objectives and content, which are adapted to the learning methods and teaching methods. With a strict theoretical system and strong logical content, receptive learning can achieve better results. Students are the subjects of learning, and they prefer learning methods, means, and strategies. These factors should be taken into consideration when developing course content to enhance the effectiveness of the courses. National teaching reform innovation entrepreneurship courses content constantly advancing with The Times, changed the design of the course is relatively single, lack of economic, management, psychological courses, innovation entrepreneurship course content now more rich, according to the different knowledge module to carry out the innovation entrepreneurship course teaching, pay more attention to the cultivation of students' practical ability, to cultivate applied skills talents target.

Therefore, some teachers think that schools should invest in the construction of students' outside practice education base, entrepreneurial demonstration base, and entrepreneurial practice base, make full use of the government and social resources to construct innovative entrepreneurship education practice platform, create a good innovation entrepreneurship education ecological environment, realize the interaction of teaching and practice, the school and society. At the same time, it attaches importance to interdisciplinary and complementary disciplines. It establishes a progressive, organic, scientific, and reasonable special courses group for IAE education, enabling IAE education to integrate with professional education through the teaching courses system. Only IAE practice courses can be better implemented to

cultivate students' IAE practice abilities.

Evaluation of IAE courses. The purpose of IAE course evaluation is not only to assess the degree to which students achieve the course objectives but also to enhance the teaching and learning experience for both teachers and students, refine the course design, improve the course structure, and optimize the course system. Teachers can reflect on their teaching process and course content. Students' feedback has an important impact on the course reform of IAE. After interviews, most teachers believe that the course evaluation of IAE needs to maintain the diversification of subjects, the content of course evaluation, and the diversification of course evaluation methods.

As the direct implementers of the courses, the subject positions of teachers in the course evaluation are beyond doubt. As the main body and important participant in the teaching process, students can fully mobilize their enthusiasm by introducing the course evaluation to their peers, making the evaluation results more effective and simultaneously attracting a more objective evaluation of IAE courses.

The evaluation content of IAE courses is diversified. The course elements can be divided into static and dynamic categories. The static course elements include teachers, teaching materials, teaching reference materials, equipment, practice areas, and other relevant aspects. Dynamic course elements encompass various aspects of course management, including course setup, implementation process, and implementation effects, among other key elements. Therefore, in the evaluation of IAE courses, all aspects of the courses should be considered as far as possible, and the whole picture of the course construction should be truly reflected to find out the key factors hindering the development of the courses, and promote the improvement of the IAE courses system in the continuous improvement.

With the diversification of evaluation methods for IAE courses, resulting from the continuous deepening of theoretical research in courses and the development of teaching practices, the diversity of course evaluation methods is also increasing. From the macro level of quantitative and qualitative evaluation, encompassing internal and external evaluation, as well as formative and summative evaluation, to the micro level of target evaluation, portfolio evaluation, and performance evaluation, current course evaluation methods have undergone significant enrichment. However, due to the progress of society and changes in external conditions, various evaluation methods

exhibit certain limitations. When evaluating IAE courses, we should thoroughly consider the limitations and relevance of various evaluation methods, reflect on the actual situation of IAE courses teaching from multiple angles, and enhance the scientificity and practicality of the course evaluation.

Interviews with teachers also revealed that the process of evaluation and developmental evaluation is indispensable in assessing the innovation entrepreneurship course. The process evaluation focuses on actual change and effectively addresses the development of immediate, formative, and final evaluations, thereby providing a dynamic assessment of the entire course implementation process. This evaluation facilitates the feedback of information and program modification, which are essential for effective course implementation. Development evaluation emphasizes a people-oriented approach, paying attention to both teachers and students in the innovation and entrepreneurship course, which focuses on real-world performance. It helps participants identify their strengths and weaknesses, allowing them to improve through periodic evaluation. Teachers can have timely and comprehensive access to feedback during the evaluation process, identify and promptly address problems, and promote the improvement of their teaching skills. Teachers and students grow up together.

4.2.2 Analysis of the Cognitive Difference between Higher Vocational Students and Teachers on IAE Course Reform

The statistical method used to infer population characteristics from sample data involves estimating the unknown characteristics of the statistical population based on the sample data description. The paper performed an ANOVA as needed for the study.

H1: Students significantly differ in their cognition of IAE courses based on different individual background variables.

Table 4.3 Results of Descriptive Analysis of Demographic Variables

Variables	Options	Amount	Frequency
Gender	Male	326	91.3%
	Female	31	8.7%
Ethnicity	Han Chinese	267	74.8%
	Ethnic minorities	90	25.2%

Table 4.3 Results of Descriptive Analysis of Demographic Variables (continued)

Variables	Options	Amount	Frequency
Major	Professional	194	54.3%
	Non-iron professional	163	45.7%
Grade	Freshman year	2	0.6%
	Sophomore year	355	99.4%
	Municipality or provincial capital city	38	10.6%
Home location	Cities and counties	73	20.4%
	Township	58	16.2%
	Rural area	188	52.7%

In this paper, five demographic variables—gender, nationality, major, grade, and home location—were investigated and analyzed. The results show that most respondents are male, accounting for 91.3%. In terms of nationality, the Han nationality accounted for the majority, comprising 74.8%. Regarding majors, the proportion of Professional and non-professional majors is similar, at 54.3% and 45.7%, respectively. In terms of grades, most students are sophomores, and the proportion of freshmen is less than 1%, which can be ignored. Regarding home location, rural areas accounted for the largest proportion, more than half, at 52.7%, while municipalities directly under the central government or provincial capital cities accounted for the smallest proportion, 10.6%.

H1a: There are significant differences in student cognition of IAE courses based on gender.

Table 4.4 One-way Analysis of Variance for Gender

Course evaluation	Course Purpose		Content Form		Course Practice		Assessment and Evaluation	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Male	3.72	0.85	3.77	0.87	3.73	0.84	3.72	0.85
Female	3.76	0.73	3.77	0.72	3.70	0.73	3.73	0.73
F	0.059		0.000		0.018		0.006	
p	0.808		0.989		0.892		0.936	

Gender differences in course evaluation: This paper examines the differences in gender across four dimensions of course evaluation, including course objectives, content forms, course practices, assessment, and evaluation, using a single-factor analysis of variance. As shown in Table 4.4, there are no significant differences between the genders in these four dimensions.

H1b: Significant differences exist in student cognition of IAE courses based on nationality.

Table 4.5 One-way Analysis of Variance for Ethnic Groups

Course evaluation	Course Purpose		Content Form		Course Practice		Assessment and Evaluation	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Han	3.79	0.83	3.82	0.84	3.78	0.84	3.79	0.85
Ethnic minorities	3.55	0.86	3.61	0.85	3.57	0.78	3.54	0.77
F	5.234		4.045		4.308		6.067	
p	0.023		0.045		0.039		0.014	

As shown in Table 4.5, the child's gender has no significant impact on the five dimensions of learning quality.

This paper is divided into two ethnic groups: the Han and minority groups.

A one-way analysis of variance is used to investigate the differences in course evaluation between ethnic groups. As shown in Table 4.5 of the test results, there are significant differences among ethnic groups in the four dimensions ($p < 0.05$). Specifically, Students belonging to the Han ethnic group scored higher in all four dimensions than minority students.

H1c: Students significantly differ in their cognition of IAE courses based on majors.

Table 4.6 Univariate Analysis of Variance for Majors

	Course Purpose		Content Form		Course Practice		Assessment and Evaluation	
Course evaluation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Professional	3.95	0.72	3.95	0.74	3.88	0.75	3.90	0.75
Non-iron professional	3.46	0.91	3.55	0.91	3.53	0.89	3.51	0.89
F	33.077		21.944		16.448		20.911	
p	0.000		0.000		0.000		0.000	

This paper is divided into two major categories: iron and non-iron. It employs a one-way analysis of variance to examine the differences in course evaluation between nationalities. As shown in Table 4.6 of the test results, there are significant differences in the four dimensions among different majors ($p < 0.05$). Specifically, the scores of majors with iron were higher than those of non-iron majors in all four dimensions.

H1d: There are significant differences in the cognition of IAE courses based on the family location.

Table 4.7 One-way Analysis of Variance for Home Location

Course evaluation	Course Purpose		Content Form		Course Practice		Assessment and Evaluation	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Municipalities or provincial capitals	3.79	0.77	3.84	0.74	3.75	0.78	3.73	0.79
City and County	3.88	0.75	3.97	0.75	3.88	0.78	3.96	0.79
Township	3.68	0.91	3.68	0.89	3.64	0.90	3.61	0.90
Rural	3.66	0.87	3.70	0.87	3.68	0.84	3.66	0.83
F	1.318		2.022		1.233		2.713	
p	0.268		0.110		0.297		0.045	

This paper categorizes family locations into four categories: municipalities directly under the central government or provincial capital cities, cities and counties, towns, and villages. This paper examines the differences in course evaluations among various family locations using a one-way analysis of variance. As shown in Table 4.7 of the test results, there is no significant difference in the three dimensions of family location's course objectives, content forms, and course practices ($p > 0.05$). However, different family locations have significant differences in assessment dimensions. Specifically, city and county students have the highest assessment scores (3.96 points), while township students have the lowest (3.61 points).

4.2.3 Improve the Analysis of the IAE Courses System in RHVC

Table 4.8 Results of Pearson Correlation Analysis

		Course Purpose	Content Form	Course Practice	Assessment and Evaluation
Course purpose	Pearson	1	0.904 **	0.884 **	0.795 *
	Sig		0.000	0.000	0.000
	N	357	357	357	357
Content Form	Pearson	0.904 **	1	0.921 **	0.833 **
	Sig	0.000		0.000	0.000
	N	357	357	357	357
Course Practice	Pearson	0.884 **	0.921 *	1	0.915 **
	Sig	0.000	0.000		0.000
	N	357	357	357	357
Assessment and evaluation	Pearson	0.795 **	0.833 **	0.915 **	1
	Sig	0.000	0.000	0.000	
	N	357	357	357	357

** indicates a significant association at the 0.01 level (bilateral)

The Pearson correlation test was adopted. As shown in Table 4.8, a significant correlation existed between the evaluation dimensions of the four courses ($P < 0.05$). Teachers believe that IAE courses aim to cultivate creative talents, and it is not a pure entrepreneurship project education. In data analysis, teachers and students can maintain a consistent approach when understanding the overall objectives of the courses. However, teachers pay more attention to cultivating students' innovative thinking abilities in the training objectives of the IAE courses. Teachers and students in the course content value students' interests and needs. Teachers believe that teaching IAE courses according to different knowledge modules can meet the needs of students. The course content should also focus on cultivating spirit and consciousness, cooperating with the case analysis, mobilizing students' thinking enthusiasm, and paying attention to students' interpersonal communication and psychological needs. In the practice of IAE courses, students believe that the school provides relatively few opportunities for IAE practice, and the teachers of IAE courses think it is necessary to

strengthen the investment in the foundation of after-school practical education. The course's practice needs are also closely combined with the major. Students need to participate actively in IAE practice activities and be able to exercise in innovative enterprises. Schools need to provide more opportunities for students to invest in and support the innovation and entrepreneurial foundation. In the course evaluation, the IAE course teachers and students believe that the courses should prioritize the evaluation of students' problem-solving abilities.

Additionally, the IAE course teachers believe that the course evaluation should maintain diversity in subjects, content, and methods. Teachers believe that diversified evaluation is a relatively fair method for evaluating students. However, it is challenging to assess many aspects of the actual teaching process, which is an area that needs reform in the IAE courses. It also provides a direction for reforming IAE courses and helps improve the course system.

This chapter primarily presents and analyzes the survey results. SPSS is used to statistically analyze the questionnaire data. Through descriptive analysis, we can understand the course objectives, the content of IAE, and the situation in course practice and course evaluation. ANOVA was applied to test the differences in gender, ethnicity, specialty, and family location through correlation analysis of entrepreneurship course objectives, IAE content, course practice, and course evaluation across four dimensions of relevance. Through these data, we can better understand and analyze how teachers and students view the IAE courses reform and their cognition of IAE courses, providing a basis for solving the problem of the imperfect course system in IAE education in RHVC.

CHAPTER V

CONCLUSION

The purpose of this chapter is to introduce and discuss the results of this study, organize them according to each key research question, and answer the research questions mentioned earlier in Chapter One.

5.1 Discussion

5.1.1 Research Question 1: What Are the Views of Higher Vocational Teachers and Students on IAE Reform?

The above research questions aim to explore the course reform of IAE in universities to improve the teaching quality and students' innovation ability. In the current teaching of IAE courses, problems such as course objectives, content selection, practice links, and assessment methods must be addressed. These problems directly affect the teaching effectiveness of IAE courses and the development of students' innovative abilities. A 5-point Likert scale was used to measure the project, as shown in Table 4.2. Regarding course objectives, the survey found that students should pay the most attention to setting IAE courses in accordance with the policies and standards of entrepreneurship education and teaching issued by the state, with a score of 3.78 points. This indicates that students have a clearer understanding of the positioning and objectives of IAE courses, and it also highlights the significance of national policies and standards for entrepreneurship education and teaching in higher vocational colleges. Therefore, teachers should pay more attention to studying and understanding national policies and integrate them into daily teaching to cultivate students' innovative consciousness and entrepreneurial abilities.

The survey found that students paid the most attention to the content selection of school IAE courses based on what students are interested in and need, scoring 3.82 points. This indicates that students pay more attention to the choice and arrangement of course content, hoping to acquire practical and valuable knowledge and skills in the course. Therefore, teachers should pay more attention to investigating and analyzing students' learning needs and interests and choose course content accordingly

to enhance students' interest and participation in learning. In terms of practice, the survey found that students are most attentive to the increase of entrepreneurship practices, both inside and outside the school, to promote the practice of IAE courses, with a score of 3.76 points. This suggests that students pay more attention to learning and practicing to acquire more knowledge and skills through practice. Therefore, teachers should pay more attention to the arrangement and management of practice links, actively construct practice bases inside and outside the school, and provide students with more practical opportunities and practical experience. In terms of assessment methods, the survey found that students are most likely to be Master's and can use it proficiently in practice, as it is the core knowledge of applying IAE courses in evaluating students, with a score of 3.76 points. This suggests that students pay more attention to the diversity and practicality of assessment methods, aiming to fully reflect their school situation and innovative abilities in the assessment. Therefore, teachers should pay more attention to designing and managing assessment methods and adopt various assessments to evaluate students' learning situations and innovation ability performance.

Through face-to-face interviews with teachers, it is found that teachers pay more attention to cultivating students' innovative thinking ability in the training objectives of IAE courses. They believe that innovative thinking ability is the basis and key to cultivating students' innovative ability, so more attention should be paid to cultivating and training students' innovative thinking ability in the teaching process. At the same time, teachers also believe that the school should strengthen its investment in a practical education base to provide students with more practical opportunities and experiences. Additionally, teachers believe that the course evaluation should maintain diversity in subjects, content, and methods. These diversified evaluation methods can more comprehensively reflect the students' learning situation and innovation ability performance. The teaching reform of IAE courses in colleges and universities is a comprehensive project that necessitates reform and innovation in multiple areas. Teachers should pay attention to studying and understanding national policies, select course content according to the actual situation of students, actively construct practice bases both inside and outside the school, and employ a variety of assessment methods to evaluate students' learning situations and innovative abilities. At the same time,

teachers should also pay more attention to cultivating and training students' innovative thinking abilities and strengthen the investment in off-campus practice bases to improve students' practical ability and innovation ability performance. Only in this way can we better meet the needs and expectations of students and improve the teaching quality and effect of IAE courses.

5.1.1.1 Discussion

(1) Consistent recognition and different training objectives Teachers and students can usually agree on the overall goals of IAE courses, that is, to cultivate students' innovative spirit and entrepreneurial ability. However, teachers will set specific training goals emphasizing cultivating students' innovative thinking abilities. This means that teachers not only want students to have the enthusiasm and determination to start their businesses but also want them to have the ability to think creatively and propose unique solutions when facing problems. However, students may pay more attention to the practicality and utility of IAE education, such as gaining practical entrepreneurial experience through course learning or improving job-hunting competitiveness.

(2) Regarding course content, students emphasize their interests and needs. Teachers emphasize knowledge modules. In terms of course content, students pay more attention to the interest and demand orientation of the course content. They hope the course content aligns with their interests and practical needs and helps them achieve their personal goals. However, teachers believe that teaching according to different knowledge modules (such as innovative thinking, entrepreneurial practice, and policies and regulations) can meet the needs of students in a more systematic and targeted way. This difference indicates that teachers pay more attention to the systematization and depth of teaching content. In comparison, students may pay more attention to the practicality and interest of the course content. The views and needs of each teacher and student may vary. To better meet the needs of both parties, communication between teachers and students should be strengthened during the design and implementation of course content, promoting mutual understanding and cooperation.

(3) Regarding course practice, students generally believe the school provides relatively few practice opportunities. They hope to exercise their ability to innovate and start through more practice. Currently, the school offers numerous

practical opportunities, thereby strengthening its investment in an off-campus practical education base. Through working with businesses and communities, students can gain exposure to a more realistic business environment, enabling them to apply their practical skills more effectively.

(4) Regarding course evaluation, students tend to pay more attention to evaluating students' problem-solving abilities. They believe this is a more realistic reflection of students' learning outcomes. However, teachers believe that course evaluations should maintain the diversity of evaluation subjects, content, and methods. For example, corporate mentors and industry experts can be invited to participate in the evaluation to ensure its fairness and objectivity. At the same time, we can utilize the project report, teamwork, creative presentations, and other evaluation methods to gain a comprehensive understanding of the student's learning situation.

5.1.1.2 Similarities and Differences Between the Findings of Other Existing Studies

(1) In terms of the course objectives of IAE, scholars believe that the goal of IAE education is the fundamental basis for the course setting and evaluation standards of IAE, and the starting point and destination of industry education to choose teaching content, determine teaching methods and improve teaching measures. Fuchs and Werne et al. (2008) believe that entrepreneurship education encompasses three multifaceted goals: one is to encourage and cultivate individuals' entrepreneurial spirit, the second is to foster their awareness and inclination towards self-employment as a professional choice, and the third is to impart knowledge of entrepreneurship and management. Xie's (2007) entrepreneurship education goal classification theory states that the goal of an entrepreneurship education course should include knowledge, ability, emotional readiness, and practical skills in four parts, mainly located in the entrepreneurial spirit, entrepreneurial ability, entrepreneurial rules and methods of education, called the comprehensive application of knowledge and the cultivation of entrepreneurial practice ability. IAE education in colleges and universities is different from employment training in society. It pays more attention to cultivating college students' IAE consciousness and IAE ability in target design. Cultivate college students' innovative and entrepreneurial ideas and entrepreneurial consciousness, To cultivate college students' innovative and entrepreneurial spirit and entrepreneurial personality, To

improve the entrepreneurial ability and innovative and entrepreneurial quality of college students, College students' multiple abilities can be cultivated in IAE courses, Not only in the quality of independent thinking, innovation, prudent decision-making, and independent action, And it is more prominent in their communication skills, Not only can we communicate with customers and internal staff more freely, And the communication with the sellers and the media is also more smooth, This is also reflected in the cooperation and exchanges, Cultivate college students to dare to think and do, dare to take risks, dare to struggle, dare to bear the consequences, be good at controlling desire, avoid impulse, have a positive attitude in facing pressure, and have a strong will. Only with all of these qualities can we promote the success of entrepreneurship. Students and teachers consistently recognize the overall goal, especially the national course training objectives.

The reason is that there is a particular relationship and docking between the goal of IAE education and the teaching goal at all levels. The goal of IAE education aligns with the overall objective of developing higher vocational education, which is to cultivate high-quality technical and skilled talents to meet the needs of social and economic development. Higher vocational students' understanding of the goal of IAE education primarily focuses on cultivating an innovative spirit and entrepreneurial consciousness. Students hope that IAE education can enhance their innovation and entrepreneurship skills, laying a solid foundation for future career development.

(2) Innovation and entrepreneurship course content researchers, such as Hair (1992), focus on the type of entrepreneurship education course that should include subject courses, activities, an environment, and business practices. Fourth, the specific content should cover entrepreneurial consciousness, professional skills, management, learning guidance, life guidance, and vocational guidance. Xu et al. (2005) believe that entrepreneurship education courses comprise three sections, with the entrepreneurship section specifically including four courses: entrepreneurship philosophy, entrepreneurship culture, entrepreneurship ethics, and entrepreneurship psychology. The entrepreneurship knowledge section includes explicitly six courses: entrepreneurship law, entrepreneurship finance, team building and communication, project management, marketing, and entrepreneurship management. The entrepreneurship practice section includes two courses: Entrepreneurship Perception

and Entrepreneurship Practice. In terms of course content, students at railway colleges attach great importance to their interests and needs. The fact that IAE courses are limited to this operational level is highly likely to cause the innovation ability of college students to degenerate or even fail gradually.

The reason lies in the simple understanding of IAE among railway colleges and universities but the lack of support for relevant, in-depth theories. Correct innovation entrepreneurship education should insist on professional education and knowledge, both reality and adhere to the theoretical guidance, constantly promote innovation reform of entrepreneurship education, promote innovation entrepreneurship education courses content diversification, multi-level, multiple direction and comprehensive development, higher vocational colleges should be the basis for the reform of teaching system and teaching content.

(3) In the practical research of IAE courses, scholars pay great attention to the practice of IAE courses, primarily through the IAE competition. For example, Ying (2013), through the invisible promotion of "one competition, one platform", can effectively improve the entrepreneurial practice ability of college students. "One Competition" is a series of competitions such as IAE training, market planning, product creation, and youth entrepreneurship Forum. "One platform" is the network entrepreneurship platform. Some researchers have put forward the "theory-practice- - theory-practice" principle to establish and implement theory and practice courses. Higher vocational teachers believe that IAE education should be a process of combining theory with practice. The process of IAE education practice should begin with practical problems and solve them by cultivating students' practical thinking and skills. IAE education should pay attention to the design and organization of practical activities, organize students to participate in IAE projects, cultivate students' project management and team cooperation ability, and improve students' practical ability and practical experience. Higher vocational teachers believe that IAE education should focus on cultivating students' practical operation abilities. In the process of IAE education practice, students' practical operation ability should be cultivated through practical operation and the accumulation of practical experience. To ensure the effectiveness of IAE education practice, higher vocational teachers believe that establishing IAE education practice links should be strengthened to provide rich practical opportunities,

including internships, entrepreneurship practices, and other relevant experiences. Students of railway colleges believe that the school provides relatively few opportunities for practical training in their courses.

The reason is that due to the limited teaching conditions of railway universities, schools can provide such opportunities. Students at railway colleges outline their requirements and expectations for practical opportunities in IAE education. They generally believe that IAE education should provide more practical opportunities for students to participate in entrepreneurial projects or innovation practice activities personally. Students of railway universities believe that only through practice can they truly understand and grasp the essence of IAE, gaining valuable practical experience. They hope the school can provide more practice platforms and resources and establish close cooperative relations with enterprises and social organizations to offer additional practice opportunities. Higher vocational students pay close attention to the key links of IAE education. They generally believe that the key components of IAE education include the introduction to IAE, IAE projects, and practical training in IAE. In the introduction to IAE, higher vocational students hope to understand the basic concepts, development process, and related policies of IAE. In IAE projects, they hope to participate in practical projects and learn from the experience and skills gained. During the practical training at IAE, higher vocational students aim to develop innovation and entrepreneurial skills through hands-on activities.

(4) In terms of innovation entrepreneurship courses evaluation, the diversification and teachers think courses evaluation should keep the diversity of evaluation subject in (2015) for innovation entrepreneurship course evaluation to quantitative, qualitative evaluation, follow the combination of long and short-term evaluation, summative evaluation and generative, diagnostic evaluation, internal evaluation, and external evaluation principle, pay attention to find out why evaluation, evaluation, when evaluation, how to evaluate several problems, grasp the diversity of evaluation. Regarding course evaluation, students tend to pay more attention to evaluating students' problem-solving abilities.

The first reason is that the teaching attaches too much importance to the theoretical content of textbooks while ignoring the fundamental role of practice. The teaching trend tends to be utilitarian while overlooking the primary goal of college

students' IAE education itself. The teaching evaluation is relatively backward and cannot meet the requirements of modern society for the development of IAE. The above situation leads to the subjectivity and utilitarianism inherent in the entire evaluation system. Examining the number of trainees of IAE, the number of people who promote employment, and the number of people who carry out actual IAE activities have become the standard to measure entrepreneurship education, thus making entrepreneurship education gradually deviate from its original intention of development. Second, the immaturity of the evaluation system of entrepreneurship education is related. Currently, the assessment under the system is limited to college students; the assessment indicators for higher vocational colleges and social levels have not yet been established, and the standards followed in the assessment are relatively narrow but not comprehensive. This situation prompts higher vocational colleges, society, and the government to promote IAE education; however, the effect of IAE courses is not necessarily ideal.

The IAE course focuses on innovation, survival, and development in a rapidly changing world. Let the students understand that innovation is not a skill but a way of thinking. It requires students to dare to challenge the existing rules and try new methods. Only in this way can we stand out in the fierce competition. At the same time, students should also understand that innovation is not achieved overnight. It requires students to accumulate knowledge and gain experience through their daily studies and life. Only through continuous efforts and practice can real innovation be cultivated. Therefore, students are encouraged to think actively and try bravely in learning. Even if your business fails, do not be discouraged. We can achieve success only by learning from our failures and drawing lessons from our experiences. Finally, let the students learn how to learn and grow in practice. IAE is an efficient process. Let students exercise their abilities through practical projects and cases, learn to identify their shortcomings in practice, and improve their skills through reflection and learning. Only in this way can we cultivate talents with innovative and entrepreneurial spirit.

5.1.2 Research Question 2: Why Are There Differences between Higher Vocational Students' and Teachers' Cognition of IAE Course Reform?

