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# Research on the integrated development of innovation and entrepreneurship education curriculum structure optimisation and employment guidance

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# Research on the integrated development of innovation and entrepreneurship education curriculum structure optimisation and employment guidance

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Abstract: In order to alleviate the current 'difficult employment' situation, this paper discusses the integrated development of innovation and entrepreneurship education curriculum structure optimisation and employment guidance. First, analyse the background of integration development and clarify its necessity, then elaborate the current innovation and entrepreneurship education curriculum structure and employment guidance mode, and analyse the five existing problems. Then it analyses the positive impact of integrated development, and puts forward a new concept of integrated development based on employment and driven by innovation and entrepreneurship, including: establishing a new way of integrated development, improving students' participation enthusiasm, improving and optimising the current curriculum structure, establishing a professional teacher resource team, etc. The results show that the application effect index of the integration strategy has reached more than 0.9, and the grade has reached excellent, which shows that the application of the integration strategy has achieved good results.

**Keywords:** innovation and entrepreneurship education; course structure optimisation; employment guidance; integrated development.

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#### 1 Introduction

In order to improve the national quality and cultural level, universities at all levels, such as undergraduate, junior college and vocational high school, are expanding their

enrolment almost every year, making the number of graduates increase year by year, which leads to an increasingly severe employment market environment. The difficulty of graduates' employment has become a normal situation, and a large number of graduates will face the situation of difficult employment every year (Tien, 2021).

"Difficult employment" is not only related to personal development, but also related to the development of schools and even the stability and development of the country. In the face of this situation, in order to help students better achieve employment, the school has opened innovation and entrepreneurship education courses and employment guidance courses. The former is mainly to improve students' awareness of innovation and entrepreneurship, cultivate talents with innovation and exploration ability, and solve the employment problem by entrepreneurship, which is the fundamental way to solve the "difficult employment" of students (Lei et al., 2021).

There is an essential difference between employment and entrepreneurship. In the past, in the education of schools at all levels, most of them are to guide and assist students separately. In addition, these two courses are not the major courses of the school, with less class hours and no attention. Classes are mostly superficial, students' acceptance is not high, and no concrete substantive results have been achieved.

He (2021) believes that: In the new era of mass entrepreneurship and innovation, the State implements the strategy of driving the development of various industries with innovation, which makes innovation and entrepreneurship education gradually become one of the hot topics of higher education research at this stage. In recent years, colleges and universities have actively explored the development path of innovation and entrepreneurship education suitable for their own development, and promoted the organic integration of innovation and entrepreneurship education and college students' employment guidance. However, there are still problems in building a scientific and local talent training system, which to some extent limits the long-term development of innovation and entrepreneurship education and employment guidance in Colleges and universities. Li (2019) believes that with the transformation of innovative economy and society, the deep optimisation and integration of innovation and entrepreneurship education and professional education has gradually developed into an inevitable requirement of the reform of talent training mode. Chen (2021) believes that there is a correspondence between innovation and entrepreneurship education in Colleges and universities and the ecosystem. After analysing innovation and entrepreneurship education in Colleges and universities from the perspective of ecosystem, it is found that it has some disadvantages, such as structural imbalance, mechanism imbalance and lack of function. To this end, the study designed steps such as building a curriculum system, improving the organisational structure and optimising the external environment, and improved the effect of innovation and entrepreneurship education in Colleges and universities through the integration of curriculum ecology, organisational ecology and environmental ecology.

Taking the practical significance of the deep optimisation and integration of innovation and entrepreneurship education and professional education as the starting point, this paper puts forward the ways and Countermeasures to carry out the deep optimisation and integration of innovation and entrepreneurship education and professional education, which can provide reference and reference for the optimisation and integration of professional education and innovation and entrepreneurship education

in Colleges and universities. Therefore, in order to alleviate the current 'employment difficulties' and promote the deep integration of innovation and entrepreneurship education and employment guidance, this paper studies the integration of innovation and entrepreneurship education curriculum structure optimisation and employment guidance. The innovative ideas are as follows:

First of all, employment guidance and innovation and entrepreneurship are two different concepts proposed to solve students' work problems. Although they are different in nature, their goals are the same. Therefore, after introducing the background of integrated development, the necessity of integrated development is clarified.

