

Exploration of Innovative Paths and Strategies for Deepening Undergraduate Education and Teaching Reform in Higher Education Institutions in the New Era

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Abstract: College undergraduate education is an important part of China's education system, connected with the industrial chain and the education chain of talents, can provide high-level professional talents and professional talents for the society. In the new era environment, universities should pay attention to promoting the reform of undergraduate education, actively explore the path of effective education, and improve the level and ability of education. Based on this, this paper studies the innovation path and strategy of undergraduate education and teaching reform in colleges and universities, explores the new opportunities and requirements of undergraduate education and teaching, and puts forward the innovation path and strategy of teaching reform, aiming at providing practical guidance and theoretical basis for the reform of undergraduate education and teaching in colleges and universities.

Keywords: Undergraduate education; Teaching reform; Innovation path

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1. Introduction

Colleges and universities are important places to cultivate high-quality talents. They should pay attention to keeping up with the pace of development of the era and deeply understand and grasp the strategic role of education and talents in the modernization drive ^[1]. With the rapid development of society and the rapid change of science and technology, the undergraduate education and teaching in colleges and universities are faced with unprecedented challenges and opportunities. How to deepen the reform of education and teaching and improve the quality of personnel training has become an urgent problem in the field of higher education. Colleges and universities should fully grasp the advantages of the development of the era, carry out reforms from various aspects, improve the efficiency and quality of teaching management, meet the personalized and diversified learning needs, and comprehensively improve the quality of education ^[2]. This paper aims to explore the

innovative path and strategy of undergraduate education and teaching reform in the new era, in order to provide useful reference for promoting the sustainable development of higher education.

2. The new opportunities and requirements of undergraduate education and teaching in the new era

2.1. The task of cultivating moral character is arduous, and the construction of ideological and political education needs to be upgraded urgently

Under the background of the new era, undergraduate education in colleges and universities is facing unprecedented new opportunities and new requirements, which jointly promote the in-depth development of higher education. The new era has entrusted higher education with a new mission, that is, to cultivate morality and cultivate people. This task is not only related to the all-round development of students, but also related to the future of the country and the rejuvenation of the nation ^[3]. At present, the dissemination of ideological information is more and more rapid and extensive, and more and more bad information is transmitted to the information space accessible to college students, which has a negative impact on students' ideological concepts. The task of cultivating morality is arduous, but the current ideological and political education construction still faces many challenges, such as outdated teaching content and methods, uneven quality of teachers, and so on, the ideological and political education mode is difficult to reach the ideal state. Colleges and universities should give full play to the role of ideological and political education and train students to be high-quality talents with noble morality, innovative spirit and practical ability ^[4].

2.2. The importance of digital education has become prominent, and IT construction needs to be improved urgently

In the new era, digital education has become an important development direction for the development of higher education. It can not only provide more abundant and diversified teaching resources, but also realize more convenient and efficient teaching methods ^[5]. At present, many teachers have understood the mode and rhythm of digital education, and can use online platforms and artificial intelligence to carry out teaching. However, some teachers do not have sufficient information skills, and it is difficult to flexibly use artificial intelligence technology, micro-lessons and other tools to implement teaching. Colleges and universities also have problems in informatization construction, such as lack of digital resources and low level of informatization management, which affect the informatization level of undergraduate education in colleges and universities.

2.3. Collaborative education provides new ideas, and its educational horizon needs to be expanded

As a brand new educational concept, collaborative education emphasizes the cross-integration of different disciplines and fields, and focuses on the participation of schools, enterprises, society and other forces. It can provide students with a broader learning horizon and practical opportunities, and cultivate their innovative thinking and problem-solving ability ^[6]. However, at present, there are shortcomings in promoting collaborative education in colleges and universities, such as barriers between disciplines and insufficient promotion of school-enterprise cooperation. They should broaden their educational horizons and strengthen cooperation with various educational forces.

