The Construction of Cross-school Credit Courses from the Perspective of Innovative Talents Training

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Abstract: This article aims to explore the construction strategy and practice of cross-school credit courses in tertiary education, in order to provide new paths and ideas for the cultivation of innovative talents. The introduction first expounds the challenges faced by tertiary education, and then puts forward that cross-school credit course is an effective way to solve these problems. Then, this article systematically analyzes the design principles, goal setting, content and structure construction, teaching mode and method innovation, assessment system and credit mutual recognition mechanism, and deeply analyzes the implementation status and existing problems of cross-school credit courses. The results show that cross-school credit courses have achieved remarkable results in promoting the sharing of educational resources, breaking down discipline barriers, improving students' interdisciplinary ability and international vision. However, it also faces challenges such as uneven distribution of resources and difficult management and coordination. In view of these challenges, this article puts forward some countermeasures and suggestions, such as strengthening resource sharing and construction and establishing a unified management and coordination mechanism, in order to promote the sustainable development of cross-school credit courses.

1. Introduction

As globalization and informatization swiftly advance, innovation emerges as the pivotal impetus for fostering social progress and economic growth [1]. As an important position to cultivate high-quality innovative talents, tertiary education is facing unprecedented challenges and opportunities [2]. The traditional education model often focuses on imparting knowledge of a single subject, which is difficult to meet the urgent needs of the current society for compound talents and innovative ability [3]. Therefore, exploring new educational models, especially cross-school credit course, has become an important way to promote the optimal allocation of educational resources, broaden students' academic horizons and enhance their innovative practical ability [4]. The purpose of this study is to provide theoretical support and practical guidance for the reform of tertiary education through in-depth analysis of the role of cross-school credit courses in the cultivation of innovative talents, which is of great significance to improving the overall innovation ability and competitiveness of the country.

In recent years, the research on the cultivation of innovative talents and cross-school education cooperation is increasing [5]. With the promotion of "double-first-class" construction, the cooperation between universities has become increasingly close, and cross-school credit courses have gradually become a new bright spot in the tertiary education system [6]. However, the existing research is mostly concentrated in the field of science and engineering, and the research on how to effectively use cross-school credit courses to cultivate innovative talents in the field of liberal arts is still insufficient [7]. In addition, there are still many problems to be solved about the systematicness of curriculum design, the innovation of teaching mode and the convenience of mutual recognition of credits.

The purpose of this study is to explore the construction of cross-school credit courses in the perspective of innovative talents training, especially for the special needs of liberal arts. The research content covers theoretical framework construction, current situation investigation and other

aspects, and strives to comprehensively and deeply reveal the potential and challenges of cross-school credit courses in the cultivation of creative talents in liberal arts.

2. Theoretical basis and demand analysis of innovative talents training

2.1. The theoretical basis of innovative personnel training

The theoretical basis of cultivating innovative talents is profound and extensive, and it is rooted in many disciplines such as pedagogy, psychology, sociology and economics [8]. From the perspective of pedagogy, constructivist learning theory emphasizes the main role of learners in knowledge construction, and advocates cultivating students' innovative thinking and problem-solving ability through practical activities such as problem solving and project inquiry. This theory provides an important teaching guiding ideology for the cultivation of innovative talents, that is, paying attention to students' active learning and practical experience.

Psychology: The theory of creativity development reveals that creativity can be improved through education and training. The theory points out that the cultivation of innovative thinking needs a relaxed and free environment, rich knowledge accumulation and interdisciplinary thinking collision [9]. This provides a psychological basis for the cultivation of innovative talents, that is, to create an environment and conditions conducive to the development of innovative thinking.

Sociological perspective: Social capital theory emphasizes the important role of social network in individual development. For the cultivation of innovative talents, this means building an open and cooperative academic atmosphere and promoting exchanges and cooperation among students, so as to broaden their horizons and ideas.

Economics: The theory of knowledge economy highlights the core position of knowledge innovation in economic development. This theory requires that tertiary education must cultivate innovative talents who can meet the needs of the knowledge economy era, that is, talents with interdisciplinary knowledge integration ability, innovative thinking and practical ability.

2.2. Demand analysis of innovative talents training

With the in-depth development of globalization and informatization, the demand for innovative talents is increasingly urgent.

First of all, scientific and technological progress and industrial upgrading require tertiary education to cultivate talents with cutting-edge scientific and technological knowledge and innovative ability in order to promote scientific and technological progress and industrial upgrading. This requires innovative talents not only to master solid professional knowledge, but also to have interdisciplinary learning and research capabilities.

Secondly, the trend of economic globalization and internationalization requires innovative talents to have international vision and cross-cultural communication ability. Under the background of globalization, innovative talents need to be able to communicate and cooperate effectively with their international counterparts to jointly solve global problems.

Finally, the sustainable development of society puts forward higher requirements for innovative talents. Innovative talents need not only professional knowledge and skills, but also a sense of social responsibility and sustainable development to promote the sustainable development of society.