Then, analyse the current innovation and entrepreneurship education curriculum structure and employment guidance mode, and analyse the five problems, which are: integration cognitive errors, backward integration development mode, low enthusiasm of students to participate, unreasonable curriculum system, imperfect teaching staff.

Finally, it analyses the positive impact of integrated development, and puts forward a new concept of integrated development based on employment and driven by innovation and entrepreneurship, including: establishing a new way of integrated development, improving students' participation enthusiasm, improving and optimising the current curriculum structure, establishing a professional teaching staff, etc., so as to promote the integrated development of the two from the perspectives of students, teachers, management and curriculum structure.

#### 2 Introduction to integration development background

Talent is the cornerstone of social progress and national development. Only when people invest in production activities can they create value and realise economic circulation. The premise and foundation for students to participate in production activities is to find a job.

Finding a job is the first problem that every graduate faces (Pradhan et al., 2020). The reasons are: first, the rapid expansion of higher education over the years has led to a sharp increase in the number of graduates, while the economic downturn has led to a relative shortage of job supply, resulting in a reversal of the relationship between talent supply and demand; The second is that graduates have too high expectations of professional treatment, and they lack reasonable cognition and positioning of personal professional treatment. Some graduates have a psychological gap in employment and have a 'wait and see' mentality; Third, a certain proportion of the graduates of higher vocational colleges are forced to give up employment and go on the road of 'upgrading' under the pressure of employment and personal improvement needs.

In order to help students find jobs successfully, the creation of innovation and entrepreneurship education courses and employment guidance have become one of the current educational contents of schools at all levels. Employment guidance and innovation and entrepreneurship are two different concepts put forward to solve the problems of students' work. Although the two are different in nature, they have the same goal. Combining the two together can draw on each other's strengths and complement each other's strengths, and the auxiliary effect is more obvious. It can help students

understand the difference between employment and entrepreneurship more clearly, so as to choose a more suitable development direction according to their own conditions.

### 3 Analysis of curriculum structure and employment guidance mode of innovation and entrepreneurship education

#### 3.1 Curriculum structure of innovation and entrepreneurship education

The general structure of innovation and entrepreneurship education courses is mainly shown in Table 1.

 Table 1
 Curriculum structure system of innovation and entrepreneurship education

Primary system	Secondary system	Three level system	
Innovation and entrepreneurship education courses	Theoretical knowledge module	Introduction to entrepreneurship	
		Basic qualities of entrepreneurs	
		Entrepreneurship plan	
		Entrepreneurial financing	
		Enterprise application procedure	
		Entrepreneurial Management	
		Entrepreneurial risk	
	Practical training module	Innovation and entrepreneurship practice activities	
		Innovation and entrepreneurship simulation exercise	
		Innovation and entrepreneurship skills competition	

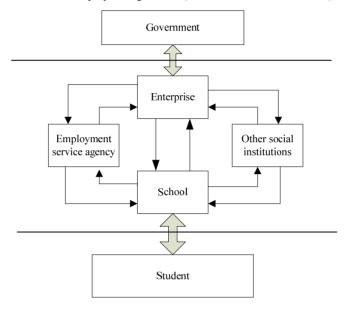
It can be seen from Table 1 that the innovation and entrepreneurship education curriculum is mainly composed of two parts, namely, the theoretical knowledge module and the practical training module. The former is mostly the explanation of theoretical knowledge in class, and the latter is the application and practice of the former.

#### 3.2 Employment guidance mode

Employment guidance refers to providing students with employment information and training in knowledge, experience and skills, so as to enhance students' employment competitiveness and fundamentally solve employment problems. The general employment guidance model is mainly divided into three layers, as shown in Figure 1.

In Figure 1, students are at the bottom of the whole model, reflecting that achieving employment for students is the ultimate goal of employment guidance; Middle level is a ring structure with schools as the centre and employers, employment service institutions and other social institutions as branches. Government is located at the top of the whole model and is used for the leadership and advocacy of the whole employment guidance.