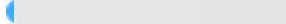
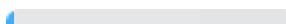
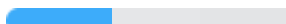
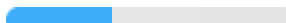
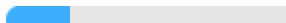
SPSS software was used to perform the statistical analysis of the questionnaire data for the quantitative data analysis. There are significant differences

in students' cognition of IAE courses. Based on the gender analysis, as shown in Table 4.4, $P > 0.05$ in the four dimensions — course objectives, course content, course practice, and course evaluation — indicates no significant difference between genders. However, there are significant differences in students' cognition of IAE courses. Based on the ethnic analysis, as shown in Table 4.5, the course target p-value is 0.023, the p-content value is 0.045, the course practice p-value is 0.039, and the p-evaluation value is 0.014. The data showed significant differences among students in the four dimensions ($p < 0.05$). Specifically, Students belonging to the Han ethnic group scored higher in all four dimensions than minority students. Significant differences exist in students' cognition of IAE courses based on professional analysis. As shown in Table 4.6, there were no significant differences in the four dimensions ($p < 0.05$). Specifically, the band iron major scored higher than the non-iron major in all four dimensions. It reveals differences between belt iron major students and non-iron majors in IAE courses, which have a particular relationship with students' employment prospects and their understanding of the industry. Based on the family location analysis, students differ significantly in their understanding of IAE courses. As shown in Table 4.6, the course target p-value is 0.268, the course content p-value is 0.110, and the course practice p-value is 0.297. These three dimensions show no significant difference ($p > 0.05$). However, different families have significant differences in the assessment dimension. Specifically, students from cities and counties scored the highest (3.96 points), while students from townships scored the lowest (3.61 points). It shows that students in cities and counties attach more importance to IAE courses. By testing the innovation entrepreneurship course students in gender, ethnic, professional, and family location is different, based on data analysis, can see students based on national and professional differences, the differences in students' family course evaluation of cities and counties of students to evaluate the highest difference, these data for the analysis of students and teachers of innovation entrepreneurship courses reform cognitive differences to provide a reliable guarantee.

Content analysis was used to collate and summarize the data from face-to-face interviews for qualitative data analysis. Through repeated listening and sorting out of the interviews, the teachers' key views and opinions on the course reform of IAE were extracted, classified, and summarized. Teachers generally believe that the content

of IAE courses should cultivate students' ability to ask questions. In contrast, students should pay more attention to satisfying their learning interests and acquiring relevant knowledge. Specifically, according to Table 5.1, more than half of the electors choose IAE courses due to their interest in learning and the expectation of gaining relevant knowledge. 36.69% of the students "agree," and 21.85% choose "very agree". The primary purpose of their elective IAE courses is to meet their interest in learning and expect to acquire relevant knowledge. However, teachers generally believe that students need to improve their ability to raise questions, which reflects the different focus of students and teachers on IAE education.

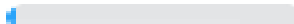
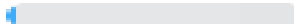
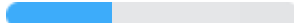
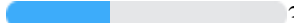
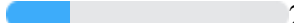
Table 5.1 The Primary Purpose of your Elective IAE Courses Is to Meet your Learning Interest and Expect to Understand the Relevant Knowledge

Option	Subtotal	Scale
Very disagree	9	 2.52%
Disagree	9	 2.52%
Neutral	130	 36.41%
Agree	131	 36.69%
Very much agree	78	 21.85%
TOTAL	357	

Regarding the specific content of IAE courses, the cognitive difference between higher vocational students and teachers is mainly reflected in the form of courses and the selection of teaching materials. According to the interview data, students prefer the content of IAE courses to introductory courses in entrepreneurship education and general courses in entrepreneurship guidance. For example, more than 37% of students chose "agree", and 23.25% chose "very agree". This suggests that they believe the IAE courses should be based on basic entrepreneurship education and guidance courses. On the other hand, teachers believe that the current content of IAE courses in schools lacks sufficient entrepreneurship content, which cannot meet their teaching needs. However, from the perspective of special teaching materials for IAE,

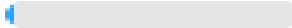
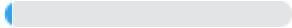
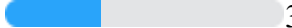
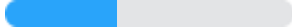
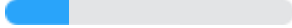
they can meet the needs of students. This difference suggests that students' expectations of IAE courses focus more on practical application and entrepreneurship. In contrast, teachers tend to focus more on the theoretical and professional aspects of the courses.

Table 5.2 What About the General IAE Courses Based on Basic Entrepreneurship Education and Entrepreneurship Guidance Courses?

Option	Subtotal	Scale
Very disagree	7	 1.96%
Disagree	7	 1.96%
Neutral	126	 35.29%
Agree	134	 37.54%
Very much agree	83	 23.25%
TOTAL	357	

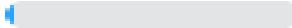
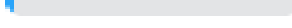
The practice of IAE courses is a crucial link in cultivating students' IAE abilities, and the cognitive differences between vocational students and teachers in practice cannot be ignored. According to the survey data, students generally believe that IAE courses should be integrated into the school's characteristics. For example, more than 39% of the students in Table 5.3 choose "agree", and 21.29% choose "very agree". This indicates that students aim to enhance their mastery and application of the core knowledge in IAE courses through practical activities. However, teachers believe that the connection between IAE courses and enterprises is less, and they cannot achieve the "school, enterprise, and government" goal of training students. This difference reflects that students pay more attention to the quality of practice and the relevance to the actual situation.

Table 5.3 Do You Integrate the School Characteristics into the Practice of IAE Courses?

Option	Subtotal	Scale
Very disagree	6	 1.68%
Disagree	9	 2.52%
Neutral	125	 35.01%
Agree	141	 39.5%
Very much agree	76	 21.29%
TOTAL	357	

Regarding the evaluation of IAE courses, there are cognitive differences between vocational students and teachers. For example, in the Table 5.4 survey data, more than 38% of the students chose "agree", and 21.29% chose "very agree". It shows that they believe students should be evaluated by focusing on whether they master and can apply the core knowledge of IAE courses. Teachers believe that the evaluation of IAE courses needs to be more refined and that students' ability to solve problems requires attention. This difference shows that students pay more attention to the application and practicality of the courses, while teachers pay more attention to students' innovation ability and problem-solving abilities.

Table 5.4 Do You Focus on Students 'Problem-solving Ability in the School's IAE Courses?

Option	Subtotal	Scale
Very disagree	7	 1.96%
Disagree	7	 1.96%
Neutral	129	 36.13%
Agree	138	 38.66%
Very much agree	76	 21.29%
TOTAL	357	

5.1.2.1 Discussion

(1) There are cognitive differences between vocational students and teachers in the goal of IAE course reform. According to the research results, teachers generally believe that IAE courses should cultivate students' ability to solve their problems. Students are more inclined to choose IAE courses to satisfy their learning interests and expectations and to gain a deeper understanding of relevant knowledge. These two different cognitive perspectives yield distinct understandings of the goals of teachers and students.

(2) There are also cognitive differences between IAE courses among teachers and students. Teachers generally believe that the content of IAE courses in schools should be based on the introductory courses of entrepreneurship education and entrepreneurship guidance courses. However, students have more hope that the IAE course content will involve practical entrepreneurial elements to meet their learning needs. This difference in cognition may be because students pay more attention to practice and application, whereas teachers focus more on theory and foundations.

(3) Integration of IAE course practice. The characteristics of school running are another cognitive difference between vocational students and teachers in practice. According to the survey results, students agree that IAE courses should be tailored to the school's characteristics to provide better training opportunities and platforms. However, teachers generally believe that IAE courses and the actual needs of enterprises will have relatively few opportunities for cooperation and have not fully utilized the potential for cultivating students through the linkage between school, enterprise, and government. This difference may be because students focus more on practical application values, while teachers focus more on providing opportunities for cooperation with enterprises.

(4) In the evaluation of IAE courses, there are cognitive differences between higher vocational students and teachers. The results show that students generally believe that IAE courses can help them master and skillfully use their core knowledge to solve practical problems. However, teachers focus more on the refined evaluation system of IAE courses and emphasize "problem-solving" as the orientation. Students' attention to evaluation is more reflected in improving their knowledge mastery and application, while teachers' attention to evaluation pays more attention to

establishing and refining the overall evaluation system.

5.1.2.2 Similarities and Differences Between the Findings of Other Existing Studies

(1) IAE courses: Objective. In the 1970s, the American educational circle proposed cultivating innovative talents as the goal of IAE education. Peng (1995) believes that the core goal of IAE education is not only to cultivate student entrepreneurs but also to foster students' pioneering spirit and ability, ultimately enabling them to become pioneering individuals. IAE education must explore and improve its fundamental qualities, including creative thinking, foresight, innovation, risk awareness, and other essential characteristics, as well as practical training skills. Special emphasis is placed on the education process to enable students to identify problems, solve them, propose new ideas, create valuable products, foster their self-entrepreneurial consciousness, demonstrate innovative operational abilities, and become high-quality contributors to socialist modernization. In developing innovative design and entrepreneurship, relying solely on traditional theory teaching cannot be achieved early. We must focus on strengthening IAE as guidance, with the help of long-term, accumulated practical experience, planning, and an open teaching mode and concept, to promote students in becoming independent innovation explorers and changing the passive adaptation of the past. These views are consistent with the view that teachers 'IAE courses should be able to stimulate students' innovative potential and entrepreneurial motivation, while students believe that IAE course reform is of great help to improve their employability and will positively impact students' career development. However, teachers generally believe that the course reform of IAE plays a crucial role in cultivating students' innovative abilities and entrepreneurial consciousness, promoting the all-round development of students.

In terms of reasons, it is found that students 'individual characteristics, teachers' educational background, and social environment impact the cognitive differences of higher vocational students and teachers on the goal of IAE course reform. Students' characteristics, including their personality, interests, and career planning, will affect their understanding of the goals of IAE course reform. Teachers 'educational background and social environment will impact teachers' cognition of the course reform objectives of IAE and affect their understanding of the course reform objectives and

teaching practice.

(2) Innovation Entrepreneurship Course Content Research on the Study of Innovative Entrepreneurship Education Content. The researcher's view is consistent: teachers believe that innovation entrepreneurship education courses should contain both theoretical and practical components. Theoretical courses primarily aim to teach students innovative business knowledge, while practical courses mainly train students' practical skills. Xiang (2003) the entrepreneurship education courses are divided into dominant courses and invisible classes; explicit courses refer to the school situation in a direct and obvious way, including practical courses, activities, and subject courses, and invisible courses refer to the school situation in a concise, implicit way of courses, mainly have environment course. Students believe that the course content should include practical courses and recognize that they can participate in IAE practice activities.

The reason is that different groups of students require varying levels of depth and breadth in their courses. The educational objectives of railway colleges and universities differ from those of ordinary colleges and universities. Their college admission scores indicate that their theoretical knowledge acquisition is weaker than their practical operations. Therefore, IAE courses in vocational colleges should increase the teaching content of IAE projects that students can participate in, thereby reducing the straightforward theoretical learning content and the difficulty of theoretical learning. The teaching content of IAE courses in higher vocational colleges encompasses not only basic theoretical knowledge of IAE but also skills and hands-on practice abilities to guide and help students apply the knowledge they have learned to solve the difficulties encountered in entrepreneurial practice. Therefore, regarding the course content, we should consider activities as much as possible and arrange practical topics or enterprise practice to help students participate as much as possible so that their practical ability can be improved and put into practice.

(3) In terms of IAE course practice, Wang (2004) believes that entrepreneurship education practice consists of four parts, namely, target module, expert module, process module, and content module. The objective module calibrates educational objectives, including entrepreneurial spirit, psychology, knowledge, and ability. The content module calibrates educational content, encompassing theory,

concepts, practical experience, and actual combat experience in entrepreneurship. The expert module is responsible for the calibration of teachers, including full-time teachers, enterprise managers and operators, government functional departments, and professionals in the market and financial departments; the processing module is responsible for the calibration of practice mode, including basic process knowledge and skills course, key links-thinking and values course, extension process-case learning and experience, improvement process-interactive discussion and practical process- - business practice. Mao (2005) believes that entrepreneurship education can change the ability structure of students, making them from single to complex, from operation to intelligent, from inheritance to innovative, and from professional to entrepreneurship, which is the inevitable requirement of the knowledge economy, science, and education, and the construction of an innovative country. In terms of practice, in entrepreneurship education, we should attach importance to the use of various educational resources through the integration of multidisciplinary intersection and make full use of various social means and platforms to encourage the educational objects to establish the professional ambition and spirit of entrepreneurship and cultivate them competent for the education of entrepreneurship practice. According to the survey results, students agree that IAE courses should be tailored to the school's characteristics to provide better training opportunities and platforms. However, teachers generally believe that IAE courses and the actual needs of enterprises will have relatively few opportunities for cooperation and have not fully utilized the potential for cultivating students through the linkage between school, enterprise, and government.

This difference may stem from students' enthusiasm for practical operation and desire for practical experience, while teachers pay more attention to students' thinking and reflection in practical activities. Students tend to pay more attention to employment issues, while those with specific professional experience may focus more on developing entrepreneurial skills. Additionally, the gender of students may also influence their cognition. Males may pay more attention to practical operations, while females may pay more attention to theoretical teaching. Additionally, professional background and learning experience will also enable students to have different needs and perceptions of knowledge and skills.

(4) Evaluation of IAE courses. Zhang (2007) believes that the evaluation

of entrepreneurship education should include professional skills but with a greater emphasis on entrepreneurial quality. The teaching evaluation is based on the quality of students' innovative spirit and entrepreneurial ability, and it is suitable for an evaluation method that combines the portfolio evaluation method and the cooperative evaluation method. Wu (2013) pointed out that if IAE education in colleges and universities is to develop well, teachers must change their educational concepts and let them play a central role. Thus, corresponding improvement suggestions and the course evaluation of diagnostic and process evaluation are put forward. The study found that students pay more attention to evaluating the effectiveness and practicality of the course. In comparison, teachers pay more attention to the evaluation of student's performance and learning effect. Students usually think that the value of the course depends on whether it helps improve their IAE ability. Therefore, they are more concerned with the practical application and operability of the course content. Instead, teachers pay more attention to students' learning performance and effectiveness, and they usually evaluate students' learning outcomes in the form of exams, assignments, and papers.

The reason is that this difference stems from the difference between the students and the teachers' cognition of the course objectives. The students are more pragmatic, while the teachers pay more attention to evaluating the students' comprehensive quality. The cognitive difference between higher vocational students and teachers on the course reform of IAE is not only an objective phenomenon but also the result of the comprehensive effect of many factors. Students' characteristics, teachers' educational backgrounds, and social environments play a significant role in shaping their cognitive differences. An in-depth understanding of these differences will enable us to adjust the goals, content, practices, and evaluations of IAE education more effectively, promoting the smooth progress of IAE course reform.

Analyzing and understanding these differences can further promote the reform of IAE education. To successfully promote IAE course reform, it is necessary to pay closer attention to the differing perceptions of teachers and students and to tailor strategies to meet the diverse needs of students, thereby achieving the goals, content, practices, and evaluation objectives. After a comprehensive analysis of the cognition of higher vocational students and teachers on the course reform of IAE, the research results show differences in the course objectives, content, practice, and evaluation.

Higher vocational students tend to focus more on satisfying their learning interests and acquiring relevant knowledge, while teachers prioritize cultivating students' ability to formulate and solve problems. Regarding course content, students are more inclined to pursue general education courses, while teachers believe that less content on entrepreneurship is insufficient to meet their teaching needs. In terms of practice, students generally believe that the school's IAE course aligns with the school's characteristics. However, the connection with enterprises still needs to be strengthened. In terms of evaluation, students believe that their ability to use core knowledge is an important indicator of the evaluation of IAE courses. In contrast, teachers believe that problem-solving-oriented evaluation is more refined.

5.1.3 Research Question 3: How to Improve the IAE Courses System of RHVC?

The above research problems arise because higher vocational colleges, as an important channel for training technical and skilled talents, are responsible for cultivating the IAE ability to meet social development needs. However, there are several problems in the current IAE courses system of RHVC, such as insufficient truthful responses and outdated content, which restrict the development of students' IAE abilities. Therefore, improving the IAE course system of RHVC and enhancing students' IAE abilities have become urgent problems that require attention. Through the questionnaire, what suggestions do teachers have for the IAE courses at the school? The students believe that the IAE course reform should place greater emphasis on the practicality of IAE education. Students generally believe that the IAE courses in RHVC are insufficient in practicality. They aim to acquire the knowledge and skills necessary for practical work, enabling them to meet future career challenges better. The current content of IAE courses generally favors the indoctrination of theoretical knowledge but lacks opportunities and platforms for practical application. Students believe that although studying theoretical knowledge is important, applying it to practice is even more crucial for improving their practical ability.

From the face-to-face interview, teachers believe that the teaching courses of IAE in higher vocational colleges must have clear course objectives. They also suggest developing a characteristic IAE course system for railway colleges, focusing on course content, the practical integration of specialized innovation, and course

competition, as well as diversified evaluation methods. Teachers generally believe that the construction of the IAE teaching courses system in higher vocational colleges should prioritize the clarity and practicality of the goals. Teachers hope that the courses can cultivate students' innovative and entrepreneurial abilities, as well as their quality, and emphasize the importance of practical teaching. They believe that IAE education should be grounded in reality, focus on practical operations, and cultivate students' practical application abilities and entrepreneurial consciousness. Therefore, the clarity and practicality of the course objectives are the focus of the IAE teaching course system.

Teachers believe that the content of the IAE teaching course system should be diversified. Teachers hope that the course content will cover all fields and aspects of IAE, including cultivating innovative thinking, creative generation, mining, and innovative project management, among others. At the same time, teachers expect the course content to keep pace with The Times, update it on time, and stay current with the latest developments and trends in the field of IAE. They believe that the diversity and cutting-edge course content can stimulate students' interest and cultivate their ability to think critically and creatively. Teachers believe that the evaluation methods of the IAE teaching course system should be diversified and personalized. In IAE education, practical, exceptional innovation, and integrated courses are significant. The Practical Innovation and Integration course organically combines practical projects and IAE education. Through the practical innovation and integration course, students can combine what they have learned with their practical application to enhance their practical skills and innovative mindset. The teaching mode of practical, specialized, and integrated courses can adopt a project-oriented approach. In this teaching mode, students will participate in each practical project, enhancing their practical skills and innovation mindset through hands-on operations and problem-solving. This teaching mode can not only cultivate students' practical ability but also cultivate their teamwork and communication skills. Competition integration is an important form of IAE education, which combines IAE education with various kinds of IAE competitions to cultivate students' IAE abilities through competition. The integration of competition can stimulate students' enthusiasm for IAE and provide a platform for them to exercise and demonstrate their IAE abilities. By participating in various IAE competitions,

students can exercise and improve their IAE skills, constantly refining their IAE thinking and abilities through communication and competition with others.

Teachers suggest that various evaluation methods, such as classroom performance evaluations, project achievement evaluations, and practical training report evaluations, be adopted to assess students' abilities. They believe that personalized evaluation methods can better identify and develop students' strengths and specialties, providing them with tailored development plans and guidance that meet their specific needs.

5.1.3.1 Discussion

The teaching courses system at IAE in RHVC has a problem of insufficient practicality. On the one hand, the existing IAE courses lack a close combination with the actual entrepreneurship activities, which cannot truly meet the practical needs of students. On the other hand, the course content is too theoretical and lacks practical guidance on operations, making it difficult for students to master practical skills and gain entrepreneurial experience. Therefore, students often face practical difficulties after graduation and are unable to successfully establish enterprises or apply innovative ideas to real-world work. To address this issue, we need to refine our teaching plan and methods.

Regarding the teaching plan, practical courses related to practical entrepreneurial activities should be added, such as enterprise training and entrepreneurial practice. Students can personally participate in the entrepreneurial process by simulating a real entrepreneurial environment and enhancing their practical skills. At the same time, practical case analysis courses should also be established to enable students to engage with real-world entrepreneurship cases, understand the problems and challenges inherent in the entrepreneurship process, and learn how to address them. Regarding teaching methods, "combining theory with practice" should be adopted to guide students in applying the theoretical knowledge they have learned to practical situations, thereby cultivating their innovative thinking and entrepreneurial abilities through hands-on operations and tasks.

(1) In the reform of the IAE courses system in RHVC, determining the course objectives is a crucial link. The determination of course objectives should take into account the characteristics and practical needs of RHVC, as well as the training

objectives of students. When determining course objectives, the following factors must be integrated. RHVC trains specialized talents with practical and innovative abilities; therefore, the course objectives must cultivate students' practical, innovative, and teamwork skills. Different disciplines and majors have distinct characteristics and requirements, and the course objectives must be tailored to the specific characteristics of each discipline and its corresponding professional requirements. For example, the railway transportation primary needs to pay attention to cultivating students' safety awareness and engineering practice ability, so the course objectives should cultivate students' safety awareness and engineering practice ability. In addition, social and industry needs. With the development of the social economy and the advancement of science and technology, the training requirements for higher vocational colleges are also constantly evolving, and course objectives must align with the needs of society and industry. For example, with the rise of IAE education, the industry has increasingly stringent requirements for IAE ability, and the course objectives should cultivate students' IAE abilities. Additionally, the student's personal development needs should be taken into account. Students' personal development needs vary, and the course objectives need to take into account students' personal development needs. For example, some students are more interested in the academic research direction, and the course objectives can cultivate students' practical abilities. Determine the course objectives in conjunction with the characteristics and actual needs of RHVC, as well as the training objectives of the students. When determining course objectives, it is necessary to consider the training objectives, subject characteristics, professional requirements, social and industrial needs, and the personal development needs of students.

(2) Regarding IAE and course content design, we first need to consider the practicality of the course. The purpose of the IAE teaching course is to cultivate students' practical and innovative abilities; therefore, the course content should be efficient. The course content can include practical case analysis, project design, and operation, among other elements, to enhance students' practical and innovative abilities. IAE is a rapidly developing field, and the course content should reflect a certain frontier and be updated regularly. The course content can include the latest scientific research results, industry trends, and IAE cases to enhance students' awareness of cutting-edge

developments and update their skills. Additionally, the diversity and flexibility of the course content are also notable. Students' learning needs and interests differ, so the course content should be diverse and flexible. The course content can include case analyses of various topics, the selection of practice projects, and self-directed learning, among other elements, to meet students' learning requirements and interests. The course content must be well-organized and structured to enable students to learn and master relevant knowledge and skills systematically. The course content can be organized according to a particular logical order and learning progress to help students establish a systematic knowledge framework and skill system. The design of the course content should fully consider the characteristics and actual needs of the RHVC, as well as the student's learning needs and interests.

(3) In the reform of IAE in railway vocational colleges, the innovation of course practice is an important link. The innovation of course form can align teaching with students' learning needs and improve students' learning interests and participation. In innovative courses, practical and innovative concepts can be taught through projects, operations, and reports to cultivate students' practical and innovative skills. The introduction of competition integration teaching is a teaching method that combines competition and instruction, enhancing students' interest and participation in learning. Competition integration teaching can be taught through competition items, training, and evaluation to cultivate students' ability to participate in teamwork and develop a competitive mindset.

(4) A diversified evaluation method is based on students' ability and comprehensive quality, which can comprehensively evaluate students' learning performance and level of ability. Diversified evaluation methods can include examinations, practical results, reports, and work displays to promote students' all-round and personality development.

5.1.3.2 Similarities and Differences with the Findings of Other Existing Studies

(1) Innovation entrepreneurship course target theory research thanks (2007) bloom education goal classification theory, think the goal of entrepreneurship education course should include knowledge, ability, emotional will, and practical skills, mainly located in entrepreneurial spirit, entrepreneurial ability, entrepreneurial rules

and methods of education, focusing on the comprehensive application of knowledge and the cultivation of entrepreneurial practice ability. Yang (2010), based on philosophy and psychology, proposes basic, universal, and improvement goals for multi-level entrepreneurship education. Fundamental objectives train students to possess the basic qualities that are essential for various industries after graduation. Universal goals cultivate students' foundational knowledge and theories of entrepreneurship, enhance goals for students with entrepreneurial desires and actions, and develop their entrepreneurial abilities through entrepreneurial practice, with entrepreneurial practice ability as the core. Huang and Guo (2012) According to Tyler's "target source" theory and the selection principle of IAE education objectives, he believes that the common goal of IAE education course is to improve the overall quality of students, and the individual goal is to cultivate students' entrepreneurial ability with entrepreneurial practical ability as the core. The objectives of the IAE teaching courses system in RHVC should include cultivating students' innovation ability, entrepreneurial consciousness, and entrepreneurial skills. Cultivating students' IAE abilities aims to realize the comprehensive development of students' quality and innovation abilities. Teachers believe that the process of objective research should be more consistent with the practice of railway students. The railway discipline has characteristics of technology and application, which require the goal of IAE courses to have strong technical practice and application. For example, for the railway engineering major, the course goal can be set to train students to possess solid knowledge and skills in railway engineering, to carry out engineering design independently, and to develop the awareness and ability of IAE.

Investigate the reason the innovative entrepreneurship education core goal is not only to cultivate student entrepreneurs but also to cultivate students' pioneering spirit and ability quality, eventually become pioneering individuals; innovation entrepreneurship education in mining and improves the students' basic quality, creative thinking, foresight, innovative spirit, risk consciousness, ability to identify opportunities at the same time, more attention to improve with other quality and practical training ability. Special emphasis is placed on the education process to enable students to identify and solve problems, propose new ideas, and create valuable outcomes, thereby strengthening their self-entrepreneurial consciousness,

demonstrating innovative operational ability, and becoming high-quality contributors to socialist modernization. In developing innovative design and entrepreneurship, relying on simple traditional theory teaching cannot be realized early. We must focus on strengthening IAE as guidance, with the help of long-term, accumulated practical experience, planning, and an open teaching mode and concept, to promote students in becoming independent innovation explorers and changing the passive adaptation of the past.

(2) Research on the course Content of IAE Pan (2002) suggests that subject education in colleges and universities should be combined with entrepreneurship education, encompassing six aspects: entrepreneurial social knowledge, professional knowledge, professional skills knowledge, operational and management knowledge, life knowledge, and learning knowledge. Wang (2015) believes that the content of entrepreneurship education courses in colleges and universities includes two aspects: content ordering and content selection, which emphasizes the systematic learning and construction of knowledge in the process of entrepreneurship activities; the content selection is mainly procedural knowledge (the strategy of experience in entrepreneurship activities), supplemented by declarative knowledge (theoretical knowledge in entrepreneurship education). Huang (2015) compared the course systems of entrepreneurship education in Chinese and American universities, noting that entrepreneurship education courses encompass professional, introductory, and practical components. Teachers believe the course content design should focus on cultivating students' entrepreneurial consciousness. Entrepreneurial awareness is one of the core elements of IAE courses, determining whether students possess the courage and determination to start their businesses. Therefore, in the course content design, we can introduce some entrepreneurial cases and practices to help students understand the risks and opportunities associated with entrepreneurship, thereby improving their entrepreneurial awareness and ability. The course content design should also focus on cultivating students' market insight. Market insight is one of the key components of IAE courses, which helps students understand market demand and the competitive landscape and provides practical guidance for IAE. We should focus on cultivating students' practical operation abilities in the course content design. IAE is an efficient activity, and simple theoretical knowledge is insufficient. Therefore, in the design of

course content, attention should be paid to cultivating students' practical operational abilities, including the implementation of market research, product design, business plan writing, and other aspects of practical training. The content design of IAE courses should focus on practicality, improving students' innovative and entrepreneurial abilities by cultivating their innovative thinking, entrepreneurial consciousness, market insight, and practical operational skills.

