



# Research on the Talent Cultivating Model of Integrated Vocational and Undergraduate Education

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**Abstract.** Integrated vocational and undergraduate education (IVUE) project is an important measure to accelerate the construction of a modern education system, and also a specific requirement for implementing the strategic goals of comprehensively deepening economy reform and achieving educational modernization. This paper aims to achieve precise positioning of cultivating objectives, construct an integrated cultivating plan, highlight the innovative characteristics of practical teaching and improve the professional ability of teaching teams through the research and implementation of the integrated talent cultivating mode in the major of digital media technology.

**Keywords:** Integrated vocational and undergraduate education · cultivating objectives · integrated cultivating plan · digital media technology

## 1 Introduction

The tentative work of integrating vocational education with application-oriented undergraduate education is an important measure to accelerate the construction of a modern vocational education system, and also a specific requirement for implementing the strategic goals of comprehensively deepening reform and achieving educational modernization [1]. The implementation of integrated vocational and undergraduate education (IVUE) project is conducive to the reform of the integrated talent cultivation mode [2], promoting the effective connection between vocational education and applied undergraduate education, and improving the quality of cultivating high-level skilled and applied talents [3].

The development of the digital economy has triggered profound changes in social production mode and lifestyle. The demand for digital media talents in society is continuously increasing, and the digital media talent gap in the coming years will increase with the development of the industry. Carrying out the integrated talent cultivation of digital media technology is of great significance for improving Chinese modern vocational education system, providing more high-quality high-level technical and skilled talents for the country, and steadily promoting the development of the digital economy.

## 2 Related Work

Since the 21st century, the integration of the vocational education system and the general higher education system has also been a focus of attention in the academic community of Western developed countries [4]. At present, there are three representative types of linkage training models in foreign countries: the equivalent linkage model between undergraduate education and vocational education, the linkage model for achieving academic proficiency, and the integrated linkage model.

The equivalent linkage model between undergraduate education and vocational education is represented by countries such as the United Kingdom and Australia. Its characteristic is that vocational qualification systems are formulated and introduced by the state, and each level of vocational qualification has a corresponding general education diploma. The two are equivalent and have the same effect on further education and employment. In other words, as long as one obtains vocational qualifications, they will also be eligible to receive higher education. For example, the UK relies on its National Qualifications and Credits Framework (QCF) to clarify the functions of all participating institutions, clarify the responsibility targets at different stages, and link vocational education from secondary school to higher education, placing vocational qualifications in the same important position as general academic diplomas and certificates, in order to achieve smooth connection between vocational education and undergraduate education. On the basis of implementing the Qualification Framework (QF) in the field of education, the Australian government has implemented a training package (TP) to connect courses at various stages, connecting general secondary education, vocational education, and higher education. Within the framework, there are a total of 12 levels of qualifications, stipulating that each level of qualification within the national qualification framework must be mutually recognized, and also allowing for the conversion of credits within the qualification framework.

The connection model for achieving academic proficiency is represented by countries such as Germany and France. Its characteristic is that vocational school graduates need to enter vocational education institutions for specialized supplementary education. Once vocational school students can reach the level of high school academic proficiency, they can achieve connection with higher education. On the basis of a dual system, Germany implements a vertical and horizontal connection and a spiral upward form in the educational system. Various levels of vocational education communicate and intersect with undergraduate education. Vocational school students and practitioners can obtain a high school diploma or equivalent academic qualifications through course tutoring, thereby enjoying the admission qualifications of higher education institutions. France has established a classification and connection method for curriculum, which categorizes vocational majors by profession, and sets unified curriculum standards for each category. Vocational majors correspond to a certain type of vocational curriculum, achieving the connection of the two professional courses.