3. Strategy and practice of cross-school credit course construction

3.1. Curriculum design principles and goal setting

In the design process of cross-school credit courses, a series of basic principles should be followed to ensure the quality and effect of the courses, as shown in Figure 1:

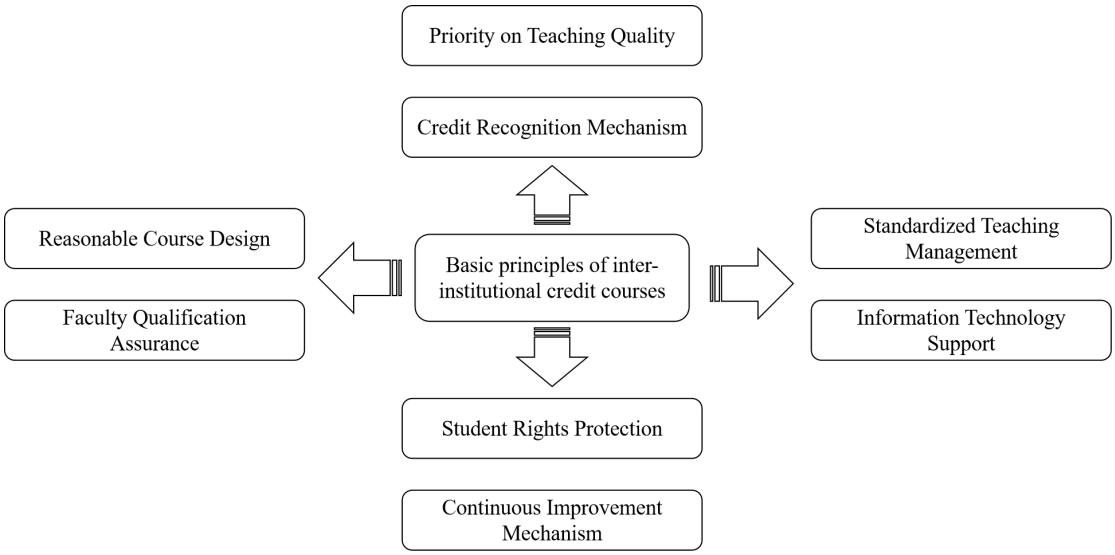

Figure1 Basic principles of curriculum design for cross-school credits

In terms of goal setting, cross-school credit course should aim at cultivating students' interdisciplinary integration ability, critical thinking, cross-cultural communication ability and independent learning and innovation ability. Through course study, students should be able to master multi-domain knowledge, form the ability to comprehensively analyze and solve problems, at the same time enhance their understanding and respect for different cultures, and lay the foundation for becoming innovative talents with international vision.

3.2. Course content and structure construction

The choice of course content should closely focus on the goal of cultivating innovative talents and pay attention to the intersection and integration of disciplines. In the field of liberal arts, comprehensive courses covering history, philosophy, literature, art, sociology and other disciplines can be designed, such as "cross-cultural communication and research" and "social changes from a global perspective". The content of the course should be both deep and broad, including both basic theories and cutting-edge dynamics, so as to stimulate students' exploration interest and innovative thinking.

In structural construction, modular or stepped design can be adopted. Modular curriculum allows students to choose different modules to study according to their personal interests and needs, which enhances the flexibility and personalization of the curriculum. Step-by-step courses are gradually promoted according to the difficulty and depth of knowledge to ensure that students systematically master the knowledge and skills in related fields. At the same time, we should establish a linking mechanism between courses to ensure that students can make a smooth transition between different courses and form a complete knowledge system.

3.3. Teaching mode and method innovation

In order to adapt to the characteristics of cross-school credit courses, teaching models and methods need to be constantly innovated. First of all, schools should make full use of information technology to carry out online and offline mixed teaching, break the time and space restrictions and improve teaching efficiency. Secondly, schools should adopt teaching methods such as project-based learning and problem-oriented learning, encourage students to explore around practical problems, and cultivate problem-solving ability and teamwork spirit. In addition, the school can also introduce new teaching modes such as flip classroom and micro-class to stimulate students' interest and initiative in learning.

In the field of liberal arts, special attention is paid to situational teaching and cultural experience. Schools can simulate real situations and organize cultural exchange activities, so that students can feel the charm of different cultures and enhance their cross-cultural communication ability. At the same time, schools should encourage the use of teaching methods such as discussion and debate to

improve students' critical thinking and oral expression ability.

3.4. Assessment system and credit mutual recognition mechanism

Establishing a scientific and reasonable assessment system is the key to ensure the quality of cross-school credit courses. The assessment system should pay attention to both result assessment and process assessment; It not only examines students' knowledge mastery, but also evaluates their ability development and innovative thinking. Multiple assessments (as shown in Table 1) can be used to comprehensively reflect students' learning achievements.