The reason for the analysis is that the teaching content of IAE courses in railway colleges and universities encompasses not only basic theoretical knowledge of IAE but also skills and hands-on practice abilities, guiding and helping students to apply their knowledge to solve the difficulties encountered during the process of entrepreneurship practice. Therefore, regarding the course content, we should consider activities as much as possible and arrange practical topics or enterprise practice to help students participate as much as possible so that their practical ability can be improved and put into practice. Different groups of students require a range of courses with varying depths and breadth of coverage. The professional attribute of vocational education means that individual student development and social development are intertwined. Education is designed to prepare students for their future lives and careers. Therefore, more knowledge related to social and economic development should be integrated, enabling students to develop the ability to engage in continuous, independent learning and progress. The transformation of economic development requires universities to provide in-depth IAE education, which aligns with the needs of the new normal in national economic development.

(3) In innovation entrepreneurship course theory practice research, Lin (2016) states that innovation entrepreneurship courses should have a specific audience rather than one-size-fits-all education for all students; he thinks suitable such course students can be divided into three categories of junior students interested in entrepreneurial students and students in the process of entrepreneurship, courses can be divided into the general module, incubation module, and elite module. He (2019) explored the significant positive correlation between the deep integration of IAE education and professional education and the employability of college students, demonstrating the "1 + 1 > 2" effect of employability training. Yang (2020) in human resource management, for example, combines the difference between vocational

education and innovative entrepreneurship education, with several angles put forward based on deepening the depth fusion from the course goal, subject system, and full implementation of the courses system to promote students' vocational skills, according to the subject courses system, to carry out comprehensive teaching. Teachers believe that innovative, practical, exceptional, and integrated courses can be taught through practical projects, hands-on operations, and practice reports to cultivate students' practical and innovative abilities and introduce the integration of competition teaching.

The reason is that the innovative course practice form aims to liberate students from traditional classroom teaching and cultivate their practical abilities, as well as innovative and entrepreneurial consciousness, through participation in various practical activities. In terms of practical activities, various forms can be adopted, such as project-based practice, competition-based practice, and enterprise-based practice. These practical activities can help students apply theoretical knowledge to practice and also cultivate students' innovative thinking and teamwork abilities. Project-based practice can enable students to learn and master relevant knowledge and skills in practical operations, cultivating their innovative abilities and practical skills. In project practice, students can work together and cooperate, cultivating team spirit and cooperative ability and gradually improving their innovation ability and comprehensive quality through project implementation. Competition practice is also an important form of course practice. Students' innovation potential and entrepreneurial consciousness can be stimulated by participating in various discipline competitions, such as science and technology competitions and IAE competitions. Competition practice can provide a platform to show students' talent and innovation ability and is also an important way for students to practice IAE. Students can improve their problem-solving abilities and innovative thinking by participating in competition practice, thereby developing self-confidence and a competitive mindset.

(4) In the evaluation of IAE courses, Wu (2018) believes that entrepreneurship and innovation education are widely carried out in the higher education stage, but the lack of IAE knowledge in the basic education stage, so entrepreneurship and innovation education does not show continuity in the practice time and lacks corresponding integrity. Sun et al. (2016) suggest that the evaluation of authoritative scholars, as well as the evaluation of processes and outcomes, can be

combined with self-evaluation and peer evaluation. Xue (2014) believes that evaluating mass entrepreneurship and innovation education in colleges and universities can be divided into internal and external evaluations. Internal evaluation encompasses periodic and final assessments, whereas external evaluation involves questionnaires and practical research. It can be seen that the evaluation of IAE education courses focuses on the practicality and diversity of evaluation subjects. Teachers believe that diversified evaluation methods can comprehensively consider students' 'quality and ability development and provide a more comprehensive understanding of students' performance and growth in the field of IAE.

The reason is that diversified evaluation methods can also provide students with personalized learning and development opportunities, and the evaluation results can serve as a reference basis for students' career development. Breaking down the three aspects of daily attendance, theoretical tests, and practical ability assessments of IAE courses, the diversity of evaluation methods can provide a more comprehensive understanding of students' performance and growth.

In addition to integrating practical innovation courses, competition integration, and diversified evaluation, other measures can also be taken to enhance the practicality of IAE education. For example, school-enterprise cooperation can be strengthened, and practical projects can be carried out through collaboration with enterprises, allowing students to have better contact with real-world problems and broaden their practical skills. It can strengthen the construction of teachers, improve their practical ability and IAE quality, and enhance the guidance and leading role of teachers in practice. Additionally, it can strengthen the compilation and updating of IAE textbooks, improve the practicability and adaptability of the textbooks, and cultivate more excellent talents with practical ability and IAE quality.

5.2 Recommendation

5.2.1 Views and Suggestions of Higher Vocational Teachers and Students on the Course Reform of IAE

From the perspectives of teachers and students, there are often differences in their cognition of IAE course reform. As the leader of course design and teaching,

teachers pay more attention to the content and teaching methods of the course. They usually pay more attention to explaining theoretical knowledge and professional skills while also cultivating students' critical thinking and practical abilities. As course recipients, students pay more attention to the practicality of the course and its relevance to real-world applications. They usually prefer to acquire knowledge and skills through courses that can help them solve practical problems. Therefore, it is understandable that teachers and students differ in their perceptions of IAE course reform.

Behind this difference are differences in cognitive ability between teachers and students. Due to their professional background and long-term teaching experience, teachers typically possess strong subject knowledge and teaching skills, as well as a deep understanding of the course's subject matter and teaching methods. However, as learners, students have a relatively low knowledge reserve and cognitive ability, and their understanding and application of the course are weak. Therefore, there are differences between teachers and students in the cognition of IAE course reform. First, teachers must strengthen their understanding of IAE and recognize that IAE courses are an integral part of a teaching reform that can cultivate students' innovative abilities and entrepreneurial mindset. Second, teachers must master innovative and entrepreneurship course design and teaching methods to improve their support and participation. Third, students need to actively participate in the learning and practice activities of IAE courses and experience the actual impact of IAE courses through practice. Fourth, teachers and students must strengthen communication and cooperation, jointly discuss the importance and significance of modifying the IAE course, and foster a positive educational atmosphere.

5.2.2 Suggestions on the Cognitive Differences between Higher Vocational Students and Teachers on the Course Reform of IAE

The cognitive differences between students and teachers can serve as a crucial basis for designing and implementing IAE course reform. Through the analysis of cognitive differences between students and teachers, their expectations and needs for IAE course reform can be better understood, allowing for more targeted course objectives and teaching content. For example, students with theoretical learning preferences can benefit from a stronger emphasis on IAE theory, while students with practical operation preferences can benefit from more practical projects and activities.

The cognitive differences between students and teachers can promote interaction and communication in the teaching process. By leveraging the diverse cognition and understanding of students and teachers, mutual learning and joint exploration can be fostered between them. For example, teachers can guide students in thinking and discussing to understand their understanding of IAE. Students can also enrich their understanding of IAE by sharing their practical experiences and cases. Schools and teachers can stimulate students' and teachers' innovative abilities and potential by creating a positive educational environment through IAE trading activities and projects, providing diverse learning platforms and resources, and fostering students' and teachers' learning enthusiasm and innovative consciousness. At the same time, schools and teachers should also provide support and guidance to help students and teachers realize the effective transformation of their cognition and understanding of IAE. In the process of making reasonable use of the cognitive differences between students and teachers and making the cognitive differences between students and teachers, schools and teachers should pay attention to the feedback and opinions of students and teachers and timely adjust the course design and teaching methods to improve the effect and quality of IAE courses reform continuously. Through joint efforts, the researcher believes that cultivating IAE ability in higher vocational education will lead to greater progress and achievements.

5.2.3 Suggestions for Improving the IAE Courses System in RHVC

(1) Implement the talent training goal of "comprehensive development", attaching importance to developing general courses of IAE and education and promoting the integration of IAE courses into the subject courses system. As a crucial base for cultivating professional talents in the railway transportation industry, RHVC should implement the talent training goal of "all-round development" and focus on cultivating students' IAE abilities. This goal requires students not only to have a solid foundation in professional knowledge but also to possess innovative thinking and an entrepreneurial spirit and to apply the knowledge they have learned to solve practical problems. To achieve this goal, RHVC should strengthen the development of general courses on IAE. These courses can be used as part of the introductory general education course, covering the basic concepts, principles, and methods of IAE, as well as the relevant laws, regulations, and policies, to provide students with the theoretical

knowledge base of IAE, and help students cultivate the awareness and ability of IAE.

(2) Improve the course content, enrich the practical teaching form, arrange the appropriate course content according to the needs of students to improve the teaching method, innovate the course organization form to coordinate with the theoretical learning, and carry out extracurricular practical activities. To enhance the teaching effectiveness of IAE courses in RHVC, it is necessary to refine the course content and the organizational structure of innovation courses.

RHVC should arrange course content that is appropriate to students' needs. The course content should be relevant to the practical aspects, and attention should be paid to integrating theory and practice. By introducing practical cases and industry dynamic analysis, students can have a deeper understanding of the practical problems of IAE and improve their interest and initiative in learning. In addition, students are encouraged to participate actively in IAE competitions at all levels, and associations are encouraged to organize relevant activities. At the same time, school teachers are encouraged to provide information and give specific guidance. Arrange summer internships with students' majors and interests, learn the basic knowledge of enterprise management in practice, and strengthen the interaction between students and the industry in the learning process of IAE.

(3) Improve the assessment and evaluation of IAE courses, pay attention to the process assessment, encourage students to conduct self-tests, and reasonably adjust the assessment priorities. The evaluation of IAE courses should focus on the process rather than only the results. The process of IAE itself is a learning and practice process, and students should reflect on their participation in this process. Students can be encouraged to conduct self-tests. Through self-testing, students can take the initiative to understand their IAE knowledge. Additionally, the online and offline courses can be distinguished, and the focus of the assessment should be adjusted accordingly. More attention can be paid to practical operation and ability assessment for offline courses. Online courses can be assessed through online tests and experimental reports. Ordinary performance can include students' attendance, discussion participation, teamwork ability, and other aspects. Course practice can be evaluated through project reports, practice reports, and other means to gain a comprehensive understanding of students' learning situations and ability development.

(4) Strengthen the construction of IAE teachers and establish a classified guidance system for IAE teacher training. Cultivate double-qualified teachers and promote the diversification of teachers' sources. Teachers play a crucial role in promoting the development of IAE education. Therefore, it is necessary to strengthen the construction of IAE teachers and improve their IAE education ability and teaching quality. To train high-quality IAE teachers, RHVC can build classified guidance for the IAE teacher training system. The system can include training teachers' theoretical knowledge of IAE education, cultivating teachers' IAE practice ability, and cultivating teachers' IAE methods and skills. RHVC trains double-qualified teachers with the theoretical and practical ability of IAE. Double-qualified teachers can better integrate IAE knowledge with practice, thereby improving the teaching effectiveness of IAE courses. They possess rich practical experience and industry resources, enabling them to provide students with more practical IAE education content.

5.2.4 Suggestions for Optimizing IAE Courses in Railway Colleges and Universities

(1) Follow the overall objectives and standards of the course and make small course objectives with The Times.

RHVC should carry out reform and innovation strictly in accordance with the national course reform in the overall course design. The national policy provides the general framework for implementing IAE courses. IAE courses must adhere to the spirit of relevant national documents and policies and interpret the specific provisions in accordance with the national objectives of IAE courses. The objectives should be achieved through training in entrepreneurial knowledge, entrepreneurial spirit, and entrepreneurial ability, serving as the blueprint for formulating the course objectives of higher vocational colleges and the small course objectives suitable for the development of the colleges, taking into account the actual situation of railway colleges.

Entrepreneurship drives employment and changes students' concept of employment. As railway vocational colleges rely on the development of the rail transit industry, their industry background determines the general direction of students' development. Due to the slow economic growth, students' employment at RHVC has been significantly impacted. RHVC must tap the potential to stimulate the huge entrepreneurial innovation and creative energy inside students. To change the college

students "would rather wait for difficult employment, rather than take risks and start a positive business" mentality. In determining the course training objectives, it is necessary to make clear that entrepreneurship promotes employment "to change students' concept of employment as a small goal of the course. In the process of carrying out IAE courses, we should change the mentality of "waiting, relying and wanting" that many college students dare not to take risks, do not want to innovate and dare not to start a business. Let students gain an in-depth understanding of the economic development of the "Internet +" era, including emerging industries, modern service industries, and small and micro enterprises. The changing times have altered traditional employment and created more convenient conditions for college students to start their businesses. Therefore, the driving role of entrepreneurship in employment is undeniable. Therefore, encouraging college students to change their employment concept, actively participate in entrepreneurship and innovation, and have the courage to pursue IAE has become an important task in college students' employment education, aimed at solving the employment problems of college students. Encourage the reform of small course objectives to align with the characteristics of students and the direction of professional development. Help students tap their potential and teach students to follow their aptitudes.

(2) Build the coupled course content of "industry + IAE"

RHVC is a distinctive college that primarily cultivates talents in the rail transit industry. The specialty encompasses the entire industrial chain of rail transit, including EMU maintenance technology, railway vehicle technology, railway locomotive application and maintenance, urban rail transit operation management, railway traffic operation management, and other related specialties. IAE education is a comprehensive discipline that integrates management, psychology, economics, and sociology. Its content is relatively complex, and it is challenging to choose the course content. RHVC can adopt the three-dimensional integration method and select course content that aligns with industry standards and the International Association of Educators (IAE) education. The course content emphasizes the cultivation of fundamental theoretical knowledge and practical skills, focusing on relevance and practicality, and reflects the integration of IAE with industry needs, forming a modular course system. Great importance to the professional courses into innovative

entrepreneurial elements, which can be divided into professional basic knowledge, professional frontier knowledge, professional industry development analysis and employment expected four parts, and the discipline development and industry frontier and professional possible innovation, professional, entrepreneurial case to share with students, let students pay attention to the future professional innovation. With the forward-looking learning industry and targeted IAE, to stimulate students' interest in professional learning and passion for IAE. The IAE education, which emphasizes industry-university research and application cooperation, primarily relies on the strength of scientific research in the industry and schools, as well as the market reaction of the industry. It forms an effective connection across the scientific research, industrial, and interest chains. The IAE education is richer, more practical, and more in line with the reality of the industry. By extending innovative thinking and practice activities, we guide students to combine professional knowledge with training, encouraging them to understand society, the industry, and their career direction.

(3) Carry out various forms of course practice

As a practical and interactive course, IAE higher vocational colleges should encourage students to participate in IAE competitions, simulation project roadshows, research and development, and promotion to increase students' experience of the entire IAE process. Encourage students 'imagination and participation, and promote the improvement and development of students' professional ability, management methods, and practical, comprehensive ability to form a development order from low to high. During course practice, teachers 'enthusiasm and initiative are fully mobilized so that the practice content conforms to the characteristics of students' development and can help students solve practical problems, stimulate students' enthusiasm for entrepreneurship, and put into the IAE practice activities. Teachers should encourage students to fully utilize their professional advantages, mobilize their enthusiasm in the practice of IAE courses, and participate in local small, medium, and micro-enterprise projects. This will also help raise students' awareness of IAE. RHVC should actively explore school-enterprise joint training with the National Railway Group Co., Ltd., the Provincial Railway Bureau Group Co., Ltd., the Rail Transit Group, and other railway-related enterprises.

With diversified course practice, entrepreneurs and investors can provide

students with practice-based projects, conduct speeches and seminars, and organize students to visit enterprises and participate in other activities. Integrating course practice with a vocational internship enables students to transition smoothly from theory to practical application. Railway enterprises offer internship positions, allowing students to gain practical training within the enterprise, thereby gaining an understanding of the company culture, development, and job demand and development trends. Strengthen team consciousness, professional dedication, professional ethics, and cooperative spirit, enhance industry work adaptability, and grasp industry development trends. Schools should closely combine the policies of IAE education and vocational education reform, actively respond to the national "Belt and Road" call, export professional standards, training room construction standards, and talent training standards to ASEAN countries, provide a plan for the railway vocational education of ASEAN rail transit and promote the reform of vocational education in an all-round way.

(4) Implement diversified course evaluation

As an open and practical course, the IAE course can provide students with diversified freedom.

The construction of a course evaluation system should not simply score teachers' performance in class but instead focus on evaluating students who receive IAE courses using the selected course evaluation method. RHVC should evaluate students' needs, help, and the cultivation process of entrepreneurship from the perspective of students' needs. Student assessment and evaluation can comprise course homework, practice, roadshows, and other aspects. At the same time, the implementation of scientific and systematic development evaluation of teachers encompasses three aspects: listening, assessment, and student feedback. First, to listen to the class, teachers, entrepreneurs from outside the school, and other school groups can be organized to serve as teachers. They can return to the class with rich entrepreneurial practice experience and point out the advantages and disadvantages for the teachers to improve. Second, assessment. Written and practical tests are conducted for teachers and the teaching content of various courses. The test is arranged at the beginning of each semester to assess the teachers' understanding and control of the teaching content. The third is student feedback, which can be supported by teachers guiding students to participate in competitions and conduct entrepreneurial practices, as well as students'

classroom evaluations and other relevant data. The purpose of course evaluation reform is to break the traditional course evaluation system, establish a more scientific and reasonable evaluation system, and identify deficiencies in the course reform process.

In the process of reforming IAE courses, RHVC needs a smoother era of development. The innovation chain can be deployed throughout the rail transit industry. Relying on the School of Industry, it will actively establish an IAE incubation base for college students and an industrial base for school-enterprise cooperation, thereby comprehensively improving the hardware facilities of IAE education. Promote the development and research of inclusive courses, enhance the contribution of schools to the industrial innovation of the rail transit industry, and find a breakthrough by addressing the pain points and difficulties faced by the industry. Accurate grasp to promote the development of high-quality courses, to the project as the lead, reasonable use of school studio, master studio, and high-quality resources, encourage excellent students and team, form united to participate in China innovation entrepreneurship competition, support teachers and students cooperation project application, patent application, product development, etc., with students as the main body, build a community of interests. Attract strong enterprises to enter the campus, explore new modes of school-enterprise cooperation, and constantly improve school-enterprise management and division of labor to form the mode of industry-university-research integration. Therefore, it is necessary to regularly collect the opinions of higher vocational students and teachers on the objectives, content, implementation, and evaluation of IAE courses. According to the suggestions and opinions, the IAE courses should be improved. The cognitive differences between higher vocational students and teachers, as well as the views of higher vocational teachers and students on IAE course reform, should be addressed. The orderly promotion of IAE course reform should be pursued.

5.2.5 Summary

In this paper, the following conclusions are drawn from the views of higher vocational teachers and students on IAE course reform, the cognitive difference between higher vocational students and teachers on IAE course reform, and the improvement of the IAE course system in RHVC.

From the perspective of teachers and students, there are some differences

in their views on IAE course reform. Teachers generally believe that the course reform of IAE is conducive to cultivating students' innovative and entrepreneurial thinking and abilities, and they pay more attention to the practicality and applicability of the courses. On the other hand, students pay more attention to the course's practicality and relevance to employment. This difference can promote the reform of IAE courses through a rational approach and effective implementation.

From the cognitive differences between teachers and students, there are differences in understanding ability in the learning process of IAE courses. Some students are prone to anxiety and pressure in the course study, and they do not have a solid grasp of the theoretical knowledge of IAE. However, teachers can improve students' learning by formulating personalized teaching methods and strategies according to different students' personalities and needs.

The paper presents several suggestions for enhancing the IAE course system in RHVC. First, we should fully implement the talent training goal of "comprehensive development" and focus on cultivating students' IAE abilities. Secondly, improving the course content and innovative course practice form is also necessary to provide students with more opportunities for IAE practice. Thirdly, improve the assessment and evaluation of IAE courses, with a particular focus on process assessment. Finally, the construction of IAE teachers should be strengthened, and a classified guidance system should be established for the training of IAE teachers.

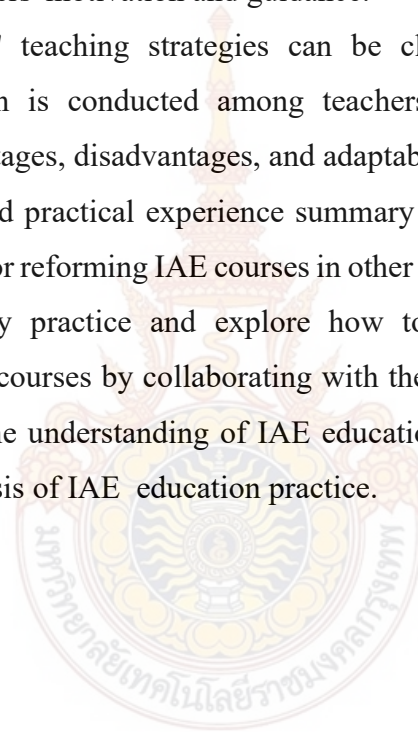
Combined with the views of higher vocational teachers and students on the reform of IAE courses, the cognitive difference between higher vocational students and teachers regarding the IAE course reform enhances the development of the IAE course system in RHVC. The researcher believes that RHVC aligns with the overall objectives and standards of the IAE course and establishes specific course objectives in collaboration with The Times. In terms of course content, the coupling of "industry + IAE" is constructed. Various forms of course practice, course evaluation content, and diversified course evaluation have been implemented to promote further reform and innovation of IAE courses in RHVC.

Through the above conclusion, this paper aims to promote the development of IAE courses in higher vocational colleges and provide specific references and suggestions for reforming IAE courses in RHVC.

5.2.6 Outlook

The following aspects can be further explored in future studies. Further, study the reasons for the difference between teachers' and students' views on IAE courses reform, analyze the background and experience of different teachers and students, and explore the differences in their cognition of IAE courses to provide a basis for teachers to adopt more effective teaching methods in the teaching of IAE courses. Further study teachers' attention and coping strategies for students' understanding of ability differences and explore how to improve students' learning effects through teachers' motivation and guidance.

Teachers' teaching strategies can be classified and summarized, and comparative research is conducted among teachers in the IAE's course system, discussing the advantages, disadvantages, and adaptability of different course systems. The case analysis and practical experience summary of different course systems can provide a reference for reforming IAE courses in other RHVC. Combine the IAE course reform with industry practice and explore how to enhance the practicality and applicability of IAE courses by collaborating with the industry and providing an IAE practice platform. The understanding of IAE education can be deepened through the case study and analysis of IAE education practice.



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APPENDICES

Appendix 1. Questionnaire (Student) Railway IAE Education Course Questionnaire (Student Version)

Dear students:

Thank you for taking the time to complete this questionnaire. The primary purpose of this survey is to accurately and honestly understand the situation of railway IAE education courses. There are no right or wrong answers listed in the questionnaire. Please fill them out carefully, taking into account the specific situation. This questionnaire is conducted anonymously and will only be used for analysis and research purposes. The questionnaire's content will be used solely for data analysis and will not be made public. Please rest assured. Please type (/) next to the option that best suits your situation, and write your answer in the line below the question. Thank you for your cooperation, and wish you your academic progress!

I. Basic Personal Information

1. Gender ()

A. male B. female

2. Ethnicity ()

A. Han ethnicity B. minority

3. Major ()

A. Professional B. Non-iron professional

4. Grade ()

A. freshman B. sophomore C. junior

5. Family location ()

A. Municipality or provincial capital city B. City and county
C. Village and town D. Rural area

II. Opinion Questions Section

1 – Very disagree 2 – Disagree 3 – Neutral 4 – Agree 5 – Very much agree

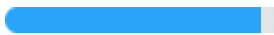
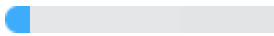
No.	Title	1	2	3	4	5
1	Your goals for the school's IAE courses					
2	The educational characteristics and talent training goals of different schools influence IAE education in varying ways.					
3	The primary purpose of your elective IAE course is to meet your interest in learning and to understand the relevant knowledge.					
4	Your goal of setting up IAE courses should align with national policies and standards for entrepreneurship education and teaching.					
5	The goal of the school's IAE course is to cultivate students' ability to integrate entrepreneurial resources and develop effective plans.					
6	The textbooks you use in the school's innovation and entrepreneurship courses.					
7	Your choice of IAE school courses is primarily based on the aspects that interest and meet the needs of students.					
8	Your IAE courses focus on basic entrepreneurship education and entrepreneurship guidance courses.					
9	Your school's current economic and cultural development situation is more suitable for integration into IAE courses. Your addition to the school IAE courses is conducive to personal work development content.					
10	Your professional courses are integrated into the IAE courses.					
11	Your practice course arrangement for IAE courses.					

No.	Title	1	2	3	4	5
12	Your school can provide numerous opportunities for IAE practice.					
13	IAE course practice can help you.					
14	You offer IAE practice courses to the school to increase the employment rate.					
15	Your increased involvement in entrepreneurship practice, both within and outside the school, aims to promote the application of IAE courses.					
16	You integrate the school characteristics into the practice of IAE courses.					
17	You focus on the process evaluation of the assessment and evaluation of the school's IAE education courses.					
18	You focus on the school's IAE course assessment of students' evaluation of problem-solving ability.					
19	Your assessment method for the school's IAE courses is to write a business plan.					
20	Master and skillfully use the core knowledge of evaluating the students' use of IAE courses in practice.					
21	The school pays attention to combining professional and entrepreneurship education to cultivate students' IAE education.					
22	In addition to the required courses you have participated in, you are also taking other online/offline IAE education courses.					
23	Your teaching level of IAE courses in the school.					
24	Your teaching method for the school's IAE course implementation.					
25	What are your suggestions for the school's IAE courses?					

Appendix 2. Questionnaire of Railway IAE Education Courses (Student Version)

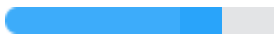
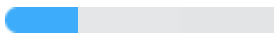
I. Basic Personal Information

1. Gender () [Multiple choice]

Option	Subtotal	Scale
A. Male	326	 91.32%
B. Female	31	 8.68%
TOTAL	357	

Analysis conclusion: According to the data form, 357 people answered this question effectively. Among them, men accounted for 91.32%, and women accounted for 8.68%. It can be observed that there are significantly more men than women participating in this survey, with a male-to-female ratio of approximately 9:1.

2. Ethnicity () [Single choice]

Option	Subtotal	Scale
A. Han ethnicity	267	 74.79%
B. Minority ethnicity	90	 25.21%
TOTAL	357	

Analysis conclusion: According to the data form, 357 people have effectively completed the single-topic selection. The Han nationality accounted for 74.79%, and the ethnic minorities accounted for 25.21%. According to the data analysis, the following conclusions can be drawn: 1. The Han nationality is the largest ethnic group in the sample, accounting for more than two-thirds of the total. 2. Ethnic minorities comprise a relatively small proportion, accounting for approximately one-quarter of the sample. The above is a descriptive analysis of the single-choice data.

