

Innovation of Higher Education Model and Talent Training Path in the Information Age

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Abstract: In the era of informatization, higher education models and talent cultivation face new challenges. This article explores the impact of informatization on higher education models and talent cultivation, emphasizing the necessity of innovation. Analyzing the innovation of higher education models and the path of talent cultivation in the information age, it propose that education methods should be continuously adjusted in order to cultivate talents who meet the needs of future society. It is also pointed out that universities should actively leverage technological resources to promote educational reform, improve the quality of talent cultivation, and contribute to social development.

Keywords: In the information age; Higher education; Model innovation; Talent cultivation

1. Introduction

In today's information age, the rapid development of technology has brought profound impacts and challenges to the field of higher education. With the wide application of Internet, artificial intelligence, big data and other emerging technologies, the traditional college education model and talent training path are facing tremendous pressure of change [1]. Therefore, it is particularly important to study the innovation of higher education models and talent cultivation paths in the information age.

Firstly, the popularization and application of information technology have changed the way people acquire information and learn knowledge. Students can access rich learning resources through the internet, and higher education models need to be more flexible and diverse to meet the needs of students for self-directed learning [2]. Secondly, the information age poses new challenges to the ability requirements of the talents needed by society. Universities need to adjust their talent training paths, focus on cultivating students' innovation ability, teamwork ability, and interdisciplinary comprehensive ability. In addition, the development of information technology has also provided new possibilities for innovation in higher education models, such as the application of technical tools such as virtual reality and online education, which will further enrich teaching methods and approaches [3].

However, many universities are still stuck in traditional education models and talent cultivation paths, and have not fully utilized the opportunities brought by information technology [4]. Therefore, in-depth research on the innovation of higher education models and talent cultivation paths in the information age, and exploring how to effectively integrate technology, education, and social needs, will become one of the focuses of current higher education reform. This study aims to explore the interactive relationship between higher education models and talent cultivation in the context of the information age, providing theoretical support and practical guidance for higher education reform.

2. The Necessity of Innovating Higher Education Models and Cultivating Talents

The necessity of innovation in higher education models and talent cultivation lies in adapting to social needs, stimulating students' innovative potential, cultivating comprehensive qualities [5], and keeping up with the trend of the times. This will help universities cultivate outstanding talents that better meet social needs and future development directions.

(1) Adapting to social needs: With the continuous development of social economy and technology, traditional education models are no longer able to meet the diverse and rapidly changing talent needs. It is crucial to innovate educational models to meet the needs of future social development. The new education model should focus on interdisciplinary integration, practical teaching, and soft power cultivation, cultivating composite talents with innovative consciousness, teamwork ability, and

comprehensive quality to meet the development needs of society.

(2) Stimulating Innovation Potential: Through innovative educational models, students can effectively stimulate their innovation potential and critical thinking ability, helping them develop the ability to adapt to future work needs. This educational model emphasizes practical teaching, interdisciplinary integration [6], and soft power cultivation, encouraging students to propose new perspectives, carry out innovative projects, and cultivate problem-solving abilities. By stimulating innovation potential, students can become more competitive in future work and contribute more innovative thinking and solutions to social development and progress.

(3) Cultivating comprehensive qualities: Innovative educational models help cultivate students' comprehensive qualities, including teamwork ability, leadership ability, communication ability, etc. Through interdisciplinary integration, practical teaching, and soft power cultivation, students can learn skills such as teamwork, leadership, and effective communication in an innovative environment, thereby improving their overall quality. These qualities are important factors for future career success, making students more competitive, able to adapt to constantly changing social needs, and demonstrating more comprehensive abilities and potential. The cultivation of comprehensive qualities will help students achieve better development in their career and lay a solid foundation for personal growth.

(4) Chasing the trend of the times: In the era of informatization, educational models need to keep up with the times, combine modern technological means, and achieve the transformation of teaching methods. By innovating educational models, universities can better catch up with the trend of the times and meet social needs. Combine information technology and the Internet, carry out online education, virtual laboratory, etc., and provide more flexible and convenient learning methods. At the same time, emphasis is placed on interdisciplinary integration, practical teaching, and soft power cultivation to cultivate students' ability to adapt to future social development. Only by constantly innovating educational models can universities keep up with the pace of the times and contribute to cultivating more competitive talents.

3. The impact of the information age on the innovation of higher education models and talent cultivation

The information age has brought revolutionary impact on the innovation of higher education models and talent cultivation, prompting universities to pay more attention to personalized learning [7], cross-border cooperation, and innovative thinking cultivation, in order to adapt to the ever-changing needs of the times and cultivate outstanding talents that meet the needs of future social development.

(1) Reform of teaching methods: Information technology has provided universities with more diverse teaching tools and platforms, such as online education, virtual laboratories, etc., making teaching methods more flexible, interactive, and personalized. Students can access knowledge anytime and anywhere through the internet, promoting the development of self-directed learning and distance education. Through the reform of teaching methods, universities can use information technology to achieve personalized customization of teaching content, improve teaching effectiveness and student participation. Flexible teaching methods also help stimulate students' interest in learning, cultivate their self-learning and problem-solving abilities, and promote the development of higher education towards a more open, inclusive, and innovative direction.