The integrated linkage model is represented by countries such as the United States and Russia. The characteristic of this model is that two levels of vocational education have an integrated curriculum to ensure implementation. The development of vocational and technical education by the US government is mainly implemented through community colleges. The “Tech Prep” program, launched by the US government, closely connects

secondary vocational education with technical preparation education after high school, integrating at least two years of secondary education and two years of post secondary education, ultimately guiding students towards a specific vocational field. The integrated linkage model in the United States also leaves students with career exploration time, and students make a decision whether to continue studying their major after gaining a certain understanding of it. The integrated linkage model in Russia divides the vocational education syllabus into three levels: primary, intermediate, and advanced, which are interconnected. After students meet the requirements of the primary teaching syllabus, they can directly enter the intermediate level, and so on.

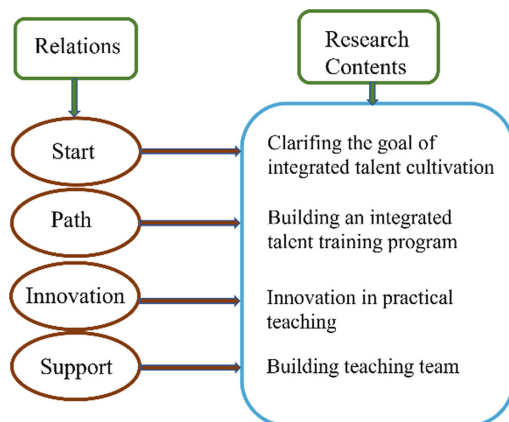
As mentioned above, developed countries such as Europe and the United States have already started researching the issues of connection and coherence in vocational education systems, and have formed a relatively mature theoretical system of linkage. Due to its late start, there are still some shortcomings in the domestic exploration of this topic [5]. For example, the goal of talent cultivation is not clear enough, the research on the linkage and linkage content is scattered, and a recognized system has not been formed; The research perspective is narrow and lacks relevant discussions from a higher perspective of talent cultivation and economic development needs. Therefore, based on the professional characteristics of vocational education and the requirements of application-oriented undergraduate education, this paper will study the integrated talent cultivation model of vocational education to undergraduate education, promote the vibrant connection between vocational education and undergraduate education, achieve comprehensive and personalized development of students, and cultivate composite application-oriented high-level technical talents that meet the development needs of digital economy industry.

### 3 Methods

The new linkage model brings new problems, and the biggest challenge lies in the fact that students are more receptive to operational technology during the secondary vocational stage, limited to skill acquisition, and have a significant distance from the talent cultivation goals of the undergraduate stage [6]. Although secondary vocational colleges attach great importance to the IVUE project and are equipped with excellent teachers and optimization of skill training, there are still many challenges in integrating into undergraduate learning life. How to leverage the advantages of students requires an integrated design of training objectives, training plans, curriculum systems, teaching teams, and quality management systems for both vocational and undergraduate education stages. The main research content and relationship of this paper are shown in Fig. 1.

#### 3.1 Clarifying the Goal of Integrated Talent Cultivation

The training objectives of different majors are related to their related fields, and determining the training objectives is the basis for conducting teaching activities. The goal of cultivating talents with IVUE project should be jointly formulated by vocational colleges and corresponding undergraduate colleges. The training objectives should be combined with practical needs, emerge the characteristics of IVUE project, and highlight the cultivation of abilities.



**Fig. 1.** Research contents and relations

This integrated major in digital media technology mainly focuses on the field of digital internet, learning the basic theories, skills, and methods of digital media technology, and receiving basic training in design, production, and software development for the interdisciplinary fields of computer, media, and network. With digital media as the carrier, carry out demand analysis, interaction research, visual design, system architecture, code development, product testing, and systematic learning and research on product management and operation knowledge and skills of Internet products, especially wireless mobile Internet products. Enable students to combine technological development with artistic design abilities, utilize cutting-edge computer internet application technology, integrate human-machine engineering interaction methods and visual design, and create easy-to-use internet application products. Become composite application oriented senior technical talents who can engage in digital media analysis, design, creativity, production, development, testing, production, teaching, and other work in various application fields.