2.4. The direction of national strategic needs is obvious, and the degree of compatibility of professional settings is insufficient

Under the background of the new era, the national strategic needs put forward higher requirements for higher education. For example, the Reform Plan for the Adjustment and Optimization of the specialty setting of general higher education jointly issued by the Ministry of Education and other five departments mentioned that through optimizing and adjusting the discipline and specialty structure of colleges and universities, the fit degree of talent training and social needs should be improved ^[7]. The direction of national strategic demand is obvious, which emphasizes the importance of keeping up with social demand and national industrial development strategy in the specialty setting of colleges and universities. However, in concrete practice, the specialty setting of some schools still lags behind the change of social demand and fails to adjust in time according to the national strategic orientation and regional economic demand. Therefore, it has become an important task of the current college education reform to strengthen the degree of fit between the specialty setting and the market demand and the national strategic demand.

3. The innovative path and strategy of deepening the reform of undergraduate education and teaching in the new era

3.1. Implement moral cultivation and cultivate talents, and realize new improvement in the quality of personnel training

The current competition among countries is, in essence, a competition for talents and, at its source, for education. The Ministry of Education has put forward four requirements for the quality construction of high-level undergraduate education and talent training, namely “return to common sense, return to duty, return to original heart and return to dream,” to strengthen the core position of talent training in colleges and universities, promote the “people-oriented” education concept to gain popular support, and build high-level undergraduate education ^[8]. In this context, the undergraduate education of colleges and universities should actively implement moral cultivation, continue to promote the reform and innovation of talent training, and lead the growth of young talents in the new era. At the school level, schools should take moral cultivation as the fundamental task of running a school, run through the whole process of education and teaching, optimize the top-level design, improve the talent training system, and ensure that all educational and teaching activities are closely around the core goal of moral cultivation; Strengthen the input in undergraduate education, improve the quality and quantity of education and teaching resources, and provide a good teaching and learning environment for teachers and students ^[9].

At the level of teachers, teachers should return to their teaching duties, do a good job in professional education, devote themselves to teaching and love teaching, and achieve “four in place” and “three excellent.” They should constantly improve their teaching ability and level, actively participate in teaching training, carry out teaching research, explore the innovation of teaching methods, and improve teaching quality. At the college level, college teaching should return to the original intention of talent training, pay attention to the all-round development of students, pay attention to and strengthen practical teaching, promote quality education while developing students’ practical skills, and encourage students to establish correct ideas and concepts ^[10]. In the level of student education, we should pay attention to the source and quality of students, professional teaching and ideological and political education to promote students to establish correct ideas and concepts, and train students to be well-developed talents.

3.2. Clear the direction of reform, and continue to promote the application of information technology

In the new era, colleges and universities should clarify the direction of reform and continue to promote the application of information technology to meet the new requirements of higher education in the information age. First of all, strengthen the construction of information-based teaching resources. Colleges and universities should increase investment to build high quality information-based teaching resources, including electronic textbooks, multimedia courseware, online courses, etc. Encourage teachers to use information-based teaching resources to carry out teaching and improve teaching effect and learning efficiency. Strengthen the cultivation of students' information literacy, and improve students' ability of information acquisition, processing and application ^[11]. Secondly, update the teaching management system. Schools should combine artificial intelligence technology and big data technology with the teaching management system, and constantly improve the teaching management system, including the student status management system, personnel management system and financial management system, so as to realize the automation, intelligence and refinement of teaching management. The teaching management system can improve the overall operation efficiency of the school, realize real-time data sharing and collaborative processing, and improve the accuracy and scientificity of management decisions.

Finally, the exploration and application of new information technology ^[12]. In the new era environment, artificial intelligence, virtual reality and other new technologies are emerging, universities should actively explore and apply these new technologies, such as the use of big data technology to analyze students' learning behavior and performance data, to provide a scientific basis for personalized teaching. The use of artificial intelligence technology to assist teaching and evaluation to improve the pertinence and effectiveness of teaching; The use of blockchain technology to ensure the authenticity and security of education data; and using virtual reality technology to create immersive learning environments to enhance students' learning experiences and interests.