3. Major () [Multiple choice]

Option	Subtotal	Scale
A. Iron major	194	54.34%
B. Non-iron professional	163	45.66%
TOTAL	357	

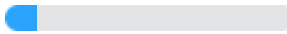
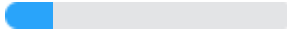
Analysis conclusion: According to the data table, we can draw the following conclusions: 1. The proportion of belt iron majors is 54.34%, and the proportion of non-iron majors is 45.66%. 2. Among the valid people filling in this question, 194 people choose iron major, and 163 people choose non-iron major. 3. The selection proportion of belt iron majors is slightly higher than that of non-iron majors, but the gap between the two is not significant. According to the above analysis, we can understand that in the survey, the number of people choosing iron majors is slightly higher than the number of people choosing non-iron majors.

4. Grade ()

Option	Subtotal	Scale
A.freshman	2	0.56%
B.sophomore	355	99.44%
C.junior	0	0%
TOTAL	357	

Analysis conclusion: According to the data table, we can draw the following conclusions: 1. The number of freshmen accounts for 0.56%, the number of sophomore students accounts for 99.44%, and the number of freshmen accounts for 0%. 2. Among the people who filled in the question effectively, the sophomore year had the most, reaching 355, while only two students in the first year filled in the question. 3. No one in the third grade fills in the question, which may be due to the small number of samples or other reasons. 4. As can be seen from the data, the students of grade two participated in filling in this question, while the students of other grades had less participation. In conclusion, sophomore-year students participated more in this single-choice answer, while students in other grades participated less.

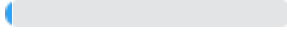
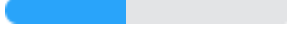
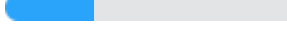
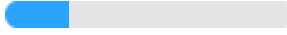
5. Family Location () [Multiple choice]

Option	Subtotal	Scale
A. Municipality or a provincial capital city	38	 10.64%
B. Cities and counties	73	 20.45%
C. Villages and towns	58	 16.25%
D.rural area	188	 52.66%
This question is valid for filling in the number of people	357	

Analysis conclusion: According to the data form, the effective number of people is 357. According to the option statistics, the distribution of the family location is as follows: A.municipality directly under the Central Government or provincial capital: 38 people, accounting for 10.64%; B. Cities and counties: a total of 73 people were selected, accounting for 20.45%; C. Township: 58 people choose, accounting for 16.25%; D. Rural areas: a total of 188 people chose, accounting for 52.66%. It can be seen that the majority of families are located in rural areas, accounting for the highest proportion, at 52.66%. This is followed by cities, counties, and towns, which account for 20.45% and 16.25%, respectively. The number of municipalities directly under the central government or provincial capitals was the least, accounting for 10.64%. These data reflect the distribution of the families of the people participating in the survey and provide a reference for further analysis and research.

II. Opinions Question Section

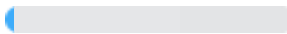
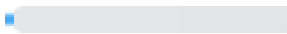
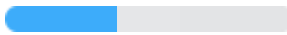
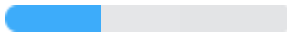
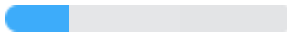
1. What are your goals for the school's IAE courses?

Option	Subtotal	Scale
Very disagree	11	 3.08%
Disagree	8	 2.24%
Neutral	150	 42.02%
Agree	107	 29.97%
Very much agree	81	 22.69%
TOTAL	357	

Conclusion: In this survey, 42.02% of the respondents were neutral about

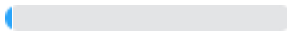
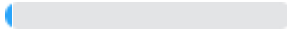
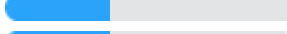
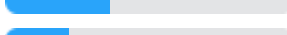
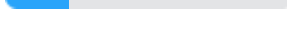
the goal of the school's IAE courses, 29.97% agreed with the goal, and 22.69% strongly agreed with it. In contrast, only 3.08% of the respondents strongly disagreed with the school's IAE course goals, and 8% did not agree with them. Therefore, most respondents have a positive attitude towards the goals of the school's IAE courses.

2. Your talent training goals and educational characteristics of different schools have different influences on IAE education.

Option	Subtotal	Scale
Very disagree	11	 3.08%
Disagree	4	 1.12%
Neutral	141	 39.5%
Agree	122	 34.17%
Very much agree	79	 22.13%
TOTAL	357	

Analysis conclusion: A total of 357 individuals completed this question. As can be seen from the data table, 39.5% were neutral, 34.17% approved, and 22.13% strongly agreed, while the opposition was relatively small, with 1.12% and 3.08% disagreeing, respectively. Therefore, in different schools, most people have particular recognition and support for the characteristics of talent training and education.

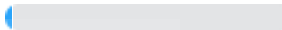
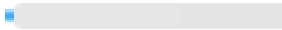
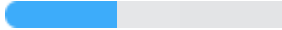
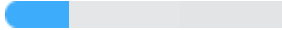
3. The primary purpose of your elective IAE courses is to meet your learning interests and to understand the relevant knowledge.

Option	Subtotal	Scale
Very disagree	9	 2.52%
Disagree	9	 2.52%
Neutral	130	 36.41%
Agree	131	 36.69%
Very much agree	78	 21.85%
TOTAL	357	

Analysis conclusion: According to the data table, more than half of the electors choose IAE courses due to their interest in learning and the expectation of

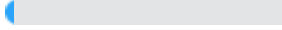
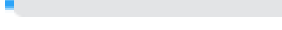
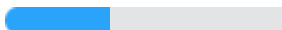
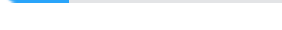
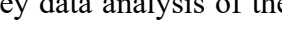
acquiring relevant knowledge. 36.69% of the electives agree, and 21.85% agree. Additionally, 36.41% of the electives held a neutral attitude, while only a minority expressed disapproval or disagreement.

4. Should your goal for IAE courses refer to the national policies and standards of entrepreneurship education and teaching?

Option	Subtotal	Scale
Very disagree	9	 2.52%
Disagree	4	 1.12%
Neutral	126	 35.29%
Agree	136	 38.1%
Very much agree	82	 22.97%
TOTAL	357	

Analysis conclusion: 357 people effectively fill in this question, of which 35.29% are neutral, 38.1% agree that the goal of setting IAE courses should refer to the national policies and standards of entrepreneurship education and teaching, and 22.97% strongly agree. However, the proportions of 'very disagree' and 'disagree' were small, at 2.52% and 1.12%, respectively. It can be seen that most people support establishing IAE courses in accordance with the policies and standards for entrepreneurship education and teaching issued by the state.

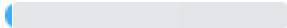
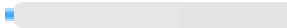
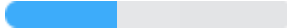
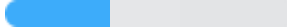
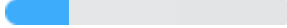
5. The goal of the IAE course is to cultivate students' ability to integrate entrepreneurial resources and write plans.

Option	Subtotal	Scale
Very disagree	11	 3.08%
Disagree	3	 0.84%
Neutral	134	 37.54%
Agree	128	 35.85%
Very much agree	81	 22.69%
TOTAL	357	

Analysis conclusion: According to the survey data analysis of the school IAE courses objectives, The following conclusions can be drawn: The distribution of

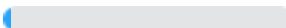
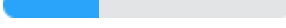
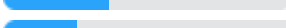
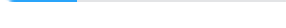
students' attitudes towards the school's IAE courses objectives to cultivate students' ability to integrate entrepreneurial resources and write a plan is as follows: -Very disagree: 3.08% -Disagree: 0.84% -Neutral: 37.54% -Consent: 35.85% -Very agree: 22.69% As can be seen, A relatively high proportion of students with a neutral attitude, While consent and very consent accounted for 58.54%, It shows that most students are positive about the objectives of the course. However, some students hold negative or neutral views, so these diverse opinions should be taken into consideration when setting course objectives.

6. What textbooks did you use in the school's IAE course?

Option	Subtotal	Scale
Very disagree	9	 2.52%
Disagree	3	 0.84%
Neutral	139	 38.94%
Agree	129	 36.13%
Very much agree	77	 21.57%
TOTAL	357	

Analysis conclusion: According to the results of the survey on the use of school IAE course materials, most of the respondents were neutral (38.94%) and agreed (36.13%), among which 21.57% agree, while the proportion of very disagree and disagree was relatively low, 2.52% and 0.84% respectively. This indicates that most respondents were more positive about the textbooks used.

7. Is your choice of school IAE courses based on what students are interested in and need?

Option	Subtotal	Scale
Very disagree	8	 2.24%
Disagree	5	 1.4%
Neutral	122	 34.17%
Agree	131	 36.69%
Very much agree	91	 25.49%
TOTAL	357	

Analysis conclusion: According to the data table, we can draw the following conclusions: 1. The selection of school IAE courses is what students are interested in and need, and relatively many people hold neutral, agree, and very agree attitudes, accounting for 34.17%, 36.69% and 25.49% respectively. 2. Relatively few people oppose this choice, with 2.24% and 1.4% vs. strongly disagree, respectively. 3. In general, most people have a positive attitude towards the selection of IAE courses in the aspects that students are interested in and need, accounting for 96.35% (the sum of neutral, agreed and very agreed proportions). Based on the above analysis, it can be inferred that most people believe that the content selection of school IAE courses should be based on students' interests and needs. This is of great significance to improving students' enthusiasm and participation in learning.

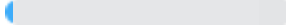
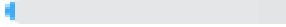
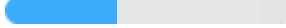
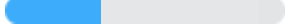
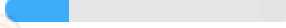
8. What about the general IAE courses based on basic entrepreneurship education and entrepreneurship guidance courses?

Option	Subtotal	Scale
Very disagree	7	1.96%
Disagree	7	1.96%
Neutral	126	35.29%
Agree	134	37.54%
Very much agree	83	23.25%
TOTAL	357	

Analysis conclusion: According to the data table, we can draw the following conclusions: 1. For the general courses of IAE, mainly basic entrepreneurship education and entrepreneurship guidance courses, the neutral proportion is the highest, at 35.29%. This means that many people are neutral about this course content and neither fully supportive nor opposed. The proportion of consent and very consent was 37.54% and 23.25%, respectively, totaling 60.79%. This indicates that most people have a supportive attitude towards the content of IAE courses in schools, believing that this type of course is significant for cultivating IAE ability. The proportions of disapproval and very disapproval were 1.96% and 1.96%, respectively, totaling 3.92%. This means that only a small number of people are opposed to this course content. To

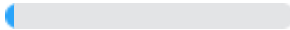
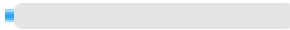
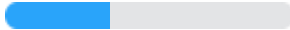
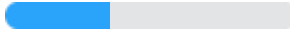
sum up, most people have a supportive attitude towards the general courses offered by the IAE, which mainly consist of introductory entrepreneurship education courses and entrepreneurship guidance courses, and believe that such courses are of great significance in cultivating IAE ability. However, a significant number were neutral about the course content.

9. Your school's current economic and cultural development situation is more suitable for integration into the IAE courses. Do you add the IAE courses to your personal work development?

Option	Subtotal	Scale
Very disagree	8	 2.24%
Disagree	6	 1.68%
Neutral	136	 38.1%
Agree	125	 35.01%
Very much agree	82	 22.97%
TOTAL	357	

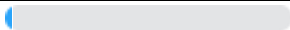
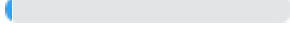
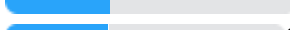
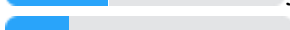
Analysis conclusion: According to the data table, the following conclusions can be drawn: 1. Regarding students' attitude towards the increase of school IAE courses, which is conducive to personal work development content, the neutral proportion is the highest, at 38.1%. This means that many students have no clear position on issue 2. The total proportion of consent and very consent was 57.98%, slightly higher than the total proportion of consent and very consent, which was 4.92%. This suggests that most students have a positive attitude towards incorporating IAE courses into their personal professional development. The proportion of agreement is 22.97%, which is relatively high, suggesting that some students believe IAE courses can aid in the development of their work. To sum up, most students hold a positive attitude towards the addition of IAE courses, which is conducive to the development of personal work; however, many students hold a neutral attitude towards this. Schools can gain a deeper understanding of the needs and opinions of students to optimize the content and teaching methods of IAE courses.

10. Are your professional courses integrated into the IAE courses?

Option	Subtotal	Scale
Very disagree	11	 3.08%
Disagree	5	 1.4%
Neutral	133	 37.25%
Agree	130	 36.41%
Very much agree	78	 21.85%
TOTAL	357	

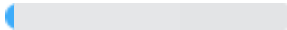
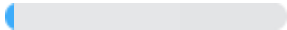
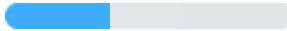
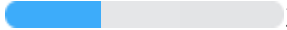
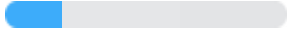
Analysis conclusion: According to the data table, the following analysis results are found regarding whether the professional courses of students are integrated into the content of IAE courses: 1. The proportion of 'very disagree' and 'disagree' is relatively low, at 3.08% and 1.4%, respectively. This indicates that most students have a more positive attitude towards integrating professional courses into the IAE courses. 2. The proportion of neutrality is 37.25%, which is relatively high. This may mean that some students are neutral about whether the professional courses are integrated into the IAE courses and require more information or experience to make an informed evaluation. 3. consent and very consent proportions were 36.41% and 21.85%, respectively. This suggests that many students believe integrating IAE courses is beneficial and hold a positive attitude toward this approach. To sum up, most students have a positive attitude towards integrating professional courses into the IAE courses, believing they benefit their learning and development. However, some students remain neutral about this and may require additional information or experience to form a judgment.

11. What are your practical courses for IAE?

Option	Subtotal	Scale
Very disagree	9	 2.52%
Disagree	9	 2.52%
Neutral	128	 35.85%
Agree	135	 37.82%
Very much agree	76	 21.29%
TOTAL	357	

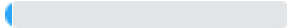
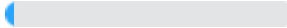
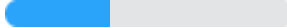
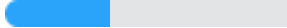
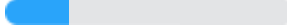
Analysis conclusion: According to the data table, the following conclusions can be drawn: 1. More than half of the respondents (59.11%) agreed with or strongly agreed with the practical course arrangement of the IAE course, indicating that most respondents were satisfied with this arrangement. 2. 35.85% of the respondents were neutral, probably because they had no exceptional views about the practice course arrangement or did not attend the practice course of the course. 3. Only 5.04% of respondents disagreed or strongly disagreed with the arrangement, indicating that most respondents recognized the course arrangement as acceptable. 4. The number of respondents filling in the question was 357, indicating that the data has high credibility.

12. Can your school provide many opportunities for IAE practice?

Option	Subtotal	Scale
Very disagree	12	 3.36%
Disagree	14	 3.92%
Neutral	132	 36.97%
Agree	124	 34.73%
Very much agree	75	 21.01%
TOTAL	357	

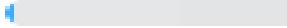
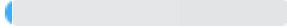
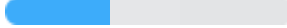
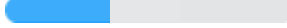
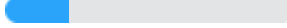
Analysis conclusion: Among the 357 valid applicants, 21.01% strongly agreed that their school could provide many IAE practice opportunities, 34.73% agreed, 36.97% were neutral, and 3.36% and 3.92% disagreed, respectively. It can be seen that most people are neutral or agree that the school can provide opportunities for IAE practice. In contrast, the number of people who disagree and significantly disagree is relatively small.

13. Can the practice of IAE courses help you?

Option	Subtotal	Scale
Very disagree	10	 2.8%
Disagree	11	 3.08%
Neutral	131	 36.69%
Agree	127	 35.57%
Very much agree	78	 21.85%
TOTAL	357	

Analysis conclusion: According to the data table, more than half of the respondents (57.42%) believe that the IAE course practice can help them, and 21.85% strongly agree. Relatively, 15.77% of respondents disagreed or strongly disagreed, while 36.69% were neutral.

14. Do you offer the IAE practice courses to help schools improve their employment rate?

Option	Subtotal	Scale
Very disagree	7	 1.96%
Disagree	8	 2.24%
Neutral	132	 36.97%
Agree	132	 36.97%
Very much agree	78	 21.85%
TOTAL	357	

Analysis conclusion: According to the data table, the distribution of attitudes towards IAE practice courses in schools to improve the employment rate is as follows: very disagree (1.96%), disagree (2.24%), neutral (36.97%), agree (36.97%), and very agree (21.85%). It can be seen that the majority of people hold neutral, agree, and very agree views, accounting for 96.79%, while the proportion of very disagree and disagree views is low, at only 3.21%. Therefore, most people hold a positive attitude toward offering IAE practical courses in schools.

15. Do you increase the entrepreneurship practice bases inside and outside the school to promote the practice of IAE courses?

Option	Subtotal	Scale
Very disagree	7	1.96%
Disagree	5	1.4%
Neutral	126	35.29%
Agree	148	41.46%
Very much agree	71	19.89%
TOTAL	357	

Analysis conclusion: A total of 357 individuals completed this question. Among them, 19.89% strongly agreed with the increase of entrepreneurship and practice bases inside and outside the school, 41.46% agreed, 35.29% were neutral, 1.4% disagreed, and 1.96% strongly disagreed. It can be seen that most people hold a positive attitude towards the increase of entrepreneurship and practice bases inside and outside the school, among which the proportion of consent and very consent is high. In contrast, the proportion of disapproval and very discontent is low. This indicates that students have a significant demand for the school to provide entrepreneurial internship opportunities. However, some individuals hold a wait-and-see attitude or do not support this initiative. Therefore, schools need to consider the needs and opinions of different groups when expanding entrepreneurial practice bases, both within and outside the school, to better meet the needs of students.

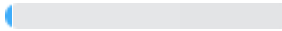
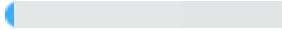
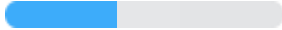
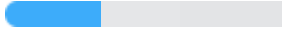
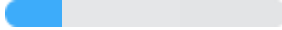
16. Do you integrate the school characteristics into the practice of IAE courses?

Option	Subtotal	Scale
Very disagree	6	1.68%
Disagree	9	2.52%
Neutral	125	35.01%
Agree	141	39.5%
Very much agree	76	21.29%
TOTAL	357	

Analysis conclusion: According to the data table, 6 (1.68%), 9 (2.52%),

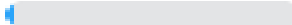
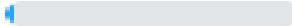
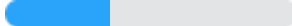
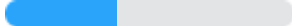
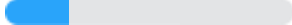
125 and 125 (35.01%) were neutral, 141 (39.5%) agreed, and 76 (21.29%) agreed. A total of 357 people answered the questions effectively. As can be seen from the data, most people have a supportive attitude towards integrating school characteristics in the practice of IAE courses. Of these, 39.5% agreed, and 21.29% strongly agreed. In contrast, only 1.68% strongly disagreed, and 2.52% disagreed. This suggests that most people believe it is beneficial to integrate school characteristics into the practice of IAE courses. This integration can help students better understand and apply what they have learned, improving their ability in IAE. However, some people are neutral and may need more information or practical experience to form their views. To sum up, most people support integrating school-running characteristics into IAE courses. However, further research and practice are also necessary to continually improve its effect and influence.

17. Do you focus on the process evaluation of the school's IAE education courses?

Option	Subtotal	Scale
Very disagree	9	 2.52%
Disagree	12	 3.36%
Neutral	144	 40.34%
Agree	119	 33.33%
Very much agree	73	 20.45%
TOTAL	357	

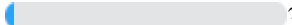
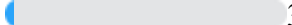
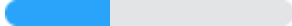
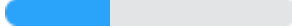
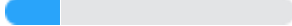
Analysis conclusion: According to the data table, the distribution of attitudes towards the process evaluation of the assessment and evaluation of school IAE education courses is as follows: 2.52%, 3.36%, 40.34%, 33.33%, and 20.45%. Overall, the proportion of neutral attitudes was the highest, at 40.34%. The proportions of 'very disagree' and 'disagree' were low, at 2.52% and 3.36%, respectively. Consent and very consent were 33.33% and 20.45%, respectively. This shows that most people hold a neutral attitude towards the process evaluation of school IAE education courses.

18. Do you focus on students 'problem-solving ability in the school's IAE courses?

Option	Subtotal	Scale
Very disagree	7	 1.96%
Disagree	7	 1.96%
Neutral	129	 36.13%
Agree	138	 38.66%
Very much agree	76	 21.29%
TOTAL	357	

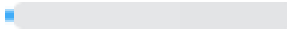
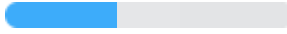
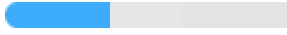
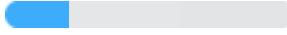
Analysis conclusion: According to the data table, we can draw the following conclusions: 1. The distribution of the attitude towards students' problem-solving ability evaluation is relatively balanced, with the highest proportion of neutral attitude, 36.13%. 2. The proportion of consent and very consent was 38.66% and 21.29%, respectively, totaling 59.95%. This indicates that most people hold a positive attitude towards evaluating schools' IAE courses. The proportions of disapproval and very disapproval were 1.96% and 1.96%, respectively, totaling 3.92%. This suggests that only a few people are critical of evaluating students' courses in terms of their IAE problem-solving ability. To sum up, most people hold a positive attitude towards evaluating students' emphasis on problem-solving ability, while only a few people hold a negative attitude. This indicates that the school prioritizes evaluating students' problem-solving abilities in the assessment of IAE.

19. Write a business plan for the assessment method of IAE courses.

Option	Subtotal	Scale
Very disagree	14	 3.92%
Disagree	14	 3.92%
Neutral	131	 36.69%
Agree	129	 36.13%
Very much agree	69	 19.33%
TOTAL	357	

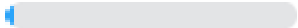
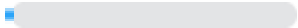
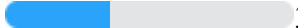
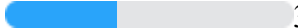
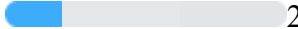
Analysis conclusion: According to the data table, 357 people effectively completed the business plan for the assessment method of school IAE courses. For this assessment method, 3.92% strongly disagree, 3.92% disagree, 36.69% are neutral, 36.13% agree, and 19.33% strongly agree. After comprehensive analysis, the following conclusions can be drawn: 1. Most people hold a neutral attitude or agree with the assessment method of writing a business plan, accounting for 72.46%. 2. A small number of people do not agree or agree with the assessment method, accounting for 7.84%. 3. Some people strongly agree with the assessment method, accounting for 19.33%. Based on the above conclusions, further adjustments and improvements to the assessment method can be considered to meet the needs and expectations of more students.

20. Master the core knowledge of evaluating students' use of IAE courses in practice.

Option	Subtotal	Scale
Very disagree	8	 2.24%
Disagree	4	 1.12%
Neutral	136	 38.1%
Agree	130	 36.41%
Very much agree	79	 22.13%
TOTAL	357	

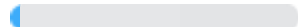
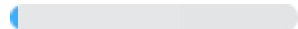
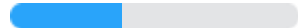
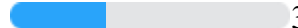
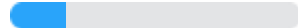
Analysis conclusion: The effective filling of this question is 357. Among them, more than half chose to "agree" or "strongly agree", indicating that most people have mastered and are skilled in applying the core knowledge of evaluating students' use of IAE courses. However, 38.1% were neutral, indicating that further learning and practical experience may be necessary to enhance mastery of this knowledge. At the same time, 3.36% of the people hold a negative attitude and need more attention and help to improve their ability level.

21. Schools focus on combining professional and entrepreneurship education in training students' IAE education.

Option	Subtotal	Scale
Very disagree	7	 1.96%
Disagree	5	 1.4%
Neutral	131	 36.69%
Agree	139	 38.94%
Very much agree	75	 21.01%
TOTAL	357	

Analysis conclusion: According to the data form, the following conclusions can be drawn: - More than 60% of the students agree or strongly agree with school education; nearly 37% prefer professional and entrepreneurial education. In addition, approximately 3.4% disagree or strongly disagree, indicating that they may have doubts or dissatisfaction with the school's performance in this field.

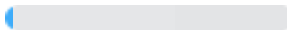
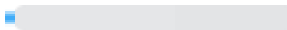
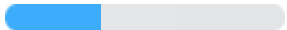
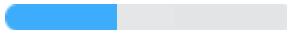
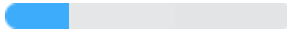
22. Currently, the IAE courses you have participated in also include other online and offline IAE education courses.

Option	Subtotal	Scale
Very disagree	12	 3.36%
Disagree	10	 2.8%
Neutral	140	 39.22%
Agree	125	 35.01%
Very much agree	70	 19.61%
TOTAL	357	

Analysis conclusion: According to the data table, For the participation of the IAE courses form, The proportion of other online/offline IAE education courses is as follows: -strongly disagree: 12 students, 3.36% -Disagree: 10 people, 2.8% - Neutral: 140 persons, 39.22% -agree: 125 people, 35.01% -very strongly agree with: 70 people, As can be seen from the data, Most people are neutral on taking other

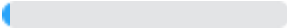
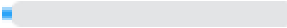
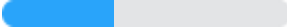
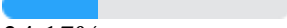
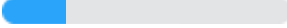
online/offline IAE education courses, For 39.22%. The number of people who agreed and very agreed accounted for 35.01% and 19.61%, respectively, indicating that many people have a positive attitude towards taking other IAE education courses. On the contrary, the numbers of those who very disagreed and disagreed were relatively small, at 3.36% and 2.8%, respectively. Most people hold a neutral attitude towards the IAE courses they have participated in, but a significant number still maintain a positive attitude.

23. What is your teaching level of IAE courses?

Option	Subtotal	Scale
Very disagree	8	 2.24%
Disagree	5	 1.4%
Neutral	124	 34.73%
Agree	139	 38.94%
Very much agree	81	 22.69%
TOTAL	357	

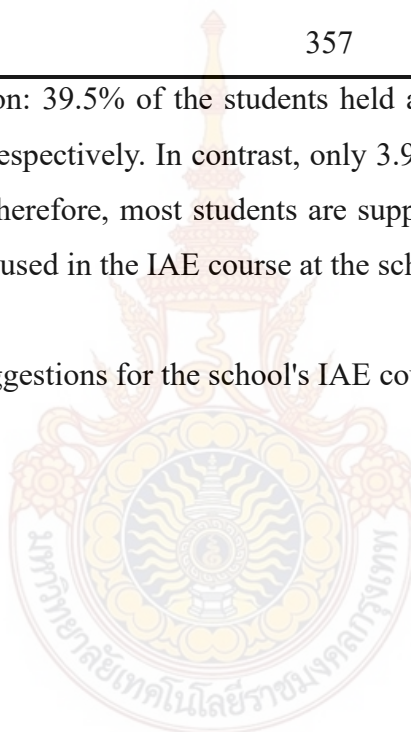
Analysis conclusion: According to the data table, the evaluation results of the teachers of IAE courses are as follows: the proportion of very disagree is 2.24%, the proportion of disagree is 1.4%, the proportion of neutral is 34.73%, the proportion of consent is 38.94%, and the proportion of very consent is 22.69%. In general, the evaluation of the teacher level of IAE courses in schools is generally biased towards a neutral and consent attitude, among which the proportion of consent is the highest proportion of disapproval and disapproval is relatively low, indicating that the evaluation of the teacher level of IAE courses is relatively positive on the whole.-The proportion of very agreed was 22.69%, indicating that a considerable number of people are delighted with the teaching level of IAE courses in the school. The number of valid participants is 357, and the number of participants in the survey is 357.