Figure 1 General mode of employment guidance (see online version for colours)



#### 4 Analysis of current situation and existing problems

## 4.1 Current situation of innovation and entrepreneurship education and employment guidance curriculum

Before understanding the current situation of innovation and entrepreneurship education and employment guidance, we should clearly understand the employment situation of students in recent years. Affected by the epidemic in the past five years, the employment rate of fresh graduates has been maintained at a low level, especially in the early 2020, the employment rate of graduates was as low as 61.8%. Although the employment rate has increased with the easing of the epidemic, the employment rate has only reached about 70%, indicating the seriousness of the current employment situation (Tok, 2020). Under this trend, the employment destination of students in the last two terms is explained, as shown in Table 2.

**Table 2** Employment destination of students in recent two sessions (unit: %)

Employment destination	2021 session	2020 session
Enterprise employment	41.42	34.21
Postgraduate entrance examination	34.27	40.78
Public institutions/civil servants	16.84	17.57
Entrepreneurship	3.67	4.25
Go abroad for further study	2.65	2.07
Other destinations	1.15	1.12

It can be seen from Table 2 that in the face of increasingly severe employment conditions, the employment of graduates in enterprises and their own entrepreneurship show a downward trend, and graduates are more inclined to take the postgraduate entrance examination, public examination, editor examination and other channels to improve their value.

Based on the development of innovation and entrepreneurship education and employment guidance courses in schools at different levels in China, the current situation is analysed, as shown in Table 3.

 Table 3
 Proportion of innovation and entrepreneurship education and employment guidance courses in schools at different levels in China

C - 1 1	T	2020	2021	2022
School	Туре	year	year	year
Undergraduate college	Innovation and entrepreneurship education	1.25	1.26	1.33
	Employment guidance	0.32	0.50	0.54
Specialty	Innovation and entrepreneurship education	0.42	0.55	0.50
	Employment guidance	0.22	0.25	0.34
Vocational high school	Innovation and entrepreneurship education	0.62	0.41	0.57
	Employment guidance	0.33	0.34	0.37

The proportion of class hours refers to the percentage of the class hours of innovation and entrepreneurship education courses in the total class hours of the semester.

From Table 3, we can generally understand the development of innovation and entrepreneurship education and employment guidance courses in schools at different levels in China. Whether it is innovation and entrepreneurship education or employment guidance, its class hours account for a low proportion, indicating that the current development of innovation and entrepreneurship education and employment guidance in schools is not good, and there are many problems that need to be improved (Yang and Wu, 2020).

## 4.2 Problems in the integrated development of innovation and entrepreneurship education curriculum and employment guidance

#### 4.2.1 Fusion cognitive errors

Innovation and entrepreneurship education and employment guidance achieve and promote each other, and there is a direct and inevitable connection between the two, which leads to the current cognitive errors in the integration of the two in most schools. They believe that the essence of innovation and entrepreneurship is only to solve the employment problem of students, and that innovation and entrepreneurship is a part of employment guidance, its continuation and branch, thus weakening the importance of innovation and entrepreneurship education, There is no clear understanding of the essence of improving and cultivating students' ability. In addition, the success rate of entrepreneurship is low, and most teachers believe that there is no need to explain in depth, especially for some students who do not have entrepreneurial ideas, it is meaningless to carry out innovation and entrepreneurship education. Therefore, for the convenience of teaching, they often simply 'brush off' innovation and entrepreneurship

education during employment guidance, which makes students have a one-sided understanding of innovation and entrepreneurship, It is impossible to inspire students' awareness of employment through innovation and entrepreneurship education (Liu, 2020).

#### 4.2.2 Backward integrated development mode

Innovation and entrepreneurship education lies in improving and cultivating students' innovation and entrepreneurship ability, and employment guidance lies in providing students with employment information. The integration of the two forms a brand-new education mode, which requires a brand-new teaching mode, which must be creative and innovative. However, affected by the wrong cognition, that is, the purpose of the innovation and entrepreneurship curriculum is only to promote students' employment, without recognising the essence of innovation and entrepreneurship, the innovation and entrepreneurship education is included in the employment guidance, and the innovation and entrepreneurship curriculum is carried out according to the traditional employment guidance, which makes the integrated development mode of innovation and entrepreneurship education curriculum structure optimisation and employment guidance relatively backward (Bai et al., 2020).