3.3. Broaden educational horizons and carry out multi-channel collaborative education and teaching

In the era of globalization and information technology, colleges and universities should constantly broaden their educational horizons and actively seek paths and strategies for multi-channel collaborative education and teaching, so as to promote the optimal allocation and sharing of educational resources and enhance students' comprehensive quality and international competitiveness. First of all, strengthen the coordination of resources, break down barriers, and realize the complementary advantages. Universities should break down resource barriers, actively seek extensive cooperation with other universities, scientific research institutions, enterprises and other sectors of society, connect their academic resources with the resource libraries of other schools, and jointly build an open and shared learning resource platform to realize resource sharing and complementary advantages ^[13]. Through this platform, academic resources can cross inter-university boundaries to form a huge knowledge network, and teachers can easily access teaching materials and research results from different fields and schools to enrich teaching content and improve teaching quality. Students can have access to a wider variety of learning resources, broaden their knowledge horizons and stimulate their interest in learning. This mode of resource sharing and complementary advantages will greatly promote academic exchanges and cooperation, and promote the in-depth development of academic research and innovative breakthroughs.

Second, promote synergy at home and abroad. The school should actively connect with the construction of emerging projects at home and abroad, including artificial intelligence, new energy, biotechnology, etc., and introduce knowledge and technology in emerging fields into classroom teaching and practical teaching, so that

students can keep up with the pace of the era and grasp the latest technological developments. The university pays attention to inviting industry experts to give lectures, holding special lectures and seminars, and organizing students to visit relevant enterprises or research institutions, which can help students to have a deep understanding of the development trend and cutting-edge technology in emerging fields, and cultivate their professional quality and innovation ability. In this process, the university should establish a close cooperative relationship with enterprises, jointly carry out the research and development and application of emerging projects, promote scientific and technological innovation and achievement transformation through the deep integration of industry, university and research, cultivate more high-quality talents with practical experience and innovation ability for enterprises, and provide more practical opportunities and financial support for the teaching and research activities of colleges and universities to realize the goal of mutual benefit, win-win situation and common development.

3.4. New achievements were made in building discipline clusters

Colleges and universities should focus on the construction of disciplines to serve the national strategic needs and regional development needs. Through the construction of discipline clusters, the construction of disciplines should be promoted to a new level and provide solid support for high-level personnel training and scientific and technological innovation. First of all, discipline clusters should be built. Schools should follow the principle of “complementary advantages, collaborative innovation and resource sharing,” promote the cross-integration of disciplines, and form new subject growth points and innovation points^[14]. Establish a scientific and reasonable organizational structure of discipline clusters, set up management committees and academic committees of discipline clusters, and clarify the division of responsibilities; Focus on the construction content, covering discipline construction, faculty construction, scientific research platform construction, personnel training and other aspects, to form an all-round and multi-level construction system; Rational allocation of teaching and research resources, including funds, equipment and sites, to ensure efficient use and sharing of resources. In this process, schools should implement the “big” principle, focus on “big” needs (national and regional development needs), build “big” platforms (collaborative research platforms), and share big results.

Second, it should cultivate first-class disciplines. Schools should select a number of disciplines with obvious advantages and characteristics as key construction objects, through increasing investment, optimizing structure, improving quality and other measures, so that they can reach the first-class level at home and abroad. Optimize the discipline layout and adjust the discipline structure to realize the transformation from the “spread the pie” type of decentralized development to the “intensive” type of agglomeration development. Relying on the construction of “peak discipline” and “advantageous characteristic discipline”, integrating key personnel and resources of related disciplines to form a strong discipline innovation team, promoting the output of frontier research and major scientific and technological innovation achievements of disciplines, and providing effective support for personnel training^[15]. To promote the construction of interdisciplinary teams, integrate key personnel from relevant disciplines, and form disciplinary teams with complementary advantages and collaborative innovation, so as to provide talent guarantee for talent training and construction.

4. Conclusion

To sum up, the objective environment of the new era brings new opportunities and challenges to the reform of undergraduate education and teaching in colleges and universities, and the reform of education and teaching is imperative. Colleges and universities should make use of the endogenous motivation of students to seek

knowledge, make use of the tide of the era to carry out a comprehensive reform of the college education system, improve the quality of undergraduate education, and seize the new opportunities of the era. In this process, universities should implement moral cultivation, promote the application of information technology, broaden educational horizons and build subject clusters to effectively improve the quality and level of undergraduate education and teaching. Education and teaching reform cannot be accomplished overnight. It requires the joint efforts and continuous promotion of universities, teachers, students and all sectors of society to form synergy, jointly promote the cause of personnel training, and make greater contributions to cultivating more high-quality talents with innovative spirit and practical ability.

Disclosure statement

The author declares no conflict of interest.

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