24. How do you teach the school's IAE courses?

Option	Subtotal	Scale
Very disagree	9	 2.52%
Disagree	5	 1.4%
Neutral	141	 39.5%
Agree	122	 34.17%
Very much agree	80	 22.41%
TOTAL	357	

Conclusion: 39.5% of the students held a neutral attitude, while 34.17% and 22.41% agreed, respectively. In contrast, only 3.9% of the students disagreed and strongly disagreed. Therefore, most students are supportive of the implementation of the teaching methods used in the IAE course at the school.

25. What are your suggestions for the school's IAE courses?[gap filling]



铁道类创新创业教育课程调查问卷 (学生版)



长按图片扫码

Questionnaire website: <https://www.wjx.cn/vm/exiOhTx.aspx>

Appendix 3. Interview Outline of IAE Course (Teacher)

1. Objectives of IAE courses

1.1 What do you think is the talent training goal of IAE courses?

1.2 What kind of ability do you think the school's IAE courses aim to cultivate in students?

2. Content and practice of IAE courses

2.1 Do you think the IAE courses currently used align with The Times's development and meet the needs of students?

2.2 What do you think is more suitable for IAE courses?

2.3 How do you think the current IAE courses are combined with practical practice?

2.4 What do you think of students' practice in taking IAE courses?

3. IAE course evaluation

3.1 How do you think to evaluate whether students can master and apply the core knowledge of IAE courses?

3.2 What do you think of the evaluation of IAE courses that can be improved?

3.3 What suggestions for the reform of IAE in schools with the promotion of national vocational education reform?

Interview Outline of IAE Course (Teacher)

The interviewer is Professor Yan (Teacher of IAE Course Management)

Q: Thank you to Professor Yan for taking the time out of his busy schedule to accept my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Do not be polite

Q: The first part concerns the objectives of higher vocational training. What do you think is the talent training goal of IAE courses?

A: To cultivate talents with basic entrepreneurial qualities and pioneering personalities, IAE education is essentially a practical form of education.

Q: What kind of ability do you think the school's IAE courses aim to cultivate in students?

A: Cultivate students' entrepreneurial consciousness, innovative spirit, and IAE ability.

Q: The second part is about the content and practice of IAE courses. Do you think the IAE courses used now align with The Times's development and can meet students' needs?

A: I think the current IAE course textbooks align with the development of The Times to some extent, but whether they can meet the requirements of students may vary according to the quality of the teaching materials and the specific situation of students. IAE courses typically cover innovative thinking, entrepreneurship, business planning, teamwork, and other essential skills required in today's business environment. With the development of science and technology and the intensification of market competition, students need innovative thinking and entrepreneurial spirit to stand out in their future careers. Therefore, from the perspective of the textbook's content, they align with the development needs of The Times.

Q: What do you think is more suitable for IAE courses?

A: I think innovative thinking training cultivates students' innovative thinking so that they can learn to think about problems from different angles and find new

solutions. Basic knowledge of entrepreneurship: introduce the fundamental concepts, processes, skills, and resources required for entrepreneurship, enabling students to gain a more comprehensive understanding of the field. Project planning and management: Let students learn how to plan and manage a project, including project approval, team building, resource integration, and schedule control. Write a business plan. To prepare for future entrepreneurship, let students learn to write a business plan and clarify their entrepreneurial ideas, business models, and marketing strategies. Financing and investment introduce the basic knowledge of financing and investment, enabling students to understand how to raise funds for their entrepreneurial projects and how to evaluate the value of an investment. Law and ethics introduce students to the legal and ethical issues involved in entrepreneurship, enabling them to understand how to mitigate risks and protect their rights and interests. Case analysis: Through the analysis of successful entrepreneurial cases, students will gain an understanding of the practical operations, experiences, and lessons of entrepreneurship, thereby stimulating their enthusiasm for entrepreneurship. Practice and experimentation provide students with opportunities to personally experience the process of entrepreneurship, thereby cultivating their practical operational skills.

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: I think there is still room for further improvement in combining the current IAE courses with the actual situation of enterprises. Although many universities have joined the ranks of IAE education and offered relevant courses, some shortcomings remain. IAE courses should be more closely aligned with the actual needs of enterprises. IAE is a convenient field. Students must understand and master the current market situation, the challenges faced by enterprises, and industry development trends. Therefore, IAE courses should pay more attention to enterprises' real-life cases and experiences and introduce professionals and successful entrepreneurs from the business world to provide practical guidance, allowing students to gain a more profound understanding and practice opportunities.

Q: What do you think of students' practice in taking IAE courses?

A: We should support and advocate for students to participate in it. IAE activities can also help students develop their comprehensive skills, such as teamwork, communication, and leadership, laying a solid foundation for their future careers.

Q: The third part is the evaluation of IAE courses. How do you think to evaluate whether students can master and apply the core knowledge of IAE courses?

A: The first is the knowledge, understanding, and application. Whether students can accurately understand the core knowledge of IAE courses and apply it to practical situations, assess students' understanding of key concepts and theories through assignments, such as exams, and require them to be able to apply it to practical IAE cases. Secondly, problem-solving and innovation abilities refer to whether students can apply the core knowledge they have learned to analyze and solve practical IAE problems independently. Assess students' problem-solving and innovation skills, including their judgment, decision-making, and creative thinking abilities, through practical projects, team-based activities, or simulated scenarios. Finally, entrepreneurial practice and experience: By observing students' performance in entrepreneurial practice, they can evaluate their mastery and application of the core knowledge from IAE courses. This can be measured by assessing student contributions, innovation achievements, and practical experience in the actual innovation entrepreneurship projects

Q: What do you think can be improved in evaluating IAE courses?

A: IAE courses should pay more attention to interdisciplinary integration. In the actual process of IAE, we need not only professional knowledge and skills but also a comprehensive interdisciplinary ability. Therefore, IAE courses should encourage students to cooperate and communicate across different disciplines, cultivating their team spirit and innovative thinking so that they can flexibly respond to the complex IAE environment. Additionally, IAE courses should offer more opportunities for interaction with actual enterprises. Through school-enterprise cooperation, internships, and training, students can personally engage with enterprises, participate in real-world projects, and apply the theoretical knowledge they have learned in class to practical situations. This can improve

students' professional quality and practical operational ability and enhance the practicality of IAE courses.

Q: What are the suggestions for reforming the school IAE with the reform of national vocational education courses?

A: I think the courses are designed according to the needs of vocational education, according to the actual needs of vocational education, combined with the characteristics of IAE courses, and pay more attention to the course design of practical, applied, and interdisciplinary integration of courses. Enable students to learn relevant knowledge and skills in practice and develop the ability to solve problems and innovate. Establish a school-enterprise cooperation mechanism, actively establish cooperative relationships with enterprises, and implement school-enterprise cooperation projects. By cooperating with enterprises to develop practical projects and provide internship and training opportunities, students can personally participate in IAE practice and deepen their understanding and ability to apply core knowledge. Strengthen teacher training and exchanges, support teachers in participating in relevant training and discussion activities, and constantly improve teachers' professional quality and knowledge of IAE. At the same time, communication and cooperation among teachers should be encouraged to explore the best practices of IAE education jointly. The IAE course reform needs the support and resource input of the whole school to provide comprehensive support. The school should provide the necessary equipment, site, financial support, and the corresponding management and service system to provide a suitable environment for learning and IAE for teachers and students.

Interview Outline of IAE Course (Teacher)

Interviewee: Professor Feng (Teacher of IAE Course Management)

Q: Thank you for taking the time to consider my interview request. Our interview is divided into three parts: vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Do not be polite

Q: Regarding higher vocational training objectives, what do you think are the talent training objectives of IAE courses?

A: I think it is the cultivation that is key to the student's personality, mental thinking, and ability. The cultivation of the IAE spirit is the core, and the top priority of IAE education is to cultivate students' innovative and entrepreneurial spirit.

Q: What kind of ability do you think the school's IAE courses aim to cultivate in students?

A: I think it should be done from three aspects:

1. Consciousness cultivation: Enlighten students' innovative consciousness and entrepreneurial spirit, enabling them to understand the quality requirements of innovative talents and grasp the concepts, elements, and characteristics of entrepreneurship. This way, students can acquire the basic knowledge necessary to undertake entrepreneurial activities.

2. Ability improvement: Analyze and cultivate students' innovative and entrepreneurial qualities, such as critical thinking, insight, decision-making ability, organizational and coordination skills, and leadership, so that students can develop the necessary entrepreneurial abilities.

Extended data

3. Environmental cognition: Guide students to understand today's business and industry environment, recognize entrepreneurial opportunities, comprehend entrepreneurial risks, master the process of business model development, design effective strategies, and acquire relevant skills.

Q: Regarding the content and practice of IAE courses, do you think the IAE course materials now align with The Times's development and can meet the needs of

students?

A: I think it is in line with it and can meet the requirements of students. This innovative course teaches students innovative thinking and the process of doing projects.

Q: What do you think is more suitable for IAE courses?

A: I think it can better promote the integration and development of IAE education and the classroom teaching system of colleges and universities. Integrating advanced teaching methods is an important guarantee. It is convenient to achieve better results by guiding teachers to actively innovate their teaching methods and adhere to a student-oriented teaching philosophy. In the classroom, introduce various methods to enhance interaction, including discussions, case studies, scenario simulations, role-playing, tasks, and heuristics. With the help of information science and technology, Using the flipped classroom teaching mode based on MOOC and micro-class also helps to improve the enthusiasm of students to participate in teaching; Effective use of project traction and research-type teaching methods, Set up IAE planning and practice activities, For example, using the experiential ERP sand table simulation teaching method, based on real projects, Encourage students to develop innovative business plans, Cultivate students' various abilities in the IAE simulation exercise, Effectively develop students' innovative and entrepreneurial thinking.

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: I think there are still some problems in the current combination, and the school-enterprise cooperation needs to be continuously strengthened to provide a better platform for students to practice.

Q: What do you think of students' practice in taking IAE courses?

A: I think college students are in the stage of knowledge accumulation and ability cultivation during their college years. By participating in IAE activities, they can exercise their innovative thinking and practical ability. In practice, students need to constantly solve problems and adjust their strategies, which is significant for cultivating students' innovative ability and entrepreneurial spirit. At the same time, IAE activities can help students develop their comprehensive skills, including teamwork, communication, and leadership, laying a solid

foundation for their future careers.

Q: Regarding the evaluation of IAE courses, how do you think to evaluate whether students can master and apply the core knowledge of IAE courses?

A: This requires students to think quickly and have the ability to find and solve problems. Through continuous thinking and practice, students' innovative thinking abilities have been effectively developed and cultivated, and their problem-solving skills and thinking modes have been refined.

Q: What do you think can be improved in evaluating IAE courses?

A: We should establish scientific and reasonable evaluation standards to standardize theory-based and time-based teaching, thereby improving educational quality. Experts and scholars were organized to sort out and standardize the fundamental theories, practice standards, talent training objectives, course standards, and practice bases of IAE education, thereby forming clear teaching standards. Second, the functional departments should formulate scientifically and reasonably defined goals and standards for the quality of IAE education.

Q: What are your suggestions for the IAE courses at the school and the national vocational education reform?

A: In my opinion, we should clarify the goal of talent training, establish an incubation park for innovative and entrepreneurial talents, expand the teaching staff, combine their training with professional courses, tailor the teaching to their aptitudes, and utilize flexible teaching methods.

Interview Outline of IAE Course (Teacher)

Interviewer, Associate Professor Hou (professional teacher of IAE course)

Q: Thank you to Mr.Hou for my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Do not be polite

Q: Regarding higher vocational training objectives, what do you think are the talent training objectives of IAE courses?

A: Personally

1. Cultivate innovative consciousness and entrepreneurial spirit: Through this course, students will cultivate innovative thinking and an entrepreneurial mindset, stimulating their discovery and creative abilities to generate new ideas and opportunities.
2. Enhance IAE ability: The goal of the course is to enable students to master the fundamental knowledge and skills required for IAE, cultivate their abilities in market analysis, business planning, innovation design, teamwork, and other relevant aspects, and successfully implement and promote their own IAE projects.
3. Cultivating comprehensive quality: The IAE course also focuses on cultivating students' innovative and entrepreneurial spirit and leadership ability, emphasizing students' teamwork, communication, and decision-making ability, as well as the comprehensive quality of interpersonal relationships, resource integration, and risk management in the process of IAE.
4. Strengthen practical skills: IAE courses emphasize practical instruction and hands-on learning. Through practical projects, field trips, and industry internships, students can be provided with opportunities to interact with the real-world IAE environment and cultivate their practical operational and problem-solving skills.

The talent training goal of the IAE course is to cultivate talents with innovative abilities, entrepreneurial consciousness, and practical skills, so that they can

have the courage to innovate, dare to start their businesses, and achieve success in the field of IAE.

Q: Which aspect of ability do you think the school's IAE courses aim to cultivate in students?

A: I think that, given the current situation of current school students, students generally do not know what to do and lack the spirit of problem-solving. From the essence of IAE, we need to cultivate students' ability to "ask questions". Students may not lack "finding problems", but whether the problems found can be solved requires students to put forward a "good problem" that can be solved by themselves. Therefore, it is necessary to build a bridge between "finding problems" and "solving problems"; that is, we need to cultivate students' key ability to "ask questions".

Q: Regarding the content and practice of IAE courses, do you think the current IAE courses align with The Times's development and meet students' needs?

A: The teaching material currently used by the school is "College Student Career Planning and Employment Guidance", which focuses on starting a business but does not align with the school's actual needs; therefore, it cannot meet the teaching needs. However, there are already many special textbooks for IAE that can meet the needs of students.

Q: What do you think is more suitable for IAE courses?

A: Overall, IAE is not a course but an education system and methodology. Therefore, it is not necessary to integrate professional content into IAE but to integrate IAE education into professional education.

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: The school has carried out school-enterprise cooperation projects with Liuzhou College Students Pioneer Park, Gold, and other enterprises; however, the current cooperation effect is mainly due to the competition guidance provided by student projects. There are relatively few cooperative projects, and they have not fulfilled the primary purpose of "school, enterprise, and government" in training students.

Q: What do you think of the students' participation in IAE courses?

A: The course practice of IAE needs to be integrated into professional learning. Therefore, in terms of the practice of the course itself, it mainly focuses on students' participation in the China International "Internet +" College Students' IAE Competition to "promote learning and innovation through competition" to achieve the purpose of IAE course practice. Based on the long-term practice of students, the practice of IAE needs to be viewed from the perspective of students' IAE practice, guided by the principles of "problem-solving" in innovation and entrepreneurial achievements.

Q: Regarding IAE course evaluation, how do you evaluate whether students can master and apply the core knowledge of IAE courses?

- A: 1. Have "goal" consciousness
2. Is there a "practice" consciousness
 3. There is no big-picture view
 4. Can you ask a good problem that you can solve

Q: What do you think can be improved in evaluating IAE courses?

- A: 1. Evaluation needs to be refined
1. Be "problem-solving" -oriented
 2. Diversify the evaluation
 3. Personalization and non-standardization

Q: What are your suggestions for reforming school IAE courses and the national vocational education reform?

- A: 1. Build the course system for IAE
2. Innovation and integration
 3. Integration of class and competition

Interview Outline of IAE Course (Teacher)

Interviewee: Associate Professor Zhou (professional teacher of IAE course)

Q: Thank you to Mr. Zhou for conducting my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Yes, I know it.

Q: Regarding higher vocational training objectives, what do you think are the talent training objectives of IAE courses?

A: I think the talent training goal of IAE courses should be to cultivate higher vocational talents with innovative thinking and entrepreneurial ability. These talents should possess the ability to think independently and solve problems, with innovative thinking and an entrepreneurial spirit, enabling them to adapt to a changing market environment and contribute to social progress and development.

Q: Which aspect of ability do you think the school's IAE courses aim to cultivate in students?

The school's IAE course aims to cultivate students' innovative thinking and entrepreneurial abilities. These capabilities include, but are not limited to:

1. Innovative thinking, cultivating students' independent thinking and problem-solving ability through the course so that they can think about problems from different angles and levels and find new solutions.
2. Entrepreneurial ability, including the ability to identify and grasp entrepreneurial opportunities, the ability to develop and implement business plans, and the ability to build and operate entrepreneurial teams.
3. Practical ability. Through practical projects and simulated entrepreneurship, students can master the skills and methods of IAE in practical operation.
4. Teamwork ability: cultivate students' team spirit, enabling them to learn their role in the team and achieve common goals.

Q: Regarding the content and practice of IAE courses, do you think the current IAE courses align with the development of The Times and meet the needs of

students?

A: I think the IAE course textbooks used now align with the development of The Times to some extent and can meet the needs of students. With the continuous progress of science and technology, as well as market changes, the IAE course materials must be constantly updated and improved to adapt to new situations and demands. Therefore, we should continually monitor market dynamics and industry trends and update the textbook's content promptly to meet the evolving needs of students.

Q: What do you think is more suitable for IAE courses?

A: I think innovative thinking and creative problem-solving can teach students to develop innovative thinking, think about problems from different angles, and find unique solutions.

1. Business Plan and Financing: Learn how to create a business plan, raise funds for entrepreneurial projects, and communicate effectively with investors.

2. Law and Ethics: Explain intellectual property rights, contract laws, and ethics to help students understand the legal and ethical issues they may encounter in the entrepreneurial process.

3. Marketing and brand building, teaching students how to conduct market research, develop marketing strategies, and build and maintain brand image.

4. Leadership and teamwork emphasize the importance of leadership and teamwork in the entrepreneurial process, teaching students how to develop these skills.

Summary.

Through practical projects and experiential learning, students can apply the knowledge they have learned to real-world situations, cultivating their entrepreneurial skills and innovation abilities.

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: The degree of IAE courses and enterprise integration varies by region, school, and course. Some schools and courses emphasize theoretical instruction, while others prioritize practical training and collaboration with businesses. In some cases, IAE courses may be disconnected from the actual needs of enterprises.

This may be due to a lack of understanding of the actual needs of the enterprise or the update speed of the course content, which cannot keep pace with the enterprise's development.

Some schools and curricula are working to strengthen ties with businesses. They may provide students with a deeper understanding of the actual operations and needs of the business by inviting corporate mentors and partners or offering internship opportunities. Additionally, some schools may collaborate with companies to develop programs that enable students to apply their knowledge in practical settings.

The combination of IAE courses and enterprises still needs further improvement. To better meet the needs of enterprises, course designers must have a deeper understanding of the actual needs of enterprises and update the course content accordingly. At the same time, schools and enterprises also need to strengthen their cooperation to provide students with more practical opportunities and resources, helping them better adapt to the needs of enterprises.

Q: What do you think of the students' participation in IAE courses?

- A: 1. Practice is the key to learning, and practice is an important way to consolidate and deepen the understanding of theoretical knowledge. Through practice, students can apply what they have learned to real-world situations, thereby gaining a deeper understanding and mastering the relevant skills.
2. Cultivate the ability to solve problems. IAE course practice usually requires students to solve practical problems or challenges. This practice can help students develop problem-solving skills and improve their innovative thinking and creative problem-solving skills.
3. Enhance self-confidence and motivation. Through practice, students can gain successful experiences and achievements, thereby enhancing their self-confidence and motivation. This confidence and motivation can encourage them to move forward more firmly in their future entrepreneurial or innovative endeavors.
4. Build contacts and networks. These networks can support and help future entrepreneurship or innovation.
5. Cultivate an entrepreneurial spirit. Through practice, students can cultivate

an entrepreneurial spirit, including the spirit of adventure, innovation, teamwork, and others. These spirits are important in entrepreneurial success and can help students develop their future careers.

Q: In terms of the evaluation of IAE courses, how do you evaluate whether students can master and apply the core knowledge of IAE courses?

A: 1. Students need to pass exams or tests to understand the core knowledge of the course. Exams or tests can include different types of questions, such as multiple-choice, short-answer, and case analysis, to comprehensively assess students' ability to understand and apply knowledge.

2. Homework and projects: Assigning homework allows students to apply their knowledge to practical situations. By evaluating students' assignments and programs, teachers can determine whether students can apply the knowledge they have learned to solve problems and assess their practical abilities and innovative potential.

3. Class participation and discussion: actively participating in the discussion and sharing their views and ideas can indicate whether students have a deep understanding of the course content. Teachers can assess student mastery of the course by observing their classroom performance and engagement.

At the same time, students can evaluate each other's learning results. This evaluation can be based on their observations and interactions in project collaboration or classroom discussions, thus providing a reference to assess students' mastery and application of knowledge from different perspectives.

Q: What do you think can be improved in evaluating IAE courses?

A: 1. The evaluation criteria are diversified. Traditional evaluation of IAE courses often considers examination results the primary criterion but overlooks the evaluation of students' practical performance, teamwork ability, innovative thinking, and other key aspects. Therefore, diversified evaluation criteria can be established to comprehensively consider multiple aspects of students' performance and evaluate students' learning results more comprehensively.

2. Focus on process evaluation. IAE courses emphasize practicality and innovation, so the evaluation should prioritize process evaluation and students' performance and development throughout the learning process. Timely

guidance and help can help students master knowledge and skills and improve their comprehensive quality.

3. By introducing third-party evaluation, the university can invite enterprises, government departments, alumni, and other institutions to serve as third-party evaluation institutions, evaluating IAE courses. With rich practical experience and professional knowledge, these institutions can evaluate the teaching quality and effectiveness of the courses more objectively and provide valuable feedback and suggestions to the school.

4. Establish a feedback mechanism. The evaluation of IAE courses is not only to assess students' learning outcomes but, more importantly, to provide feedback and suggestions for teachers to help them improve their teaching methods and content. Therefore, an effective feedback mechanism can be established to collect students' opinions and suggestions in a timely manner, allowing for continuous improvements and optimizations to the course.

Q: What suggestions do you have for reforming school IAE courses and the national vocational education reform?

1. Define the course objectives

First of all, the goal of IAE courses should be made clear: to cultivate students' innovative thinking, entrepreneurial consciousness, and practical ability. Regarding course design, we should focus on combining theory and practice, enabling students to master the fundamental knowledge and skills of IAE through course learning and enhancing their comprehensive quality.

2. Enrich the course content

(1) Increase the teaching content of IAE theory. Entrepreneurs with rich practical experience can be invited to teach and share their entrepreneurial experiences with guests, allowing students to gain a comprehensive understanding of the entire entrepreneurship process.

(2) Increase the amount of practical teaching content. Students can be organized to visit enterprises and undertake entrepreneurial practice projects, allowing them to experience the entrepreneurial process and enhance their practical skills personally.

(3) Increase the content of interdisciplinary teaching. Knowledge and skills from other disciplines, such as marketing and financial management, can be introduced to enable students to gain a more comprehensive understanding of IAE.

3. Innovate teaching methods

(1) Use the case teaching method. Through the analysis of successful entrepreneurship cases, students can gain insight into the challenges of entrepreneurship and the factors that contribute to its success, thereby stimulating their enthusiasm for entrepreneurship.

(2) Adopt the project teaching method. Let students undertake entrepreneurial projects in groups, practicing project planning, financing, operation, and other aspects to enhance their teamwork and problem-solving skills.

(3) Use the simulation teaching method. By simulating the entrepreneurial environment, students can experience the entrepreneurial process firsthand and enhance their ability to manage risks and challenges.

4. Strengthen the construction of teachers

(1) Improve teachers' professional quality. Strengthen the training and assessment of teachers to improve their professional level and teaching ability.

(2) Introduce excellent entrepreneurs and entrepreneurs as part-time teachers to enrich the practical experience of the teachers.

(3) Encourage teachers to conduct scientific research activities to improve their academic level and research ability.

5. Improve the course evaluation system

(1) Establish a diversified evaluation system. In addition to the traditional test results, students' practical performance and teamwork ability should be considered to evaluate students' performance comprehensively.

(2) Focus on process evaluation. Pay attention to students' performance and development throughout the learning process, and provide timely guidance and support.

(3) Strengthen the construction of the evaluation and feedback mechanism. Timely feedback and analysis of the evaluation results, finding problems, and

improving the teaching methods and content.



Interview Outline of IAE Course (Teacher)

Interviewee: Teacher Li (professional teacher of IAE course)

Q: Thank you to Mr.Li for my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Good, no problem.

Q: Regarding IAE goals, what do you think are the talent training goals of IAE courses?

A: Cultivate students to have an innovative and entrepreneurial spirit, maintain an optimistic attitude in the face of employment difficulties, face challenges, and find a suitable career development path through their efforts and innovative spirit.

Q: What kind of ability do you think the school's IAE courses aim to cultivate in students?

A: I think we should cultivate students' teamwork ability, innovation ability, practical ability, and social responsibility abilities.

Q: Regarding the content and practice of IAE courses, do you think the IAE course materials now align with The Times's development and can meet the needs of students?

A: I think the current IAE courses can meet students 'needs for knowledge, but they must be continuously explored to cultivate their personality development and improve their entrepreneurial ability. Add practical links, such as case analyses, simulations of entrepreneurship projects, and innovation experiments, so that students can be exposed to real IAE cases and gain practical experience in class, thereby improving their practical operational ability and innovation awareness.

Q: What do you think is more suitable for IAE courses?

A: I think some railway knowledge should be integrated into the IAE courses. The railway industry itself is an industry of continuous innovation. Only by continuous exploration and innovation can we sustain the industry's rapid development.

Q: How do you think the current IAE courses can be effectively combined with

corporate practice?

A: I think course and enterprise actual cooperation is relatively less; the course should pay attention to establishing cooperative relations with enterprises, introducing enterprise resources, inviting enterprise experts to participate in course teaching, organizing students into the enterprise field investigation and research, carrying out the actual innovative entrepreneurial projects, in order to let students better understand the enterprise operation mode, market demand, and industry development trend, to better prepare for entrepreneurial practice in the future.

Q: What do you think of students' practice in taking IAE courses?

A: Teachers should stimulate students' enthusiasm for innovation, guide them to participate in course practice actively, encourage them to put forward ideas and plans for IAE, give them more autonomy and space to play, and cultivate their innovation ability and entrepreneurial spirit

Q: Regarding the evaluation of IAE courses, how do you think to evaluate whether students can master and apply the core knowledge of IAE courses?

A: When evaluating whether students can master and apply the core knowledge of IAE courses, it is necessary to examine students' theoretical mastery and practical application ability in the learning course. First, students must accurately understand and master the theoretical knowledge of innovation entrepreneurship in the course, including innovation theory, business management knowledge, and marketing strategy. Second, students should be able to apply their knowledge to practical innovation cases and possess specific implementation abilities. Q: What do you think can be improved in evaluating IAE courses?