#### 4.2.3 Students' participation enthusiasm is not high

Many students have a one-sided understanding of innovation and entrepreneurship, and believe that innovation and entrepreneurship are only suitable for students with better conditions, but not for themselves. For employment guidance, although schools provide a lot of employment guidance information, most of them do not take into account the actual needs of students, and many schools just 'deal with' things, resulting in the view of most students that employment guidance has no participation value, which directly affects the effect of the integrated development of innovation and entrepreneurship education curriculum and employment guidance.

#### 4.2.4 Unreasonable curriculum system

- 1 Looking at the innovation and entrepreneurship education curriculum, the structure of employment guidance and the proportion of class hours in schools at all levels, it is obvious that there is an imbalance between theory and practice. For schools, the development of theoretical knowledge classroom is much easier than practice and practical teaching activities, and the cost is also lower. Coupled with the deep-rooted influence of exam oriented education, most schools generally have the problem of emphasising theory over practice.
- Whether it is innovation and entrepreneurship education or employment guidance, at present, schools generally carry out education and teaching in the form of large classes (Cai and Huang, 2019). This way ignores the individual needs of students. Students of different grades have different degrees of urgency, concern, emphasis and employment direction for employment, which cannot be generalised (Zhou et al., 2020). In addition, for students who choose to start a business, they pay more attention to market dynamics, market risks and so on. For students who choose employment, they pay more attention to recruitment information and employment

requirements of enterprises. Compared with the former, the latter is relatively much simpler. Based on the above analysis, the unreasonable curriculum system has become one of the factors that hinder the integrated development of innovation and entrepreneurship education curriculum structure optimisation and employment guidance.

#### 4.2.5 Imperfect teaching staff

Teachers are the leaders and lecturers of the curriculum, so teachers' teaching level and professional quality are directly related to the effect of the integrated development of innovation and entrepreneurship education and employment guidance. Whether it is innovation and entrepreneurship education or employment guidance, to reach professional standards, teachers need to contact enterprises or units and collect a lot of real data or case information to complete a high-level innovation and entrepreneurship education course or employment guidance, which is difficult for non professional teachers to achieve (Phil, 2020).

#### 5 Impact analysis of integrated development

The impact of the integrated development of innovation and Entrepreneurship Education Curriculum Optimisation and employment guidance mainly includes the following three aspects:

- It is conducive to alleviating the difficulty of employment and maintaining national stability. Now the school students are basically in a closed environment. The understanding of the external environment, through the innovation and Entrepreneurship Education Curriculum Optimisation and employment guidance, can help students clarify the employment direction, cultivate the quality required by students' employment, enhance the employment competitiveness, improve the employment success rate, and alleviate the difficulty of employment. Through the employment or successful entrepreneurship of students, promote the national economic development and build an innovative country (Benavides et al., 2020).
- 2 It is conducive to improving the status of the school. Through the integrated development of innovation and Entrepreneurship Education Curriculum Optimisation and employment guidance, the educational structure is more perfect. After helping students achieve employment, the employment rate can prove the strength and status of the school to a great extent, which is conducive to school enrolment (Filho et al., 2021).
- 3 It is conducive to improving students' comprehensive quality. At present, the job market has higher and higher requirements for the comprehensive quality of job seekers. Only learning knowledge from books cannot meet the needs of the market. The integrated development of innovation and Entrepreneurship Education Curriculum Optimisation and employment guidance has made up for the deficiencies of school professional education to a certain extent, enhanced students' practical ability and improved students' comprehensive quality.

## 6 Innovation and entrepreneurship education curriculum structure optimisation and employment guidance integration development strategy

In order to solve the obstacles in the process of integration development, a series of integration development strategies are proposed, including establishing a new way of integration development, enhancing students' enthusiasm for participation, improving and optimising the current curriculum structure, and establishing a professional teaching staff.

## 6.1 Establish a new integrated development concept based on employment and driven by innovation and entrepreneurship

In order to correct people's one-sided cognition of innovation and entrepreneurship and employment guidance, the fundamental solution is to establish a new development concept, which is based on employment and driven by innovation and entrepreneurship, that is, taking employment as the minimum. After reaching the goal of employment guidance, we should vigorously publicise innovation and Entrepreneurship Education, establish a correct cognition of innovation and entrepreneurship, stimulate students' entrepreneurial enthusiasm, and cultivate students' basic quality of innovation and entrepreneurship, Try to tap innovative and entrepreneurial talents. Under this concept, the innovation, entrepreneurship and employment guidance of the school cannot be "carried out in one stroke", but should be integrated education.