Table 1 Multivariate Assessment System Table

Assessment Method	Description	Purpose
Assignments	Regularly assigned tasks, including written assignments, online exercises, etc.	Assess students' mastery and application of classroom content
Tests	Including mid-term exams, final exams, quizzes, etc.	Evaluate students' understanding and retention of key concepts
Project Reports	Project reports completed independently or in collaboration by students	Assess students' research skills, teamwork abilities, and problem-solving capabilities
Oral Presentations	Verbal presentations or speeches by students on a specific topic	Evaluate students' communication skills, logical thinking, and self-confidence
Peer Assessments	Mutual assessments among students regarding each other's work or performance	Cultivate critical thinking, facilitate mutual learning, and cooperation

Credit mutual recognition mechanism is an important guarantee for the smooth implementation of cross-school credit courses. Schools should establish a unified credit recognition standard and process to ensure the effective conversion of credits between different universities. In order to promote the convenience and efficiency of credit mutual recognition, schools can use information technology to establish a credit mutual recognition platform to realize online query, review and conversion of credit information.

4. Challenges and countermeasures

In the practice of cross-school credit course construction, we are faced with many challenges, which are directly related to the sustainable development of the course and the effect of cultivating innovative talents. First of all, the uneven distribution of resources is a significant problem. Secondly, due to the differences in management system and teaching process among colleges and universities, the coordination cost is high, and problems such as information asymmetry and poor communication are prone to occur. Furthermore, the quality assurance system is not perfect. Finally, the adaptability of students can not be ignored.

In view of the above challenges, this article puts forward the following countermeasures and suggestions:

A. Strengthen resource sharing and construction. Relevant departments integrate the high-quality educational resources of colleges and universities by establishing a cross-school educational resource sharing platform to realize the sharing of courses, teachers and teaching facilities.

B. Establish a unified management and coordination mechanism. Relevant departments should formulate a unified management system and process for cross-school credit course, and clarify the responsibilities and rights of all parties; Establish a regular communication and coordination mechanism to solve the problems in the course implementation in time.

C. Improve the quality assurance system. Relevant departments should establish quality standards and assessment mechanisms for cross-school credit courses, and comprehensively evaluate the design, implementation and effect of the courses.

D. Improve students' adaptability. Schools should strengthen the cultivation of students' autonomous learning ability and adaptability, and guide students to establish correct learning concepts and methods; At the same time, students are encouraged to actively participate in

curriculum design and teaching activities to improve their learning enthusiasm and participation.

5. Conclusions

As an important part of tertiary education reform, cross-school credit course is of great significance for cultivating high-quality talents with innovative spirit, interdisciplinary ability and international vision. This article systematically discusses the strategy and practice of cross-school credit course construction, including course design principles and goal setting, course content and structure construction, teaching mode and method innovation, assessment system and credit mutual recognition mechanism. At the same time, the paper also deeply analyzes the current challenges, such as uneven distribution of resources, difficult management and coordination, imperfect quality assurance system and students' adaptability, and puts forward corresponding countermeasures and suggestions.

By strengthening resource sharing and construction, establishing a unified management and coordination mechanism, improving the quality assurance system and improving students' adaptability, we can effectively meet these challenges and promote the sustainable development of cross-school credit courses. Looking forward to the future, with the continuous progress of educational technology and the deepening of tertiary education reform, cross-school credit courses will usher in a broader development prospect.

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References

[1] Liu Wei, Yin Anchun, Li Wentao, et al. Design and Application of Online Cross-School Credit Courses in Medical Colleges and Universities under the "Internet +" Era [J]. Journal of Nurses Training, 2020, 35(03): 255-257.

[2] Zhu Jie, Zhou Hongwei, Zuo Jianping, et al. Construction of First-Class Courses in Materials Mechanics Oriented towards Professional Talent Training Goals [J]. Mechanics in Engineering, 2021, 43(03): 457-462.

[3] Chen Na, Feng Ying, Jiang Yu, et al. Comparative Study on Talent Training Programs for Elderly Care Service Management [J]. Chinese Health Service Management, 2024, 41(2): 195-198.

[4] Ma Yan, Zheng Jianming, Wang Cuijiao. Analysis of Public Cultural Talent Training Mode with Multidisciplinary Intersection and Integration [J]. Journal of the National Library of China, 2022, 31(5): 46-53.

[5] Lai Hong, Li Qin, Wang Yinfeng. Research and Practice on the Talent Training Mode of Software Technology Professional Group Based on the "1+X" Certificate System [J]. Vocational and Technical Education, 2020, 41(17): 25-29.

[6] Wu Nanzhong, Xie Hong. The Transformation Direction and Innovation Path of Vocational Education Talent Training Mode under the "1+X" Certificate System [J]. Vocational and Technical Education, 2020, 41(36): 22-26.

[7] Dai Bin, Zhu Guomei. Practical Research on the Innovative Talent Training Mode of Intangible Cultural Heritage Based on Vocational Education Groups [J]. Vocational and Technical Education, 2023, 44(17): 27-31.

[8] Lan Weiqing, Sun Xiaohong, Jin Yinzhe, et al. Reform and Exploration of the Educational Mode of Curriculum Groups in Food Quality and Safety Specialty [J]. Packaging Engineering, 2021, 42(23): 136-140.

[9] Fu Juanjuan, Zhang Shijun, Liu Junhua, et al. Preliminary Exploration of Curriculum Construction and Talent Training Mode in Pratacultural Science Specialty [J]. Journal of Animal Ecology, 2020, 41(12): 88-90+93.