A: The flexibility and diversity of course settings and teaching methods should also be included in the scope of evaluation. IAE courses should focus on cultivating students' innovative spirit and practical abilities, so the courses should be closer to reality, paying attention to case analysis and practical operations. Teaching methods should be diversified and flexibly adjusted to meet the learning needs of different students.

Q: What are the suggestions for reforming the school IAE with the reform of national

vocational education courses?

A: We should strengthen the publicity and training of the concept of IAE education so that more teachers can understand the importance and urgency of IAE education, thereby improving the level of IAE education among teachers. Secondly, schools should strengthen cooperation with enterprises, establish practice bases and training centers, and provide more opportunities and platforms for students to gain a better understanding of IAE practices. In addition, the school can also hold IAE competitions, entrepreneurship lectures, and other activities to stimulate students' enthusiasm for IAE and cultivate students' IAE spirit and ability. Finally, the school can establish an evaluation system for IAE courses, evaluate the effect of the course through the students' course learning situation and practical results, and constantly improve and perfect the IAE courses to adapt to the development of The Times and the change of students' needs.



Interview Outline of IAE Course (Teacher)

Interviewee: Associate Professor Ma (Instructor of IAE Competition)

Q: Thank you to Mr.Ma for my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Do not be polite

Q: Regarding vocational training objectives, what do you think is the talent training goal of IAE courses?

A: The training goal of IAE courses should be to cultivate students' innovative spirit and entrepreneurial abilities, enabling them to start their businesses and develop their self-development in their future careers. IAE courses should also cultivate students' market insight and business acumen, enabling them to grasp opportunities and create greater value in the market competition. In addition, the training objectives of IAE courses should also include cultivating teamwork and leadership skills, enabling them to play a synergistic role within the team and demonstrate their leadership abilities.

Q: What kind of ability do you think the school's IAE courses aim to cultivate in students?

A: Individuals think of the practical ability that trains students and innovative thinking. By studying IAE courses, students should be able to master the fundamental concepts and techniques of innovation, acquire the essential skills and strategies of entrepreneurship, and develop the ability to apply them effectively in practice. At the same time, cultivating students' market insight and business acumen is also one of the important goals of IAE courses, enabling students to identify opportunities and create value in the market. IAE courses should also focus on cultivating students' teamwork and leadership skills, enabling them to work effectively in a team.

Q: Regarding the content and practice of IAE courses, do you think the IAE course materials now align with The Times's development and can meet the needs of

students?

A: I think the existing IAE course textbooks need to be updated to meet the development of The Times and the needs of students. With the rapid development of science, technology, and the economy, knowledge in the field of IAE is constantly updated and iterated, and traditional teaching materials cannot keep pace with this change to meet the needs of students in keeping up with The Times. The teaching materials and content of IAE courses should meet the needs of The Times' development and be forward-looking and practical, catering to the needs of students.

Q: What do you think is more suitable for IAE courses?

A: More IAE skills competitions should be integrated into the IAE courses so that students can consolidate what they have learned and improve their practical ability in IAE through hands-on operations.

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: I need more cooperation between schools and enterprises to integrate enterprise resources and practical projects into the curriculum, so that students can be exposed to the real entrepreneurial environment and challenges, and better develop their entrepreneurial and practical skills. At the same time, teachers also called on schools to strengthen communication and cooperation with enterprises to better understand the needs of enterprises for student talent, thereby guiding and training students more effectively.

Q: What do you think of students' practice in taking IAE courses?

A: I think I should encourage students to participate in practice. I pay attention to cultivating students' innovative thinking, practice ability, and team cooperation ability, some specific business cases, innovative technology, and industry dynamics into the course content, and enable the students to have a more intuitive understanding of the actual situation in the field of innovation, prepare for the future business practice.

Q: Regarding IAE course evaluation, how do you evaluate whether students can master and apply the core knowledge of IAE courses?

A: I think it can be carried out through various forms, such as project homework,

practical operation, and business plans, combined with practical cases, to comprehensively evaluate students 'innovation ability, teamwork ability, and entrepreneurial consciousness, to better understand students' learning results.

Q: What do you think can be improved in evaluating IAE courses?

A: I think the course setting and teaching methods can be improved. Teachers can update and optimize course content and teaching materials according to the actual needs of students and the current trends in IAE. Various teaching methods, such as open teaching, case teaching, and teamwork, are adopted to stimulate students 'innovative potential and cultivate students' innovative thinking and practical ability.

Q: What are the suggestions for reforming the school IAE with the reform of national vocational education courses?

A: I think it is necessary to strengthen school-enterprise cooperation to improve students' practical ability; establish an IAE practice base to provide students with more practice opportunities; establish an IAE tutorial system to guide students to entrepreneurship practice and improve the success rate of entrepreneurship. Pay attention to cultivating students 'innovative spirit and practical ability, and pay more attention to cultivating students' professional quality and teamwork ability so that students can better adapt to society's needs after graduation and contribute to the country's and society's development.

Interview Outline of IAE Course (Teacher)

Interviewee: Teacher Fu, Associate Professor (Instructor of IAE Competition)

Q: Thank you to Mr.Fu for my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Let us start there

Q: Regarding higher vocational training objectives, what do you think are the talent training objectives of IAE courses?

A: 1. Cultivate students' innovative consciousness and entrepreneurial spirit. Make students aware of the importance of IAE, help them understand the process and risks of entrepreneurship, and encourage them to participate actively in IAE activities.

2. Cultivate students' IAE ability. Through courses and practice, students develop their ability to identify opportunities, assess risk tolerance, integrate resources, cooperate as a team, and acquire other key entrepreneurial skills.

3. Impart entrepreneurial knowledge and skills. Let students master the professional knowledge required for conceiving prototypes, developing business plans, marketing, financial management, team building, and risk management.

4. Help students transition from job seekers to job workers. This will help students establish a career plan for starting their own business and fully prepare for their future entrepreneurial endeavors.

5. Stimulate students' potential and vitality. University is an era full of passion and imagination. IAE can develop students' creative potential.

Q: Which aspect of ability do you think the school's IAE courses aim to cultivate in students?

A: 1. Innovative consciousness and innovative thinking ability. Through relevant courses, we inspire students 'innovative inspiration, teach design thinking, and exercise students' ability to find, analyze, and solve problems.

2. Entrepreneurship spirit and entrepreneurial feelings. Teach the spirit of entrepreneurship through the stories of successful entrepreneurs, cultivating students' entrepreneurial enthusiasm, the spirit of brave challenge, and the will to persevere.

3. Business model design and evaluation ability. Teach students how to design innovative business models based on market analysis and their unique advantages, and how to conduct model evaluations.

4. Leadership and teamwork skills. Through team projects, we can train students in team-building, communication, and coordination skills and cultivate their leadership abilities.

Practical skills. Financial management, marketing planning, product development, capital financing, and other entrepreneurship skills are required.

Q: Regarding the content and practice of IAE courses, do you think the current IAE courses align with the development of The Times and meet the needs of students?

A: I think some of the current IAE course materials may not be very in line with the development of The Times and cannot fully meet the actual needs of students. It is mainly reflected in the following aspects:

1. Cases and data are not provided in a timely manner. Some case studies and data were compiled 5-10 years ago, which may not accurately reflect the changes in the entrepreneurial environment, policies, and typical cases that have occurred in recent years.

Theory values practice over light. Some textbooks focus too much on teaching entrepreneurship management theory but do not provide enough guidance for practical practice and operation.

2. Some textbooks pay insufficient attention to new technology-driven business models, such as digital transformation and the Internet platform economy.

3. Lack of content modules to systematically cultivate innovative thinking. Specifically, it shows that the entire innovation process from 0 to 1 is rare.

Q: What do you think is more suitable for IAE courses?

A. 1. New entrepreneurial trends and business opportunities. Such as the sharing economy, platform economy, intelligent manufacturing, artificial intelligence

applications, Internet+, and other fields offering entrepreneurial opportunities.

2. Analysis of successful and failed entrepreneurship cases. Analyze the magic weapon of typical success cases and tell the importance of risk control through failure cases.

3. Entrepreneurial team building and management. Partnership system, equity structure, team incentives, cooperation mechanisms, and other key issues in establishing an entrepreneurial team are explained.

4. Business Plan and Model Writing Practice. Specific to the writing tips of each chapter, provide excellent cases, and organize the writing practice.

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: 1. Strong theory, lack of practice. The course focuses on teaching theoretical knowledge of entrepreneurship, but lacks the sharing of first-hand experience from enterprise practice positions.

2. The case analysis is not close to the status quo. The entrepreneurial success or failure cases used do not keep up with The Times and do not conform to the current market environment and business model.

3. Creativity incubation is challenging to promote continuously. The project cooperation between the school and the company often remains at the early stage of producing ideas, and the cultivation and commercialization in the later stages are relatively weak.

4. The employment connection is not closed. The connection between the learning effect of the course and the actual development direction after graduation is still relatively weak, and fewer students are aware of the demand gap.

Q: What do you think of the students' participation in IAE courses?

A: 1. Entrepreneurial practice is essential. Theoretical knowledge needs to be tested and perfected in practice, which is also a process of applying and absorbing knowledge.

2. Select practical projects that align with your characteristics and interests. Computer science students can innovate technologically, and art students can try cultural and creative products.

3. The team practice effect is better. A team with complementary lacks can pool wisdom but can also cultivate teamwork abilities.

You can open up your mind and try it out boldly. It does not matter if it eventually fails. Treat it as exercise. However, we should first conduct a small test and then make a significant investment.

4. Seek timely guidance in case of difficulties. Both teachers and mentors are willing to provide help and advice.

Q: Regarding the evaluation of IAE courses, how do you think to evaluate whether students can master and apply the core knowledge of IAE courses?

A: 1. Theoretical assessment. Assess students' understanding of the basic concepts, rationale, and methodology of entrepreneurship.

2. Make business plans. According to their ideas, utilize the knowledge learned to write a business plan that evaluates the feasibility and commercial value of the ideas.

3. Develop product prototypes. Turn ideas into product prototypes and test and verify the target users.

4. Analog entrepreneurship competition. Build a team according to the case or real needs, and use the knowledge learned to complete the entrepreneurial project plan, display, and social verification plan.

5. Actual entrepreneurial projects. At the course's conclusion, students apply the knowledge to complete or participate in entrepreneurial projects.

Q: What do you think can be improved in evaluating IAE courses?

A: 1. The evaluation system can be more comprehensive and systematic. Currently, the evaluation of many entrepreneurship courses primarily focuses on the final examination, which can only assess the degree of mastery of theoretical knowledge and establish an evaluation system that encompasses knowledge, ability, and situational perception.

2. The evaluation of the practice link can be increased. For example, the writing quality of students' business plans and the completion effect of the project prototype should be evaluated, and the scoring weight of practical behavior should be increased.

3. The exhibition and debate link can be introduced to allow students to score

based on project results, demonstrations, and presentations, cultivating their commercial operation abilities.

4. It can enhance the connections between student mutual evaluation and user evaluation. Student mutual evaluation can enrich the evaluation subjects, and user evaluation can reflect the degree of product acceptance.

5. Establishing a lifelong tracking research and evaluation mechanism is worth considering. Questionnaires, interviews, and other methods are used to track graduates' entrepreneurial situations and evaluate the course's effectiveness over a long period.

Q: What are your suggestions for reforming school IAE courses and the national vocational education reform?

A: I think this question is excellent. Suggestions include the following aspects:

1. Update the course content to enhance the era and be forward-looking. Join the digital economy, platform economy, knowledge payment, and other new forms of business entrepreneurship guidance.

2. Strengthen the linkage with the industry and build a school-enterprise cooperation platform. Let industry tutors open war classes, and students participate in enterprise internships, etc.

3. Classified teaching and differentiated empowerment. Evaluate students' characteristics, analyze industry needs, and provide customized guidance for students' success paths.

4. Deepen teaching reform, optimize assessment methods, reduce the use of closed-book exams, and increase the proportion of project-based practice: display and evaluation, user experience feedback, and other assessments.

Establish a tracking and research mechanism. Follow up on the entrepreneurial effect of graduates, collect their suggestions for improving their Alma mater courses, and achieve continuous optimization.

5. Expand the construction of an alumni resource platform, attract successful entrepreneurial alumni to give back to the Alma mater, create characteristic venture funds, and provide mentor guidance and financial support.

Interview Outline of IAE Course (Teacher)

Interviewee: Mr.Luo (Instructor of IAE Competition)

Q: Thank you to Mr. Luo for conducting my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Do not be polite

Q: Regarding higher vocational training objectives, what do you think are the talent training objectives of IAE courses?

A: IAE education aims to cultivate talents with basic entrepreneurial qualities and pioneering personalities. Teachers should cultivate students' entrepreneurial consciousness, innovative spirit, and IAE ability, and IAE education should also be essentially a kind of practical education.

Q: What kind of ability do you think the school's IAE courses aim to cultivate in students?

A: IAE education aims to cultivate students with innovative thinking and creative ability. Teachers should stimulate students' interest and enthusiasm in entrepreneurship, cultivate their courage and ability to innovate, and encourage students to propose novel ideas and innovative solutions to problems.

Q: Regarding the content and practice of IAE courses, do you think the current IAE courses align with the development of The Times and meet the needs of students?

A: I think the shackles of traditional education mode and thinking mode limit the development of IAE education. Traditional education focuses on the indoctrination of knowledge and the cultivation of exam-taking ability. The practical courses of IAE in the current era are more suitable for the current course materials.

Q: What do you think is more suitable for IAE courses?

A: I think market research, business model design, project management, and other aspects

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: I think combining some IAE courses and enterprises can better cultivate students and improve the high-quality development of students' employment.

Q: What do you think of students' practice in taking IAE courses?

A: I think students are in the stage of knowledge accumulation and ability cultivation. By participating in IAE activities, they can exercise students' innovative thinking and practical ability, which is conducive to realizing personal value. In today's era, increasingly fierce competition can improve students' employment competitiveness.

Q: Regarding the evaluation of IAE courses, how do you think to evaluate whether students can master and apply the core knowledge of IAE courses?

A: Some students interested in IAE courses have a particular understanding of the core knowledge of the course, and they can be investigated through various aspects, such as exams or project tests.

Q: What do you think can be improved in evaluating IAE courses?

A: It can strengthen the practical teaching of subject knowledge and let students apply the knowledge to practical problems through practical cases and project cooperation.

Q: What are the suggestions for reforming the school IAE with the reform of national vocational education courses?

A: I think case teaching and project teaching can be widely used, increase practical links and other teaching methods, improve the enthusiasm of students, create IAE groups of each major, let students interested in each major actively participate, cultivate innovation ability, and improve students' professional knowledge.

Interview Outline of IAE Course (Teacher)

Interviewee: Mr.Liang, lecturer (part-time teacher of IAE Course)

Q: Thank you to Mr.Liang for my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Do not be polite

Q: Regarding higher vocational training objectives, what do you think are the talent training objectives of IAE courses?

A: I believe the primary goal of entrepreneurship education is to cultivate the fundamental qualities of college students in entrepreneurship.

Q: What kind of ability do you think the school's IAE courses aim to cultivate in students?

A: Establish entrepreneurial consciousness; cultivate entrepreneurial psychological quality; improve entrepreneurial ability; and form an entrepreneurial knowledge structure

Q: Regarding the content and practice of IAE courses, do you think the current IAE courses align with the development of The Times and meet the needs of students?

A: I think it aligns with The Times's development and can meet students' theoretical needs.

Q: What do you think is more suitable for IAE courses?

A: I think practical links need to be added. IAE courses should focus on practical experience, allowing students to personally engage in the entrepreneurial process rather than merely staying at the theoretical level. Students can be organized to visit startups or invite successful entrepreneurs to share their entrepreneurial experiences, enabling students to gain a deeper understanding of the entrepreneurial process. The introduction of entrepreneurship cases in the course, by presenting a few successful and failed entrepreneurship cases, will provide students with a deeper understanding of the problems and challenges

that may be encountered in the entrepreneurship process and how to address these issues. At the same time, by analyzing these cases, students can gain a better understanding of some key factors of entrepreneurship.

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: I think the combination of the current IAE courses and the actual situation of enterprises has successfully mobilized the connection between students and enterprises. While students acquire knowledge related to their major through this channel, enterprises can also gain a deeper understanding of the professional abilities of students in our school.

Q: What do you think of the IAE courses for students?

A: Students' participation in the practice of IAE courses is conducive to relieving the employment pressure of college students, and the entrepreneurial ability of college students is very helpful in solving the problem of difficult employment. Entrepreneurial ability refers to a person's capacity to thrive and self-develop in entrepreneurial practice. A college graduate with strong entrepreneurial abilities will not be affected by social employment pressure; on the contrary, they can enhance their employment position and competitive edge by starting their own business, thereby alleviating social pressure on employment.

It is conducive to the realization of college students' self-value. By starting their businesses, college graduates can integrate their interests and careers to showcase their talents in their favorite fields, fully utilize their skills, and achieve their expected goals. This can help address the issue of challenging employment in today's society and help individuals recognize their self-worth.

It is conducive to the improvement of college students' quality. With the expansion of universities in China, the quality of college students has decreased, which has long been a complex problem. If you want to change this situation, entrepreneurship among college students is undoubtedly one of the most economical and effective ways. Through entrepreneurship and entrepreneurial practice, college students can overcome inner obstacles, enhance their psychological resilience, and strive to make the impossible possible. In entrepreneurial activities, they can also expand their contacts and strive to

develop their various qualities. Only in this way can college students succeed in starting their businesses and entering society without encountering problems.

It is conducive to exercising the comprehensive ability of college students. College students' entrepreneurship can be encouraged, as it is generally conducive to their long-term development and relieves employment pressure. At the same time, it can enhance college students' unity, cooperation, communication, and management abilities, as well as their business sense.

Q: Regarding the evaluation of IAE courses, how do you think to evaluate whether students can master and apply the core knowledge of IAE courses?

A: I think it is necessary to carry out a quantitative evaluation. In the evaluation process, the test is used to collect the actual performance or progress of the teaching students, and the quantitative analysis of the data obtained will evaluate the teaching effect. At the same time, a qualitative evaluation is carried out, which involves the collection, collation, and presentation of evaluation information that fully utilizes the input of the educational subject itself. The content and results of the evaluation are presented in non-numeric form—for example, observation, interview, and self-reflection.

Performance evaluation: In real situations, the scoring tool judges students' process performance and results in completing complex tasks. The final evaluation, the most common one, is the final exam.

Q: What do you think can be improved in evaluating IAE courses?

A: Change the end of the course to "take an examination of the result" practice, and prevent the behavior of assault before the examination. Enhance students' learning consciousness and initiative, strengthen their understanding, mastery, and application of knowledge, and utilize the basic knowledge and skills learned in class to solve practical problems.

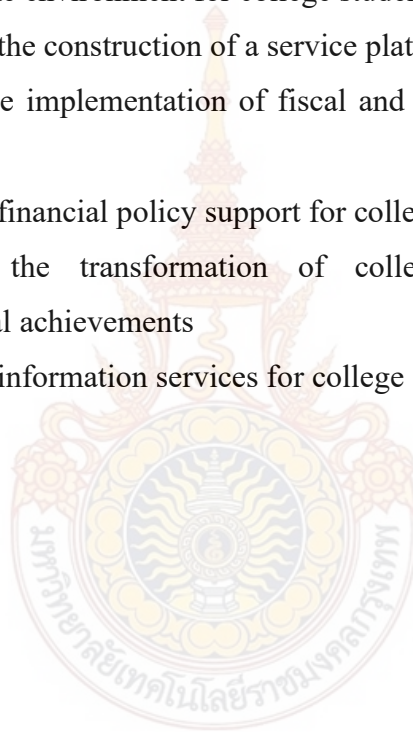
Course process evaluation to prevent randomness shall not be processed assessment as no basis to students "points" means, to follow the fundamental law of undergraduate course education teaching, according to the requirements of the talent training plan and course syllabus, the students as the main body in the teaching process, make students become passive exam-oriented learning for active research and innovative learning, get rid of rote learning methods.

Through process assessment, teachers can gain a timely understanding of students' learning status and receive feedback information, adjusting their teaching accordingly. Students can also identify problems in their learning, refine their learning strategies and methods, and better master and apply the knowledge they have acquired.

Q: What are the suggestions for reforming the school IAE with the reform of national vocational education courses?

A: 1. Improve college students' IAE ability

2. Optimize the environment for college students' IAE
3. Strengthen the construction of a service platform for college students' IAE
4. Promote the implementation of fiscal and tax support policies for college students' IAE
5. Strengthen financial policy support for college students' IAE
6. Promote the transformation of college students' innovative and entrepreneurial achievements
7. Strengthen information services for college students' IAE



Interview Outline of IAE Course (Teacher)

Interest Teacher Pan, lecturer (part-time teacher of IAE course)

Q: Thank you to Mr.Pan for my interview. Our interview is divided into three parts: higher vocational training objectives, content and practice of IAE courses, and evaluation of IAE courses.

A: Do not be polite

Q: Regarding higher vocational training objectives, what do you think are the talent training objectives of IAE courses?

A: My personal view is that the talent training goal of the IAE course is mainly to cultivate students' innovative thinking, entrepreneurial ability, and practical ability. Through the study of this course, students can acquire the fundamental knowledge and skills of entrepreneurship, develop an innovative mindset and entrepreneurial spirit, and possess the ability and qualities of IAE in their future careers.

Q: What kind of ability do you think the school's IAE courses aim to cultivate in students?

A: The IAE school courses mainly cultivate students' innovative thinking, entrepreneurial practice, and teamwork abilities. Through the study and practice of the course, students can master the methods and skills of innovative thinking, identify and solve problems, understand the fundamental processes and strategies of entrepreneurship, and develop the ability to cultivate a teamwork spirit and cooperate with others to complete tasks together.

Q: Regarding the content and practice of IAE courses, do you think the current IAE courses align with the development of The Times and meet the needs of students?

A: Most of the IAE course textbooks used now align with The Times's development and can meet students' needs. The textbook covers innovative thinking, business planning, entrepreneurship management, and other aspects that can help students understand the fundamental theories and practical methods of

entrepreneurship. However, due to the rapid development of the IAE field, the textbook's content may have a certain lag, which necessitates ongoing updates and supplementation.

Q: What do you think is more suitable for IAE courses?

A: I feel that the contents more suitable for IAE courses include the cultivation of innovative thinking, methods, and skills of entrepreneurial planning, theory and practice of entrepreneurial management, practice and case analysis of innovative projects, the formation and management of entrepreneurial teams, etc. These contents can help students master basic entrepreneurship knowledge and skills and cultivate innovative thinking and entrepreneurial ability.

Q: How do you think the current IAE courses can be effectively combined with corporate practice?

A: The current combination of IAE courses is not close enough to that of enterprises. Although the textbook includes some case studies and practical applications of enterprises, students still lack a deep understanding of the operation and management of enterprises. It is suggested that more enterprise practice links, such as enterprise internships and entrepreneurial project practice, be added so that students can better understand the actual situation of enterprises and improve their practical ability.

Q: What do you think of students' practice in taking IAE courses?

A: I think students must participate in the IAE course practice. Through practice, students can apply the theoretical knowledge they have learned to refine their practical and problem-solving skills. At the same time, practice can cultivate students' teamwork ability, innovative thinking, and entrepreneurial spirit. Therefore, schools should increase their support and investment in IAE courses, providing students with more practical opportunities and resources.

Q: Regarding the evaluation of IAE courses, how do you think to evaluate whether students can master and apply the core knowledge of IAE courses?

A: To evaluate whether students can master and apply the core knowledge of IAE courses, it can be evaluated through exams, homework, practical projects, and other methods. An examination can test students' mastery of the theoretical knowledge of the course, homework can assess students' ability to understand

and apply the course knowledge, and practical projects can examine students' practical ability and innovative abilities. Based on these evaluation results, we can comprehensively assess whether students have mastered and applied the core knowledge of IAE courses.

Q: What do you think can be improved in evaluating IAE courses?

A: In my opinion, the evaluation of IAE courses can be improved from the following aspects: increasing the evaluation of practical links, such as practical projects, business plans, etc.; introducing enterprise evaluation; inviting enterprise experts to evaluate and advise on students' entrepreneurial projects; focusing on the process performance of students, encouraging students to actively participate and think, not only on the results but also on the process.

Q: What are the suggestions for reforming the school IAE with the reform of national vocational education courses?

A: With the promotion of national vocational education reform, I have the following suggestions for the reform of IAE in schools:

1. Strengthen cooperation with enterprises and increase practical links. The school can establish cooperative relationships with enterprises and conduct enterprise internships, entrepreneurial project practices, and other activities, enabling students to gain a deeper understanding of the actual business environment and enhance their practical skills.
2. Introduce industry experts to participate in teaching. Schools can invite industry experts and entrepreneurs to deliver lectures and share practical experiences and case studies with students, enriching the teaching content and methods.
3. Strengthen teacher training. Schools can enhance the training and development of IAE course teachers, improve their teaching skills and practical abilities, and enhance the quality of course instruction.
4. Strengthen the cultivation of students' innovative thinking. Schools can enhance their training content to incorporate innovative thinking, such as design thinking and innovative methods, to help students develop innovative thinking and problem-solving skills.
5. Establish an evaluation system for IAE courses. The school can establish a

set of scientific and reasonable evaluation systems for IAE courses, including examinations, homework, practical projects, and other links, to comprehensively evaluate students' IAE abilities.

By implementing the above suggestions, the school can further enhance the teaching quality of IAE courses, cultivate students' innovative thinking and entrepreneurial skills, and make a positive contribution to the reform of national vocational education.