#### 6.2 Establish a new way of integrated development

In the face of this erroneous integrated development mode of carrying out innovation and entrepreneurship courses in the traditional way of employment guidance, we should first distinguish the differences between innovation and entrepreneurship and employment guidance, and put the two in the same position; The latter is to organically integrate the two, realise the cooperative teaching method, take the employment guidance information as the basis in the innovation and entrepreneurship, and take the innovation and entrepreneurship as the goal in the employment guidance, so as to stimulate students' diverse thinking. Instead of blindly and rigidly merging.

#### 6.3 Improve students' participation enthusiasm

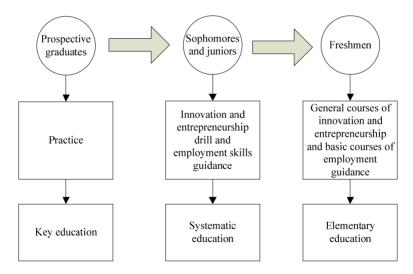
Students are the goal of implementing innovation and entrepreneurship education and employment guidance. Without the participation of students, innovation and entrepreneurship education and employment guidance will lose their significance. In order to improve students' enthusiasm for participation, we can first understand the development direction of students through questionnaires, whether to choose entrepreneurship or employment, and then conduct a demand survey on students in different development directions. Guided by students' needs, we can adjust the curriculum structure and employment guidance mode of innovation and entrepreneurship education, so as to stimulate students' interest in participation. Finally, with the help of

some advanced multimedia means and technologies, we can carry out diversified teaching methods and improve the innovation of the classroom, so as to attract students to receive guidance and education.

#### 6.4 Improve and optimise the current curriculum structure

There are two main problems in the course structure, one is to ignore the personalised needs of students, and the other is to emphasise theory over practice. For the former, we should carry out grading and class teaching according to the different grades of students, instead of simply using the same curriculum structure for the convenience of teaching, so that the implementation of the curriculum can be personalised as much as possible to meet the needs of students of different grades and different employment directions, as shown in Figure 2. For the latter, it is mainly to innovate the curriculum content system and increase the proportion of practical training courses or activities, such as setting up vocational skills competitions to exercise their ability in practical operation and prepare for employment; Carry out characteristic innovation and entrepreneurship simulation exercises, so that students can cultivate the quality of innovation and entrepreneurship in the process of exercises; Strengthen the cooperation between schools and enterprises, introduce real projects of enterprises, and give students more opportunities to experience the process of innovation and creation; Build a training base, improve the practical training environment, and provide students with a practical platform and field in an authentic environment.

Figure 2 Personalised course structure (see online version for colours)



In Figure 2, different personalised courses are designed for freshmen, sophomores and juniors and prospective graduates. For freshmen, it mainly lies in basic education, learning general courses of innovation and entrepreneurship and basic courses of employment guidance; For sophomores and juniors, personalised courses are more systematic, mainly completing innovation and entrepreneurship drill and employment skills guidance; For prospective graduates, the main teaching task is mainly on practice.

#### 6.5 Establish professional teaching staff

In the face of the imperfect teaching staff in the integrated development of innovation and entrepreneurship and employment guidance, we should build a professional teaching staff through the combination of 'going out' and "bringing in". For "going out", it is to carry out professional training for teachers. After the improvement of teaching knowledge, let teachers take the lead in feeling the operation rules and survival rules of enterprises, so as to better complete the teaching objectives. For the "Introduction", the school first hires professional teachers to join, and second, requires entrepreneurs or entrepreneurs or students with entrepreneurial experience over the years to be entrepreneurial or employment tutors to provide students with more professional opinions or suggestions.

#### 7 Application effect test and analysis

Aiming at the application effect of the integration strategy of innovation and entrepreneurship education curriculum structure optimisation and employment guidance, this paper constructs an effect evaluation model to realise the effect analysis, and compares it with the effect of the school's traditional innovation and entrepreneurship education and employment guidance to highlight the advantages of integrated development.