In the 3-year vocational plus 4-year undergraduate long-term education system, the first three years of vocational education mainly focus on cultivating students' professional knowledge, skills, and application abilities, while the next four years of undergraduate education mainly focus on cultivating students' comprehensive application abilities and new technology application abilities. The ultimate goal is to cultivate technical and skilled talents who master the comprehensive professional ability of digital media and the application ability of new technologies. Based on this training objective, an integrated talent training plan, integrated core curriculum standards and integrated assurance system are needed.

### **3.2 Building an Integrated Talent Training Program**

Led by undergraduate universities, in collaboration with vocational schools and industry enterprises, we aim to construct an integrated talent cultivation plan for digital media technology major. It is necessary to follow the law of talent growth, balance the needs

of student growth and social employment, determine training specifications, and coordinate teaching plans, course selection, practical internships, exam evaluation, quality monitoring, and other aspects.

Align the training objectives with the needs of enterprises and adopt a structural reform approach to construct professional training plans on the talent supply side. Investigate the digital media related enterprises, connect with the development plan of the digital economy, set up two major professional directions as big web front-end and game design according to the development of enterprises in Internet products, animation games, film and television post production and other industries. Cultivate Internet product managers, demand analysts, interaction designers, UI designers, front-end development programmers, software testers, game planners, game designers and other related skilled talents.

After clarifying the training objectives and direction, it is necessary to further restructure the curriculum system of IVUE project. The integrated curriculum system needs to meet the mental characteristics, cognitive patterns, and developmental needs of students of different age groups. Such courses are not simply the sum of vocational courses and undergraduate courses, but rather focus on talent cultivation goals, strengthen the cultivation of students' humanistic literacy and professional abilities, and achieve synchronous improvement of knowledge, skills, and attitudes. Therefore, in the process of integrating courses, the curriculum system can be reconstructed through operations such as adding, deleting, weakening, enhancing, and leading, and the integration of courses at different stages can be improved.

### **3.3 Innovation in Practical Teaching**

The talent cultivation goal of the integrated training model of IVUE project is to cultivate applied advanced engineering and technical talents with rich practical experience and solid theoretical foundation. The hallmark of applied talents is their distinct innovative consciousness and thinking, and their ability to creatively solve complex engineering problems encountered in their work by utilizing what they have learned. Therefore, in the process of cultivating talents in the integration of vocational and undergraduate education, the main line of innovative practical teaching should be firmly grasped. By combining professional direction with learning interest through innovative practice, we continuously stimulate student's learning potential and initiative, fully reflecting the advantages of long-term education.

### **3.4 Building Teaching Team**

To cultivate applied and innovative engineering technical talents, a high-quality teaching staff is required. Faced with the goal of compound talent cultivation, the integrated training model requires diversified allocation of teaching staff. Teachers are required to actively adapt to the new requirements of comprehensive training, pay attention to the talent cultivation status at different stages, and have an integrated training approach and actions. Schools should select relevant teachers from those who possess dual teacher qualifications, have solid theoretical foundation in the professional field, strong practical ability, and are familiar with the latest technological developments in enterprises

and industries for training. Regularly select excellent teachers to study in universities with rich experience in innovation and entrepreneurship education, broaden their horizons, improve their innovation ability, teaching level, and course development ability; Organize teachers to participate in various domestic education and research training, participate in the development of social services and applied technology projects; Arrange them to go to the company for on-the-job practical training, strengthen their professional and technical abilities, and enhance their awareness of the position.

## 4 Conclusions

This paper introduced a new education project which is Integrated vocational and undergraduate education (IVUE) project. In this “3 + 4” long-term education project, the first three years of vocational education mainly focus on cultivating students’ professional knowledge, skills, and application abilities, while the next four years of undergraduate education mainly focus on cultivating students’ comprehensive application abilities and new technology application abilities. By clarifying the goal of integrated talent cultivation, constructing an integrated talent training program, highlighting the innovative characteristics of practical teaching and improving the professional ability of teaching teams, we aim to systematically cultivate undergraduate level composite applied senior engineering and technical talents in the major of digital media technology.

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