证明

杨君，于 2023 年 9 月至 2023 年 11 月在柳州铁道职业技术学院城轨交通学院开展《铁道类创新创业教育课程》问卷调查和创新创业课程访谈工作，调研收集的数据形成的成果，用于学术研究工作。

特此证明



Certificate

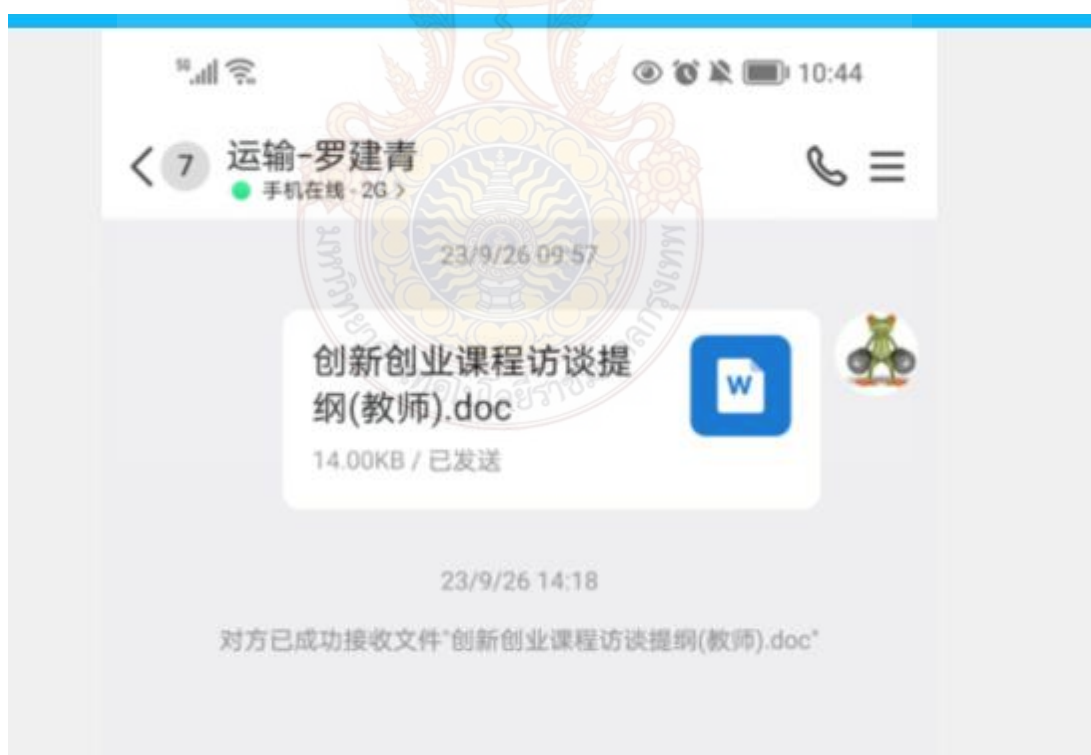
From September 2023 to November 2023, JUN YANG carried out questionnaire survey and interview on innovation and Entrepreneurship Education Courses for Railway in Urban Rail Transportation College of Liuzhou Railway Vocational Technical College. The results of the survey collected data were used in academic research.

Hereby certify



Some teachers send interview outlines to prepare for the interview.





Appendix 4: L Vocational College Courses Standards

The Foundations of IAE Courses Standards

(try out)

Secondary College: School of Basic Education

Written by:

Auditor:

Date it was made: March 20, 2020

Revised: 20 September 2020, first edition

1. Course Information

Table 1 Course Basic Information

Course Title	IAE Foundation	Opening Department	All Majors in the School	
Course code	008011020	Course nature	Major basic courses	
Reference credit/credit hours	1	Assessment nature	Examination	
Applicable to professionals	All majors in the school	The type of course	Theory class	√
			Practice class	
			Theory + Practice (whole week)	
			Integration of theory and reality	

Table 2 List of Course-building Teams

Number	Surname and Personal Name	Work Unit	Title/Position

2. Course Nature

This course is for school professional public compulsory courses, through innovative entrepreneurship education teaching, combined with the current "Internet +" background, make students master the basic knowledge and theory of innovative

entrepreneurship, have the necessary innovative entrepreneurial ability, familiar with commonly used innovation methods, familiar with the basic process and method of entrepreneurship, cultivating students' innovation consciousness and innovative spirit, improve innovative entrepreneurial ability, set up scientific innovation entrepreneurship, and make the students based on the professional post, to improve the enthusiasm and initiative of innovative entrepreneurship, make students innovation, willing to entrepreneurship, help college students' IAE.

According to the characteristics of students in higher vocational education, this course focuses on the fundamental knowledge, theories, methods, and processes required for IAE. It emphasizes the construction of an IAE system of knowledge, theory, and ability. It encompasses innovative thinking, innovative methods, entrepreneurial spirit, entrepreneurs, entrepreneurial teams, entrepreneurial risk, business model development, entrepreneurial resources, and business planning, among others. This course follows the following logical relationships: what (accurately define the concept, clarify the basic knowledge), why (properly use the basic theory to analyze the main reasons), how to do it (master the basic process and basic methods) and improve through entrepreneurial examples, extended reading, case analysis, thinking, and discussion, etc.

This course is divided into two parts: theoretical instruction and practical instruction, comprising 14 hours of theoretical instruction and 2 hours of practical instruction.

3. Course Objectives and Content

Overall Course Objectives

Through this course, students should achieve the following objectives.

(1) Master the basic principles and basic knowledge of IAE. Use the basic connotation of IAE and the particularity of entrepreneurial activities and dialectically understand and analyze the innovation process, innovation methods, entrepreneurial teams, entrepreneurial resources, entrepreneurial plans, and entrepreneurial projects.

(2) Have the basic quality and ability of IAE. Initially, they should possess the basic qualities of innovators and entrepreneurs, cultivating students to dare to break conventions, excel at identifying problems, and explore previously unknown qualities.

Establish a concept of entrepreneurship that meets the needs of The Times' development. Actively adapt to the needs of national economic development and human progress, correctly understand the relationship between IAE and career development, consciously follow the law of IAE, and actively participate in the practice of IAE.

(3) Familiar with the practical application of the theoretical knowledge of IAE. Let students master innovative thinking, methods, and entrepreneurial skills, understand the methods of integrating entrepreneurial resources and writing entrepreneurial plans, and improve their comprehensive quality and ability to establish and manage enterprises.

Specific course objectives

Through the teaching and study of this course, college students should achieve the following goals in the three aspects of quality, knowledge, and skills:

Quality goal: through the teaching of this course, college students should set up active innovation, self-employment consciousness, set up the correct employment, the outlook on life, values and entrepreneurship, personal development and national needs, the combination of social development, establish the consciousness of innovative entrepreneurship, stimulate entrepreneurial passion, willing to personal career development and social innovation to promote positive efforts.

Knowledge objective: Through the teaching and learning activities of this course, college students should gain a basic understanding of the characteristics of their career development and a clear understanding of their entrepreneurial accomplishments, individual entrepreneurial abilities, and foundational knowledge of IAE.

Ability objective: Through the combination of online and offline teaching methods in this course, college students will develop their exploration skills, information search and management skills, entrepreneurial opportunities grasping ability, basic innovation ability, team communication ability, and resource utilization ability, among others. Students develop general skills throughout the course, including communication and collaboration, problem-solving, self-management, and basic innovation abilities.

Table 3 Teaching Arrangement of the Courses

No.	Item (Module)	Task (Unit)	Course Content	Key Points, Difficult Points, and Assessment Points	Class Hour
1	Course Overview	First lecture: the foundation of IAE	1. Why learn this course and how to teach it 2. The basic concept of IAE 3. Innovation, entrepreneurship, and career planning	Teaching focus: Why learn this course Teaching difficult points: how to learn this course	2
2	Innovation module	Second lecture: innovative thinking	1. Break the mindset 2. Innovative thinking mode	Teaching focus: innovative thinking mode Teaching difficulty: break the thinking pattern	2
3		Third lecture: innovative methods	1. Basic knowledge of innovative methods 2. Standard innovative methods and applications	Teaching key points and difficult points: the organizational mode and its application of the brainstorming method	2
4	Entrepreneurship module	Fourth lecture: entrepreneurs and entrepreneurial teams	1. Entrepreneurs and their characteristics 2. The formation plan of the entrepreneurial team 3. Entrepreneurial team problems and solutions	Teaching focus: the characteristics of entrepreneurs, the formation of entrepreneurial teams Teaching difficulties: the establishment plan of the entrepreneurial team	2

No.	Item (Module)	Task (Unit)	Course Content	Key Points, Difficult Points, and Assessment Points	Class Hour
5		Fifth Lecture: Entrepreneurial projects and entrepreneurial resources	4. Insight into entrepreneurial projects 5. Entrepreneurship risk 6. The integration of entrepreneurial resources	Teaching focus: social research, professional research, and the discovery of entrepreneurial projects Teaching difficulties: how to discover entrepreneurial projects and how to integrate entrepreneurial resources	2
6		Sixth Lecture: Internet plus IAE	5. Internet + meaning 6. Internet thinking 7. The Internet plus IAE 8. Introduction to the China International "Internet +" IAE Competition	. 1 Significance of participation . 2. Internet plus IAE 3. Policies and mechanisms related to IAE . 4. Relevant competition requirements	2
7		Seventh Lecture: Writing and presentation of the business plan	4. The role of a business plan 5. Writing a business plan 6. A presentation of the business plan	Teaching focus: the steps of writing the business plan Teaching difficulties: the writing points of each link of the business plan	2
8		Practical training: business plan writing	Master the overall process of writing a business plan	Teaching focus: the overall structure of the business plan Teaching difficulties: the internal logic of the business plan	2
Total class hours:					16

Note 2: Each task (unit) should not exceed 12 credit hours.

4. Course Assessment

Assessment Method

The assessment of this course employs a formative assessment method (i.e., process assessment). The purpose of course evaluation is mainly to assess whether students have understood the connotation, characteristics, principles, and analysis steps of various innovative methods through the study of this course, whether they have mastered the basic methods of innovation, whether they have developed the behavior habits of innovation, and whether they have mastered the differentiation and practical application of innovative methods. The assessment of this course is divided into the following parts:

(1) 20% offline, mainly based on the participation rate and performance of classroom activities;

(2) Online 20%, mainly based on learning progress, evaluation, questions and answers, notes, and attendance;

(3) 20% of the homework, mainly based on the results of the homework assigned after the end of the class (the homework is published online and corrected online);

(4) Forty percent of the course practice is primarily based on the "Business Plan" written by the students, comprehensively examining the students' mastery of innovative knowledge and entrepreneurial skills.

Exemption conditions

Submit corresponding materials to prove successful registration in the China Internet + College Student IAE Competition, Chuang Youth (or Challenge Cup) National College Student Entrepreneurship Competition, and China Vocational Education IAE Competition. The result of this course can be directly designated as a "pass" if China Internet + College Student IAE Competition, Chuang Youth (or Challenge Cup) National College Student Entrepreneurship Competition or above in China Vocational Education IAE Competition, and submit the corresponding supporting materials, the result of this course can be directly identified as: excellent.

5. Implementation Requirements

Basic Requirements of Teaching Teachers

In the form of "professional lecturers + employment (entrepreneurship) mentors", a course teaching team with a reasonable structure, complementary professional knowledge, and a part-time combination is gradually formed. Teachers are reasonably equipped according to the number of students and actual teaching tasks, and teachers of all professional courses are encouraged and supported to integrate IAE education content organically into their professional education. Actively hire entrepreneurs, innovators, experts, and scholars as part-time teachers to undertake specific IAE education and teaching tasks. Strengthen training to improve teachers' professional level and teaching ability.

Teaching methods and strategies

(1) Construct an online and offline mixed teaching mode that not only plays a leading role for teachers but also fully mobilizes students' independent learning, convenient learning, and self-management abilities. It utilizes online homework, question interaction, online question and answer, online evaluation, and testing to help students adapt to the new information-based teaching approach.

(2) Flexible use of various teaching methods, including guided cases, case analysis, explanation, group discussion, and brainstorming, paying attention to both theory and practice, thereby deepening students' understanding of the knowledge. In addition to teaching the course's fundamental theories and basic knowledge, teachers can help students develop their self-management skills and enhance their self-presentation and teamwork abilities.

(3) Organize students to form a study group (generally 4-6 students) through a free combination. Teachers will assign group tasks according to the course content and discussion topics. After the discussion, the group members will take the platform to understand the problems and share the results with the students, and the teacher will provide on-the-spot comments. The teacher should score and grade each student's performance at the end of each class.

(4) Adopt modern teaching technology, compile multimedia courseware, animations, teaching videos, and other forms to enhance the information and interest in the classroom so that students can more clearly and intuitively understand the teaching

content, increase their interest, and improve the teaching effect.

Selection of teaching materials and digital resources

Table 4 Selection Table of Introductory Courses for IAE

No.	Name of the Textbook	Textbook Press	Chief Editor	Date of Publication
1	The Foundation of IAE for Higher Vocational Students	Southwest Jiaotong University Press	Editor-in-Chief Lu Daxing	2020.9



Guidance on Entrepreneurship Foundation and Employment Courses Standards (try out)

Secondary College: College of IAE

Written by:

Auditor:

Date it was made: March 20, 2020

Revised: 20 March 2020, first edition

1. Course Information

Table 1 Course Basic Information

Course Title	Entrepreneurship Foundation and Employment Guidance	Opening Department	School of Information Technology	
Course code		Course nature	Major basic courses	
Reference credit/credit hours	2	Assessment nature	examine	
Applicable to professionals	Suitable for all majors in the whole school	Course Type	Theory class	√
			Practice class	
			Theory + Practice (whole week)	
			Integration of theory and reality	

Table 2 List of Course-building Teams

No.	Surname and Personal Name	Work Unit	Title/Position
Employment guidance module			
1			lecturer
2			

Innovation module			
Entrepreneurship module			
1			
2			
3			
4			

2. Course Catalog

The course Entrepreneurship Foundation and Employment Guidance is a public, compulsory course for all majors in the college. Through course teaching to guide students from the perspective of professional understanding of professional, society, understanding yourself, mastering the basic knowledge of employment and entrepreneurship, learning according to the social development, professional situation, professional needs, and self characteristics of career planning, cultivate the ability to meet the professional needs, improve professional competence and employment competitiveness. Actively carry out the education of professional ethics, professional ideals, innovative spirit, and entrepreneurship, help students establish a correct view of career and entrepreneurship, strengthen students 'consciousness and initiative of choosing a career independently and determined to start a business, to change students' view of employment, entrepreneurship, and innovation, and achieve the fundamental purpose of students' high-quality employment.

3. Course Objectives and Content

1. Overall Course Objectives

Through the study of this course, guide students to change employment and entrepreneurship, actively advocate the correct learning, employment, career, innovation, and entrepreneurship, establish students 'positive values, improve students' employment consciousness, innovative entrepreneurship and employment, entrepreneurship ability, lay the foundation for students' career development and career development open up a broad channel.

Each secondary college should combine its professional characteristics,

organize the teaching resources of entrepreneurship and employment related to its majors, and form the unique and targeted related course resources of "basic course resources + professional employment models + professional entrepreneurship cases" for each college major.

2. Specific Course Objectives

Through the teaching and study of this course, college students should achieve the following goals in the three aspects of quality, knowledge, and skills:

Quality goal: through the teaching of this course, college students should set up the independent consciousness of career development, set up the correct employment, the outlook on life, values, and entrepreneurship, the personal development and national needs, the combination of social development, establish the consciousness of innovative entrepreneurship, stimulate entrepreneurial passion, willing to personal career development and social innovation to promote positive efforts.

Knowledge objective: Through the teaching and learning activities of this course, college students should understand the characteristics of their career development, including their personality traits, entrepreneurial accomplishments, and entrepreneurial abilities; understand the employment and entrepreneurship situation; and master basic labor market information, relevant professional knowledge, and foundational knowledge of IAE.

Ability objective: Through the mixed online and offline teaching of this course, college students should master their exploration skills, information search and management skills, career decision-making skills, job-hunting skills, entrepreneurial opportunity grasp ability, basic innovation ability, team communication ability, resource utilization ability, etc. Through the course, I will enhance students' general skills, including communication and collaboration abilities, problem-solving abilities, self-management abilities, basic innovation skills, interpersonal skills, and more.

Table 3 Teaching Arrangement of the Courses

No.	Item (Module)	Task (Unit)	Course Content	Key Points, Difficult Points, and Assessment Points	Class Hour
1	Employment guidance module	Career enlightenment	1. Basic cognition of the occupation 2. Environmental cognition of the occupation 3. Career development	Teaching focus: to master the meaning, characteristics, classification, and requirements of the occupation and major, and their related concepts Teaching difficulties: prepare the knowledge and ability required by the major, and release the career survey requirements of each major (students complete the self-practice)	2
2		Self-awareness, career planning, and management	1. Overview of self-cognition 2. Career interest exploration 3. Professional personality exploration 4. Vocational skills exploration 5. Exploration of college students' needs and values 7. Overview of career planning 8. Rational career decisions 9. Design of the career planning book	Key points: the theoretical basis of self-cognition and learning to use assessment tools for self-assessment methods Difficulties: career planning	4

No.	Item (Module)	Task (Unit)	Course Content	Key Points, Difficult Points, and Assessment Points	Class Hour
3		Job Preparation	1. Employment information preparation 2. Prepare job-search materials 3. Job-hunting psychological adjustment	Teaching focus: the basic format, writing skills, and delivery skills of self-recommendation materials Teaching difficulties: classification of employment information, methods of obtaining and screening employment information, and strengthening the collection, analysis, and application of employment information.	2
4		Employment policy and equity	1. Employment policy 2. Employment agreement and labor contract 3. Dispute settlement and employment rights and interests 4. Social insurance and provident fund	Teaching focus: master the meaning of employment agreement, labor contract, signing steps, principles when signing, matters needing attention, termination, and liability for breach of contract, and master the difference between labor contract and employment agreement Teaching difficulties: Understanding how to handle employment agreements and labor disputes, and safeguarding their	2

				legitimate rights and interests in accordance with the law.	
5		Corporate culture	1. The connotation and function of corporate culture 2. Professional industry and enterprise-exclusive corporate culture	Teaching focus: the connotation and function of enterprise culture Teaching difficulties: professional industry enterprise proprietary enterprise culture	2
6		Apply for practice	1. Written test preparation 2. Interview skills 3. Interview etiquette	Teaching focus: to understand and analyze the intention of the written test and the interview, and to master the application skills Teaching difficulties: master the etiquette, image design, interview coping strategies, and taboos	4
7	IAE module	Basic knowledge of IAE	1. Concept of IAE 2. Cultivation and motivation of innovative thinking 3. Entrepreneurial view and entrepreneurial spirit 4. Factors and considerations for the success of IAE	The teaching focus is to master the training methods of innovative and entrepreneurial thinking. Teaching difficulty: how to establish a correct entrepreneurial view and entrepreneurial spirit	2

No.	Item (Module)	Task (Unit)	Course Content	Key Points, Difficult Points, and Assessment Points	Class Hour
8		Innovative method, innovative thinking, and scientific and technological innovation practice	1. Creative cultivation and exploration 2. Practice the process of project invention and research 3. How to declare an invention patent	Teaching key points and difficult points: excavate the creativity and practice the process of project invention and research	4
9		Cultivation of IAE ability	1. Entrepreneurs and entrepreneurial teams are formed 2. Business model 3. Entrepreneurial finance 4. Enterprise operation	Teaching focus: entrepreneurial team building, research and development of entrepreneurial products, and product testing Teaching difficulties: business model, entrepreneurial finance, and operations	2
10		Entrepreneurial planning and practice	1. Social Research 2. Business plan 3. Product development 4. Product testing	Teaching focus: social research and business plan Teaching difficulties: product development and testing	4
11		The Internet + College Students' IAE Competition special topic	1. Significance of participation 2. Internet plus IAE 3. Policies and mechanisms related to IAE 4. Relevant competition requirements	Teaching focus: the significance and related requirements of the competition Teaching difficulties: Internet + IAE	4

Note 2: Each task (unit) should not exceed 12 students.

4. Course Assessment

1. Assessment Method

The assessment of this course combines formative assessment (specifically, process assessment) with a final assessment. The purpose of course evaluation is mainly to assess whether students have understood the connotation, characteristics, principles, and analysis steps of various innovative methods through the study of this course, whether they have mastered the basic methods of innovation, whether they have developed the behavior habits of innovation, and whether they have mastered the differentiation and practical application of innovative methods. The assessment proposal for this course is divided into the following parts: (1) Offline 10 is mainly based on attendance, participation, and performance in classroom activities. (2) Online 10%, learning progress, evaluation, questions and answers, notes, and attendance as the primary basis. (3) 30% of after-class practice, such as career research and entrepreneurial product testing, arranged in the course module; (4) 50% of course design practice, submit the Career Planning book (25%) after the end of the employment guidance course module, and the Business Plan book (25%) after the end of the IAE guidance course module.

(2) Exemption conditions

China Internet + College Students 'IAE Competition, Chuangyouth National College Students' Entrepreneurship Competition, the results of this course can be directly considered "pass"; obtain the third prize or above in China Internet + College Students 'IAE Competition, Chuangyouth National College Students' Entrepreneurship Competition and District College Students' Career Planning Competition, and submit the results can be directly determined with the following standards:

(1) Second prize or above: Excellent

(2) Third prize: Good

5. Implementation requirements

1. Basic requirements of teaching teachers

In the form of "professional lecturers + employment (entrepreneurship) mentors", a course teaching team with an integrated structure, complementary professional knowledge, and a professional and part-time combination is gradually formed. Teachers are reasonably allocated according to the number of students and

actual teaching tasks, and they are encouraged and supported to naturally and organically integrate IAE education content into their professional education. Actively hire entrepreneurs, innovators, experts, and scholars as part-time teachers to undertake specific IAE education and teaching tasks. Strengthen training to improve teachers' professional level and teaching ability.

Specific implementation strategy:

(1) Implement the head teacher system under the counselor system. The counselor is responsible for ideological and political work, as well as student affairs. The teacher in charge is responsible for the employment entrepreneurship game mobilization, innovative entrepreneurial project cultivation, employment guidance, the teacher in charge tenure, the implementation of the class at least a student patent (get acceptance book), an innovative undertaking project incubation (by innovative entrepreneurship college students innovation entrepreneurship center), get a field and above business employment competition of honor.

(2) The class counselor and the head teacher should work closely together to track and guide the students' graduation, employment interviews, and employment intentions.

(3) The person in charge of the course module and the head teacher are the fixed backbone teachers of this course. In addition, at least two lectures should be developed according to the module needs (one for entrepreneurship and employment as the theme). Combined with professional development, external experts and enterprises should be invited to speak as part of the expansion of course construction.

(4) Establish an employment consultation system and set up an employment consultation hotline. The recruitment office is responsible for establishing consultation points, accepting students at a fixed time each week, and providing point-to-point guidance. An employment consultation meeting will be held in the autumn semester as part of the expansion of the course construction.

(5) Campus innovation, entrepreneurship, and employment competition are important parts of campus culture. The above-planned competition projects will be organized by the IAE College, approved by the Academic Affairs Office, and implemented by the Youth League Committee or relevant departments as part of the course construction and expansion process.

2. Teaching Methods and Strategies

(1) Construct an online and offline mixed teaching mode, not only to play the leading role of teachers but also fully mobilize students' independent learning, convenient learning, and self-management ability, using online homework, question interaction, online question answering, online evaluation and testing, to make students adapt to the new information teaching —— the mobile classroom.

(2) Flexible use of various teaching methods, including guided cases, case analysis, explanation, group discussion, and brainstorming, pays attention to both theory and practice, thereby deepening students' understanding of the knowledge. In addition to teaching the course's fundamental theories and basic knowledge, teachers can help students develop their self-management skills and enhance their self-presentation and teamwork abilities.

(3) Organize students to form a study group (generally 4-6 students) through a free combination. Teachers assign tasks to the group according to the course content and discussion topics. After the discussion, the group members go to the platform to share their understanding of the problems and the results with students, and the teacher comments on the spot. The teacher should score and grade each student's performance at the end of each class.

(4) Adopt modern teaching technology, compile multimedia courseware, animations, and teaching videos, and other forms to enhance the information and interest in the classroom, so that students can more clearly and intuitively understand the teaching content, increase their interest, and improve the teaching effect.

3. Selection of Teaching Materials and Digital Resources

Table 4 Selection Table of Innovation Planning and Practical Courses

No.	Textbook Name	Textbook Press	Chief Editor	Date of Publication
1	Guidance on Career Development and Employment of College Students (New edition)	Guangxi Normal University Press	Editor-in-Chief Bian Chenglin	2019.8
2	"The Foundation of IAE for College Students."	School-based teaching materials	Editor-in-Chief Lu Daxing	2017.9

Entrepreneurship Planning and Practice

Courses Standards

(try out)

Secondary College: College of IAE

Written by:

Auditor:

Date made: February 28, 2020

Revised Date: The first edition

1. Course Information

Table 1 Course Basic Information

Course Title	Entrepreneurial Planning and Practice	Opening Department	School of Information Technology	
Course code		Course nature	extended course	
Reference credit/credit hours	2.0	Assessment nature	examination	
Applicable to professionals	Mobile applications information safety communication railway communication	Course type	Theory class	
			Practice class	
			Theory + Practice (whole week)	
			Integration of theory and reality	√

Table 2 List of Course-building Teams

Number	Surname and Personal Name	Work Unit	Title/Position
1			

2. Course Nature

"Entrepreneurship Planning and Practice" is a professional development course for various majors in the School of Information Technology and also a core course in the IAE education of the School of Information Technology.

"Entrepreneurship Planning and Practice" is a theoretical, policy, scientific, and practical course. It emphasizes the cultivation of students' entrepreneurial ideas and entrepreneurial spirit. With the support of entrepreneurship education and teaching, it can promote students' entrepreneurial practice activities in school and enhance students' foundational skills in entrepreneurship and innovation. This course in the teaching activities follows the law of education teaching, adheres to the theory of teaching and case analysis, group discussion and role experience, experience combined with entrepreneurial practice, the knowledge, thought collision and practice experience organic unity, improve students' entrepreneurial introductory course and specialized course self-consciousness, enthusiasm and initiative. This course builds on the basic knowledge of entrepreneurship as a career, focusing on cultivating and enhancing students' entrepreneurial abilities, promoting employment opportunities through entrepreneurship, and achieving the goal of securing high-quality employment for students. At the same time, it lays a solid foundation for students to develop pioneering and brave professional qualities.

3. Course Objectives and Content

1. Overall Course Objectives

This course of online hybrid teaching and autonomous learning guides students to pay attention to observe the problems encountered in daily life, study and work, pain points, inspires students to find the problem, guides students to use innovative entrepreneurial thinking, encourages students to use their learning professional knowledge or autonomous learning knowledge take the initiative to solve the problem, improve students to solve the problem consciousness and initiative, to learn professional knowledge and engaged in professional work into the entrepreneurial spirit, for self-employment and future career development and career development open up a broad channel.

2. Specific Course Objectives

Through the teaching and study of this course, college students should achieve the following goals in the three aspects of quality, knowledge, and ability:

Knowledge teaching objectives:

Through the study of this course, at the knowledge level, it is necessary to

understand the basic concepts of innovation, including innovation theory, basic innovation methods, and other related knowledge. Understand the basic knowledge of intellectual property and the patent application process; master and apply the basic knowledge of entrepreneurial activities in practical work and life, including entrepreneurs, entrepreneurial opportunities, entrepreneurial resources, business plans, and entrepreneurial projects.

Ability training objective: Through the mixed online and offline teaching of this course, college students will master the ability to identify, pose, and analyze problems, as well as the ability to explore and solve problems independently. Through the course of teaching and learning, improve students' awareness of IAE.