#### 7.1 Overview of test points

Taking a comprehensive university as the experimental point, all the students of the top five majors of the University were tested. The distribution of objects is shown in Table 4 below.

Major	Freshman	Sophomore	Junior	Senior
Vehicle engineering	1254	1420	1325	1223
Electrical automation	874	862	824	847
Mechanical automation	741	720	736	774
Water supply and drainage	474	526	521	510
Environmental Engineering	412	410	387	432

 Table 4
 Distribution of test objects (unit: person)

#### 7.2 Evaluation index selection of application effect of fusion strategy

Using principal component analysis, three secondary indicators and multiple tertiary indicators are selected from many indicators to build an evaluation index system. The results are shown in Table 5.

 Table 5
 Fusion effect evaluation index system

Primary index	Secondary indicators	Tertiary indicators
Innovation and entrepreneurship education curriculum structure optimisation and employment guidance integration strategy application effect index	School development	Infrastructure construction
		Capital investment
		Course structure
		Number of industry university research cooperation projects
	Faculty	Teachers' teaching methods
		Number of Teachers
		Teacher title
		Teacher training
	Comprehensive quality of students	Student interest
		Innovation and entrepreneurship education satisfaction
		Job guidance satisfaction
		Innovation and entrepreneurship knowledge level
		Knowledge level of employment guidance
		Willingness to innovate and start a business
		Employment willingness
		Innovation and entrepreneurship self-efficacy
		Evaluation of employment units

#### 7.3 Evaluation and analysis of application effect of fusion strategy

Based on Table 5, the fuzzy hierarchical comprehensive evaluation method is used to evaluate the effect of the optimisation of innovation and entrepreneurship education curriculum structure and the integration of employment guidance. The results are shown in Table 6.

It can be seen from Table 6 that the application effect index of the integration strategy has reached more than 0.9, and the grade has reached excellent, while the effect index of innovation and entrepreneurship education and employment guidance before the integration is 0.4942, and the grade is general, which shows that the application of the integration strategy has achieved good results. In addition, from the three secondary indicators, we can also see that the integration has made good improvements in all aspects. This is because the integration strategy proposed in this study analyses the problems existing in the current curriculum structure and employment guidance mode of innovation and entrepreneurship education, and proposes the promotion strategies for the integration of the two from the perspectives of students, teachers, management and curriculum structure.

 Table 6
 Application effect of integration strategy

After fusion	Numerical value	Grade	Before fusion	Numerical value	Grade
Application effect index	0.9214	Excellent	Innovation and entrepreneurship education and employment guidance effect index	0.4942	Commonly
School development	0.8825	Preferably	School development	0.4583	Commonly
Faculty	0.9141	Excellent	Faculty	0.4784	Commonly
Comprehensive quality of students	0.9365	Excellent	Comprehensive quality of students	0.5158	Commonly

The grades are as follows:  $0.9 \sim 1.0$  is excellent;  $0.7 \sim 0.9$  is better;  $0.6 \sim 0.4$  is general. The difference is below 0.4.

#### 8 Conclusion

To sum up, in order to alleviate the difficulty of graduates' employment, it is very necessary to optimise the curriculum structure of innovation and entrepreneurship education and integrate the development of employment guidance. However, innovation and entrepreneurship and employment belong to two different concepts, and there are great differences in their curriculum. Therefore, there are many problems in the process of integration, including cognitive errors in integration, backward development mode of integration, low enthusiasm of students to participate, unreasonable curriculum system, imperfect teaching staff, etc. In view of these problems, a series of integrated development strategies are put forward, including the establishment of a new integrated development concept based on employment and driven by innovation and entrepreneurship, the establishment of a new way of integrated development, the promotion of students' enthusiasm for participation, the improvement and optimisation of the current curriculum structure, the establishment of professional teaching staff, etc. Finally, through an example, the application effect of the integration development strategy of innovation and entrepreneurship education curriculum structure optimisation and employment guidance is verified. However, this study also needs to add and delete integration strategies in the future practical application, combined with the actual situation, in order to better meet the specific effects of different schools at all levels, in order to further enhance the employment competitiveness of students.

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