Quality cultivation: Through the teaching of this course, college students should establish the spirit of independent innovation, innovation, and responsibility of national innovation, solve problems in daily life and work, integrate IAE into professional learning and career development, combine personal entrepreneurial development with national innovation needs, scientific and technological progress, industry development and professional construction; establish entrepreneurial consciousness, stimulate entrepreneurial passion, willing to make positive efforts for personal career development and social innovation.

3. Teaching Content Arrangement (see Table 3: Course teaching arrangement)

Table 3 Teaching Arrangement of the Courses

Number	Item (Module)	Task (unit)	Course Contents	Key Points, Difficult Points, and Assessment Points	Class Hour
1	Course Overview	Course Overview	1.Teaching standards 2.teaching method 3.learning method 4.The basic concept of innovation education and entrepreneurship education	Key points: courses teaching standards Difficult point: learning method Assessment point: the necessity of learning entrepreneurship education	2

3		Cultivation and application of intellectual property rights and patents	1. Basic knowledge of intellectual property rights 2. Patent cultivation 3. Patent declaration	Key points: Patent application Difficulty: patent cultivation Assessment point: patent application	2
4		Innovation foundation	1. innovative thinking 2. Innovative methods	Key points: innovative methods Difficult points: innovative thinking Assessment point: innovative method, innovative thinking	4
6		Look for entrepreneurial opportunities related to the fields of communications and information.	1. The formation of an entrepreneurial team 2 Entrepreneurship opportunities 3 Innovative products	Focus: Look for entrepreneurial opportunities Difficult points: entrepreneurial projects Assessment point: the search for entrepreneurial projects	4
8	Business planning	Business plan	1. The concept and connotation of the business plan 2. Writing a business plan	Key points: the writing of the business plan Difficulties: the determination of entrepreneurial projects Assessment point: the writing of the business plan	4
10		New enterprise	1. The concept of a new enterprise 2. Relevant laws and regulations for enterprise new creation	Key points: Steps to create an enterprise Difficulties: Relevant laws and regulations Assessment point: the steps to create an enterprise	2
11		Project roadshow	1. Concept of roadshow 2. Information required for the	Key point: Roadshow concept Difficult points: the idea of the roadshow	6

			roadshow 3. Writing of the Roadshow PPT	Assessment point: the writing of the road show PPT	
13	Entrepreneurship practice	IAE project incubation and participation	1. Introduction of the related IAE Competition 2. Brief introduction of the competition method 3. Cultivate high-quality participating projects	Key points: Competition Introduction Difficulty: Cultivate high-quality projects Assessment point: no	2
14		Internet + IAE Competition project cultivation	1. Introduction of the "Internet +" International College Students' IAE Competition 2. How to participate 3. Registration method 4 Relevant rules	Key points: Registration method Difficulty: Registration Assessment points: Sign up for the "Internet +" International College Students' IAE Competition	2
15		Incubation of entrepreneurial projects	1. Group roadshow 2. Roadshow defense	Assessment point: roadshow, defense	4

Note 2: Each task (unit) should not exceed 12 credit hours.

4. Course Assessment

1. Assessment Method

The assessment method for this course is an examination, which primarily evaluates students' mastery and application of IAE, as well as their ability to solve problems.

The course's final score consists of the following parts: (1) Offline 10 is mainly based on attendance, participation, and performance in classroom activities. (2) Online 10%, learning progress, evaluation, questions and answers, notes, and attendance as the primary basis. (3) 30% of homework is published on the "vocational education cloud platform"; (4) 50% of course design, including the quality of a business plan, roadshow PPT, as well as the final roadshow and defense.

2. Exemption conditions

If in China Internet + College Student IAE Competition (including Guangxi District Competition) and Chuang Youth (Challenge Cup) National College Student Entrepreneurship Competition (including Guangxi District Competition), and submit the corresponding certification materials, the results of this course can be directly identified, the standards are as follows:

(1) Won the first prize (gold Award) of Guangxi District Selection, the third prize or above: Excellent

(2) Won the second prize (silver prize) of the Guangxi District Selection Competition, excellent Award of national Finals or above: Good

(3) Won the third prize (bronze prize) of the Guangxi District audition, the first prize of school-level audition or above: middle school

(4) Won the Excellence Award (shortlisted award), the second prize of school-level selection: pass

5. Implementation Requirements

1. Basic requirements of teaching teachers

In the form of "professional lecturers + entrepreneurship mentors", a course teaching team with reasonable structure, complementary professional knowledge, and the professional and part-time combination is gradually formed and reasonably equipped with teachers according to the number of students and actual teaching tasks, teachers of all professional courses are encouraged and supported to integrate entrepreneurship education content in professional education organically. Actively hire entrepreneurs, experts, and scholars as part-time teachers to undertake specific IAE education and teaching tasks. Strengthen training to improve teachers' professional level and teaching ability.

2. Teaching methods and strategies

(1) Construct an online and offline mixed teaching mode, not only to play the leading role of teachers but also fully mobilize students' independent learning, convenient learning, and self-management ability, using online homework, question interaction, online question answering, online evaluation and testing, to make students adapt to the new information teaching —— the mobile classroom.

(2) Flexible use of various teaching methods, including guided cases, case analysis, explanation, group discussion, and brainstorming, pays attention to both theory and practice, thereby deepening students' understanding of the knowledge. In addition to teaching the course's fundamental theories and basic knowledge, teachers can help students develop their self-management skills and enhance their self-presentation and teamwork abilities.

(3) Organize students to form a study group (generally 4-6 students) through a free combination. Teachers assign tasks to the group according to the course content and discussion topics. After the discussion, the group members go to the platform to share their understanding of the problems and the results with students, and the teacher comments on the spot. The teacher should score and grade each student's performance at the end of each class.

(4) Adopt modern teaching technology, compile multimedia courseware, animations, and teaching videos, and other forms to enhance the information and interest in the classroom, so that students can more clearly and intuitively understand the teaching content, increase their interest, and improve the teaching effect.

3. Selection of teaching materials and digital resources

Table 4 Selection of Entrepreneurship Planning and Practice Courses

Number	Textbook Name	Press	Chief Editor	Date of Publication
1	Communication and information IAE guidance and practice tutorial	Self-made	Lu Daxing Yan Fei	

Table 5 Selection of Reference Materials for Entrepreneurship Planning and Practice Courses

Number	Reference Book Name	Press	Author, Editor	Publication Date
1	Higher vocational students' foundation of IAE	Southwest Jiaotong University Press	Lu Daxing et al.	2018.9
2	IAE course for college students	Beijing Institute of Technology Press	Lu Daxing et al.	2017.5
3	College students' entrepreneurship guidance	China Railway Publishing House	Qiu-ling Mai	2013.5

**Guidance on The Employment and Entrepreneurship of College
Students:
Courses Standards
(Level 2022 Level Talent Training Program)**

Secondary College: College of IAE
Enrollment and Employment Office
Written by:
Auditor:
Date: September 1, 2022
Date of revision:

1. Course Information

Table 1 Course Basic Information

Course Title	College Students Employment Entrepreneurship Guidance	Opening Department	IAE Teaching and Research Section, Career Guidance Teaching and Research Section	
Course code	01600200033	Course nature	Basic quality class	
Reference credit/credit hours	2.5 / 40 credit hours	Assessment nature	examine	
Applicable to professionals	All majors in the school	Course Type	Theory class	√
			Practice class	
			Theory + Practice (whole week)	
			Integration of theory and reality	

Table 2 List of course building Team (employment module)

Number	Surname and Personal Name	Work Unit	Title/Position
1			

Table 3 List of course building Team (IAE module)

Number	Surname and Personal Name	Work Unit	Title/Position
1			

2. Course Nature

The Guidance on Employment and Entrepreneurship of College Students is divided into two modules: IAE and employment. The teaching tasks are undertaken by the IAE College and the Enrollment and Employment Department, respectively.

The employment module (1 credit, 16 credit hours) aims to cultivate college students' correct view of employment and career selection, improve students' skills in actual employment, and provide students with a new understanding and path in the guidance of career development and life transformation. This module combined with our professional characteristics, employment status, and characteristics of students, from strengthening teaching pertinence, effectiveness, and enough practical principles to determine the course content, and vocational students smooth employment and development of the main line, to the students in the process of employment, strive to "early prevention, mid-term attention, late channel" the whole process of guidance services.

IAE Module (1.5 credit hours, 24 credit hours, 8 hours offline, and 16 hours online): Through IAE education and teaching, Combine the students' major and the current "Internet +" background To make students master the basic knowledge and theory of IAE, Have the necessary IAE ability, Familiar with standard innovative methods, Familiar with the basic process and methods of entrepreneurship, Cultivate students' innovative consciousness and innovative spirit, Improve our capacity for IAE, Establish a scientific view of IAE, And make the students based on the professional

position, Improve the enthusiasm and initiative in IAE, Make the students brave enough to innovate, Willing to start a business, and that is Help college students are engaged in IAE.

3. Course Objectives and Content

(1) Overall course objective

Through the study of this course, master the basic knowledge and skills of employment and entrepreneurship, guide students to set up the correct employment and entrepreneurship, establish students 'positive values, improve the students' employment consciousness, innovative entrepreneurship consciousness and employment, entrepreneurship ability, develop good study habits and professional habits, lay the foundation for the student's career development.

(2) Specific course objectives

Through the teaching and study of this course, college students should achieve the following goals in the three aspects of quality, knowledge, and skills:

Table 4 Analysis of Course Teaching Objectives (employment module)

Knowledge Objective	A. Understand the theoretical methods of self-cognition, career knowledge, and career decision-making in career planning B. Understand the use methods of evaluation tools, decision-making tools, etc C. Master employment skills such as resource sorting, resume writing, and interview response
Skills Target	A. Be able to analyze and understand the self and the professional environment, and accept the self and the reality. B. Be able to deal with sudden and accidental events in your career, and continue to explore new possibilities C. Can use effective methods to show their advantages in actual employment
Literacy Goal	A. Cultivate students' correct view of career choice, employment view, and positive values B. Establish a sense of career ownership and gradually realize the triple leap between "employment, leap, and ideal career." C. Build the global perspective and thinking pattern, accept the unstable and accidental factors in reality, and seek sudden creation in the change.
Ideological and Political Goals	A. Encourage students to pursue the "craftsman spirit", establishing professional quality through love and dedication, realism, and innovation, and practicing the responsibility and mission of young

	people in the new era. B. Guide students to combine self-development with social and national development and integrate the "youth dream" into the "Chinese dream".
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Table 5 Analysis of Course Teaching Objectives (IAE Module)

Knowledge Objective	Through this course's teaching and learning activities, college students should gain an understanding of their career development characteristics, entrepreneurial accomplishments, individual entrepreneurial ability, and a basic knowledge of IAE.
Skills Target	Through this course's combination of online and offline teaching, college students should develop their exploration skills, information search and management skills, entrepreneurial opportunity identification abilities, basic innovation abilities, team communication abilities, and resource utilization abilities. Students develop general skills throughout the course, including communication and collaboration, problem-solving, self-management, and basic innovation abilities.
Literacy Goal	Through the teaching of this course, college students should set up active innovation; self-employment consciousness set up the correct employment, the outlook on life, values, and entrepreneurship, personal development and national needs, the combination of social development, establish the consciousness of innovative entrepreneurship, stimulate entrepreneurial passion, willing to personal career development and social innovation to promote positive efforts.
Ideological and Political Goals	Through the value of guidance, we can achieve the goal of education courses. The ideological education in through education, the Chinese dream, the socialist core values, and other values of innovation entrepreneurship course professional values, professional ethics, professional dedication, collective interests, in osmosis let students accept mainstream values, efforts to achieve a "global vision, the country feelings, innovative spirit, professional quality" talent training goals.

4. Courses Teaching Arrangement

1. Employment module

1 credit, 16 credit hours, the 1-5 semester, the specific teaching arrangement is as follows:

Table 6 Course Teaching Arrangement (Employment module)

School Term	No .	Teaching Content		Instructional Objectives	Teaching Mode	Class Hour
First school semester	1	The professional person in charge of the professional teacher shall make a detailed professional introduction to the major		1. Understand the content, development prospects, corresponding jobs, and the overall employment situation of the major 2. Guide students to establish a correct and scientific concept of employment	Offline practice guidance	2
Second semester	2	[Module 1] Construction of career knowledge base	Walk into the professional world.	Definition of occupation, classification of occupation, occupation qualification access, and the basic theory of career planning	Offline teaching	4
			Know yourself in all aspects.	Know Yourself, Improve Yourself: The Power of Self-Assessment.		
Third semester	3	[Module 2] Explore career decision-making	Explore the direction and decision-making of job-hunting	Identify career goals, master the methods of exploring career choices (CASVE cycle), and use the career decision balance sheet	Offline teaching	4
			Start the workplace experience.	Understand the entire job hunting process and complete the resume writing step-by-step.	Offline teaching	
Fourth semester	4	[Module 3] Job search process guidance	Improve practical employment skills	Learn to master the various examinations and investigations encountered in the process of employment	Offline teaching	2
		[Module 4] Career adaptation stage	Mental adjustment and action promotion	Adjust the psychological situation of students in the actual process of employment and guide students to use scientific psychological adjustment methods for self-counseling	Offline teaching	1

			Employment policy and employment rights and interests protection	Understand the current employment form policy, master the student employment agreement and labor contract signing process, and be aware of students' employment rights and interests, as well as common infringement behaviors.	Offline teaching	1
Fifth semester	5	Obtain employment practice	Pay attention to the actual progress of the job-hunting process	After completing the above learning content, pay attention to the interview and successfully sign up for the follow-up job hunting process, providing timely, targeted help to students who have difficulty with job hunting.	Offline practice guidance	2

2. IAE module

1.5 credits and 24 credit hours, including 8 credit hours offline and 16 credit hours online. The specific teaching arrangements are as follows:

Table 7 Course Teaching Arrangement (IAE module)

School Term	Number	Teaching Content	Instructional Objectives	Teaching Mode	Class Hour
First school term	1	Basic introduction to IAE	1. Understand what innovation is and what entrepreneurship is 2. Understand why you should learn about IAE 3. The link between innovation, entrepreneurship, and employment 4. Master the learning method of this course 5. Guide students to study on the online course platform	Offline practice guidance	2

Semester 1-2 (online)	2	Innovative thinking Innovative methods Entrepreneurship foundation	1. Develop the habit of thinking, be good at capturing the "new" around, and be good at generating "new" in the mind through thinking. 2. Generate the willingness and desire to devote themselves to innovation, propose the direction of innovation in conjunction with their major, and participate in innovation projects. 3. Active thinking methods explore ways to solve different problems and exercise the ability to analyze and solve problems. 4. Cultivate personality quality, innovation ability, and team spirit. 5. Help students master the fundamental knowledge required to undertake entrepreneurial activities. Understand the basic connotation of entrepreneurship and the particularities of entrepreneurial activities, and dialectically analyze entrepreneurs, entrepreneurial opportunities, entrepreneurial resources, entrepreneurial plans, and entrepreneurial projects. 6. Develop the students' necessary entrepreneurial abilities. Master the methods of entrepreneurial resources integration and entrepreneurial plan writing, be familiar with the start-up process and management of new enterprises, and improve the comprehensive quality and ability of establishing and managing enterprises. 7. Help students develop a scientific perspective on entrepreneurship. Actively adapt to the needs of national economic and social development, as well as the comprehensive development of people, correctly understand the relationship between entrepreneurship and career development, consciously follow the laws of entrepreneurship, and	Online Learning	18 credit hours
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			actively participate in entrepreneurial practice.		
Second term	3	Practice: Offline guidance of China International "Internet +" IAE Competition	1. Understand what a business plan is and why to write a business plan 2. Master the main content of the business plan writing 3. Guidance for writing the business plan for China International "Internet +" College Students' IAE Competition 4. Guide students to sign up for the "China International 'Internet +' College Students' IAE Competition." 5. Project guidance	Offline practice guidance	4

4. Course Assessment

(1) Employment module

The assessment plan is provided as follows,

1. Assessment method: inspection (grade system)
2. Evaluation method: The course assessment employs a combination of formative assessment (i.e., process assessment) and final assessment, with formative assessment accounting for 60% and the final assessment accounting for 40%.

(1) Formative assessment

It consists of classroom attendance (20%), classroom performance (20%), and regular homework (20%), including the following homework at least once per semester (see Table 9: the course homework and the instructor shall arrange 1-3 of the grade for the course as the basis for the assessment of the semester, and the normal grade 4.

(2) Final assessment

College students will submit their resume materials in the fourth semester and participate in a mock interview.

(3) Assessment method

The assessment is divided into a 100-point system, comprising three parts: "usual results", "job materials production", and "mock interview", which evaluates the students' performance during the mock interview.

Achievement Composition	Evaluation Method	Concrete Content
Usual performance (20 Points)	Points are scored according to the presence of team members	All the team members of the group get 20 points, and each member of the group is deducted 2 points
Job search materials production (40 points)	On-site evaluation	The job search materials will be prepared by students before the on-site simulation interview and submitted to the interviewer during the interview. The interview teacher will assign points based on the basic requirements of resume production and the actual production of the resume.
Mock interview (40 points)	On-site evaluation	The performance of the interviewed students in the mock interview is assessed.

1) Production requirements of job-hunting materials for graduates

Choose a template to make a resume, such as an A4 paper printing resume. See "Attachment 1: Resume scoring criteria". The mock interview team (examiner) evaluates the quality of the resume and points out any deficiencies, as appropriate. Students working or studying outside can submit an electronic resume. Students who do not submit job application materials will receive a 0 in preparing job application materials.

2) Mock interview requirements

Examiners simulate the recruitment process, and students apply and participate in group interviews. The interviewer will ask questions, and the students will answer them; other team members may also answer the questions. Due to the large number of graduates, the total time of simulated interviews for each group of students is controlled within 5-8 minutes. (The mock interview test bank and scoring criteria will be released to inform the graduates 1 week in advance. For specific content, refer to "Annex 2: Simulated Interview scoring criteria" and "Attachment 3: Simulated Interview scoring criteria". The assessment group's teachers will determine the group's final interview results through a negotiated process. Each mock interview team must submit the interview record of each group of students to the Academic Affairs Office, allowing students to inquire about the source of the results.

(2) IAE module

1. Assessment Method

The assessment of this module employs both formative assessment (process evaluation) and summative assessment (learning outcomes). The purpose of course evaluation is mainly to assess whether students have understood the connotation, characteristics, principles, and analysis steps of various innovative methods through the study of this course, whether they have mastered the basic methods of innovation, whether they have developed the behavior habits of innovation, and whether they have mastered the differentiation and practical application of innovative methods.

2. Assessment Ratio

(1) Formative assessment

Offline 30%, mainly based on the participation and performance of offline classroom activities;

Moreover, 70% of the participants were online, based on the scores obtained from completing the online courses.

(2) Final assessment

Based on the basic results of this course— business plan, students must participate in the China International "Internet +" College Students' IAE Competition at the end of the course, and their results are divided into three grades:

1) Participate in the competition: 60 points

2) For the secondary college competition or recommended by the secondary college: 80 points

3) Win the school competition or above qualification: 100 points

(3) Final results

Period evaluation result = 70% of process assessment + 30% of achievement assessment (Note: the achievement assessment is a required assessment item. If they do not participate in the achievement assessment, the students are qualified for indefinite evaluation)

The period evaluation results are divided into five levels according to the results, among which are:

Excellent: 90 points

Good: 90 > period evaluation score of 80 points

Medium: 80 > period evaluation score 70 points

Pass: 70 > 60 points

Fail grade: the period evaluation score is <60 points

(4) Exemption conditions

If you win the third prize or above in the China Internet + College Student IAE Competition, Create Youth (or Challenge Cup) National College Student Entrepreneurship Competition, China Vocational Education IAE Competition, and submit the corresponding certification materials, the results of this course can be directly identified as excellent.

(5) Achievement input

The scores of this course are recorded by the teacher who undertakes the teaching instruction in the fourth semester of the employment module.

Total score = 60% of entrepreneurship module + 40% of employment module

Entrepreneurship module period evaluation result = 70% of process assessment + 30% result assessment

Employment module period evaluation result = 60% of process assessment + 40% of achievement assessment

= [Usually score 120% + usual score 220% + peacetime score 320% + 440%] 60% + 40%

3. Implementation Requirements

(1) Basic requirements of teaching teachers

In the form of "professional lecturers + employment (entrepreneurship) mentors", a course teaching team with a reasonable structure, complementary professional knowledge, and a part-time combination is gradually formed. Teachers are reasonably equipped according to the number of students and actual teaching tasks, and teachers of all professional courses are encouraged and supported to integrate IAE education content organically into their professional education. Actively hire entrepreneurs, innovators, experts, and scholars as part-time teachers to undertake

specific IAE education and teaching tasks. Strengthen training to improve teachers' professional level and teaching ability.

(2) Requirements of practical teaching conditions

The practical teaching requirements of the employment module are that students should independently complete three practical assignments in the form of classroom homework and complete their resume and mock interview assessment as part of the final assessment.

Table 9 Coursework Library (usual work)

Number	Class Hour	Teaching Content	Reference for Each Section (Choose one or the teacher)
1	2	Walk into the professional world	Homework 1: Interview record of career figures Homework 2: Career analysis list Homework 3: Career rainbow map
2	2	Know yourself in all aspects.	Job 1: MBTI Professional Personality Test Scale Homework 2: Career Nine Grids
3	2	Explore the direction and decision-making of job-hunting	Homework 1: Career choice balance sheet Job 2: Employment SWOT analysis
4	2	Start the workplace experience.	
5	2	Improve practical employment skills	Job 1: Information solitaire
6	1	Mental adjustment and action promotion	Homework 1: 1-minute self-introduction (text script)
	1	Employment policy and employment rights and interests protection	
Termination assessment		Please submit your resume and a mock interview for assessment.	

(3) Teaching methods and strategies

Teaching methods adopted, including the following contents:

- Offline teaching

Flexible use of various teaching methods, including guided case study, case analysis, explanation, group discussion, brainstorming, experiential teaching, etc., pays attention to the theory and practice and deepens students' understanding of

knowledge. In addition to teaching the course's fundamental theories and basic knowledge, teachers can help students develop their self-management skills and enhance their self-presentation and teamwork abilities.

Organize students to form a study group (generally 4-6 students) through a free combination. Teachers assign group tasks according to the course content and discussion topics. After a thorough discussion, the group members take the platform to share their understanding and results with the students, and the teacher provides comments on the spot. The teacher should score and grade each student's performance at the end of each class.

- Online teaching

Various MOOC platforms, such as "Wisdom Tree" and "Vocational Education Cloud," are used to build or introduce rich teaching resources. In MOOC, we should give full play to the leading role of teachers, mobilize students' independent learning, convenient learning, and self-management abilities, and utilize online homework, question interaction, online question and answer forums, online evaluation, and testing to enable students to adapt to the new information-based teaching.

Using modern teaching technology, such as compiling multimedia courseware, animation, and teaching videos, increases the information and interest in the classroom, allowing students to more clearly and intuitively understand the teaching content, thereby enhancing their interest and improving the teaching effect.

(4) Selection of teaching materials and digital resources

Table 10 Courses and Textbook Selection for Career Development and Employment Guidance for College Students

No.	Textbook Name	Press	Chief Editor	Date of Publication
1	Guidance on Career Development and Employment of College Students (New edition)	Guangxi Normal University Press	Editor-in-Chief Bian Chenglin	2019.8
2	Higher vocational students' foundation of IAE	Lu dating	2020.9	2020.9

Appendix D: Reliability Test Results

Variables	Item	Cronbach's α if Item Deleted	Cronbach's α
Course purpose	Your goals for the school's IAE courses	0.945	0.951
	Your talent training goals and school-running characteristics, which vary across different schools, have varying degrees of influence on IAE education.	0.943	
	Your primary purpose in taking a course on IAE is to satisfy your learning interest and to learn about it.	0.936	
	Your goal of establishing innovation and entrepreneurship courses for your school should align with the policies and standards for entrepreneurship education and teaching issued by the state.	0.933	
	Your goal for the school's innovation and entrepreneurship course is to develop students' ability to integrate entrepreneurial resources and write business plans.	0.940	
	Your choice of the content of the school's innovation and entrepreneurship course is based on the aspects that students are interested in and need	0.950	
Content form			0.950

	The content of the school's innovation and entrepreneurship course is a general course primarily composed of introductory courses in entrepreneurship education and guidance courses.	0.923	
	The current economic and cultural development situation: You should incorporate content that supports personal work development into your school's courses on innovation and entrepreneurship.	0.928	
	Your professional courses are integrated into the content of innovation and entrepreneurship courses	0.935	
	Your practice course arrangement for the innovation and entrepreneurship course	0.954	
	Your school offers numerous opportunities for innovative and entrepreneurial practice.	0.956	
	Participating in an innovation and entrepreneurship course can be beneficial to you.	0.956	
Course practice	You set up the practice course of innovation and entrepreneurship to improve the employment rate.	0.955	0.962
	Your increase in the entrepreneurship practice base, both inside and outside the school, aims to promote the practice of innovation and entrepreneurship courses.	0.952	

	You integrate the school's characteristics into the practice of innovation and entrepreneurship courses.	0.953	
	Your assessment and evaluation of school innovation and entrepreneurship education, courses emphasize process evaluation	0.917	0.947
	Your assessment of the school's innovation and entrepreneurship courses focuses on evaluating students' problem-solving ability.	0.955	
Assessment and evaluation	Your assessment of the school's innovation and entrepreneurship course is to write a business plan.	0.922	
	Master and be able to use it proficiently in practice as the core knowledge of the evaluation of students' application of innovation and entrepreneurship courses	0.927	

BIOGRAPHY

NAME

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EDUCATIONAL BACKGROUND

Bachelor's degree in Culture and Art
Management (Fine Arts)
Master's degree in Art Theory
Guangxi University of the Arts

WORK EXPERIENCE

I graduated from Guangxi University of the Arts as a postgraduate. Since then, I have served as a counselor at Liuzhou Railway Vocational and Technical College, where I oversaw the completion of the research project "Research and Practice of IAE Culture Construction in our School." Two papers related to the topic were published: "Analysis of the Integration of IAE Culture into College Students' Career Planning" and "Research and Practice on the Construction of IAE Culture in Railway Colleges and Universities: Taking Liuzhou Railway Vocational and Technical College as an example". Over the past three years, I have undertaken teaching tasks in courses such as "Entrepreneurship Foundation and Employment Guidance", "IAE Foundation", and "College Student Career Planning", accumulating a solid theoretical foundation in IAE and gaining rich practical experience in practical work. I have a good grasp of the characteristics of students' IAE teaching work and the rules of scientific research work. I can timely transform practice into theoretical results, leading students' IAE teams to participate in various IAE competitions multiple times.