(2) Personalized learning: The information age enables universities to better diagnose and provide personalized guidance based on individual differences among students, helping each student tap into their potential and develop their strengths. Through data analysis and intelligent technology, universities can develop personalized learning paths and talent development plans to meet the diverse needs and learning styles of students. Personalized learning provides a teaching method that is more tailored to the actual situation of students, stimulates their interest in learning, and enhances their learning motivation. At the same time, it promotes the growth and self-development of students, and cultivates more innovative and competitive future talents. Universities should actively utilize information technology to promote the development of personalized learning, promote the diversification and personalization of education and teaching, and achieve the optimal allocation and utilization of educational resources.

(3) Cross disciplinary cooperation: Informatization emphasizes cross-border integration, and universities can break down disciplinary barriers by collaborating with experts and enterprises in other

fields. This cross-border cooperation provides universities with a wider range of resources and knowledge, promoting innovative thinking and comprehensive development [8]. By combining professional knowledge from different fields, universities can design more forward-looking and practical talent training programs to cultivate composite talents with interdisciplinary and comprehensive abilities. Cross border cooperation can also promote the deep integration of industry, academia, and research, improve the quality of education, and enhance the practical abilities of students. Through cross-border cooperation, universities can better adapt to the needs of the information age, cultivate more innovative and comprehensive talents for society, and promote the development of education and teaching towards a more diversified and open direction.

(4) Innovative thinking cultivation: Information technology has promoted the development of education towards openness, interaction, and innovation, guiding students to shift from passive acceptance to active exploration. Through the application of information technology, students can participate in interactive teaching, online discussions, and practical projects, cultivating innovative thinking and problem-solving abilities. In the process of exploring knowledge, students exercise self-directed learning and critical thinking, and improve their ability to adapt to future challenges. The cultivation of innovative thinking is not only for the development of students' intelligence, but also for the enhancement of their comprehensive quality and competitiveness. By cultivating innovative thinking, universities can lay a solid foundation for students' future career development, enabling them to have the ability to face rapidly changing social demands and become more dynamic and creative future talents.

4. Analysis of Innovation in Higher Education Models and Talent Training Paths in the Information Age

In the era of informatization, innovation in higher education models and talent cultivation paths should focus on technology application, practical education, lifelong learning concepts, interdisciplinary education, and soft power cultivation, in order to cultivate talents with solid professional foundations, extensive knowledge reserves, and comprehensive qualities that can meet the needs of future social development.

(1) Strengthening the application of technology: Universities can comprehensively promote the integration and application of information technology in teaching, improve teaching efficiency and quality, and provide students with more attractive and practical course content by building digital teaching platforms, conducting online courses and distance education, promoting information-based teaching methods, and promoting intelligent auxiliary teaching tools.

Firstly, build a digital teaching platform. Universities can establish a comprehensive digital education platform that integrates various teaching resources, online courses, learning tools, etc., providing convenient learning and teaching environments for teachers and students. Through the platform, teachers can assign homework and grade assignments online, and students can access learning materials and communicate with teachers and classmates at any time. Secondly, carry out online courses and distance education. Universities can design and provide high-quality online courses to facilitate learning anytime, anywhere. At the same time, distance education programs can be established to reach a wider student population, providing more choices and flexibility. Thirdly, promote information-based teaching methods. By combining information technology, it can develop virtual laboratories and simulation software, thereby enriching practical teaching content and enhancing students' hands-on ability and problem-solving skills. Additionally, using data analysis techniques, it can track and evaluate student learning, providing personalized learning support and feedback. Finally, promote intelligent auxiliary teaching tools. By combining artificial intelligence technology, it can develop intelligent auxiliary teaching tools, such as intelligent guidance systems and intelligent homework grading systems, in order to provide personalized teaching suggestions for teachers and improve teaching efficiency. At the same time, big data analysis technology is introduced to mine student learning data and provide reference for school decision-making.

These methods will help optimize the teaching process, improve student performance, cultivate innovative and practical abilities, and enable students to better adapt to the development requirements of the information age.

(2) Promoting practical education: Universities can promote practical education by building virtual simulation laboratories, conducting interdisciplinary cooperation projects, promoting the integration of industry, academia, and research, and supporting student innovation and entrepreneurship activities.

This can provide students with a more authentic and rich practical environment, cultivate their hands-on ability, problem-solving ability, and innovative and entrepreneurial spirit, and help them better adapt to the development needs of the information age.

Firstly, establish a virtual simulation laboratory. By introducing virtual reality (VR) and augmented reality (AR) technologies, universities can create virtual simulation laboratories to simulate various practical scenarios and operating environments, providing students with a more realistic practical experience. For example, in engineering majors, the construction and design processes can be simulated; In medical majors, clinical surgical procedures can be simulated. Secondly, carry out interdisciplinary cooperation projects. Universities can organize interdisciplinary collaborative projects to encourage students from different fields to participate in solving practical problems, and cultivate their teamwork and interdisciplinary thinking abilities. Through project practice, students can apply theoretical knowledge to practical situations and improve their problem-solving abilities. Thirdly, promote the integration of industry, academia, and research. Universities can actively cooperate with enterprises to carry out practical education projects, allowing students to participate in real work tasks and projects, thereby cultivating their practical operational and problem-solving abilities. Collaborative projects with enterprises also help students better understand industry needs and trends. Finally, support student innovation and entrepreneurship activities. It should encourage students to participate in innovation and entrepreneurship activities, providing entrepreneurship incubation platforms, mentor guidance, and resource support. Through these practices, students can learn and exercise their innovation ability and teamwork spirit, cultivating their ability to solve practical problems and courage to face challenges.

These methods will help improve students' overall quality, promote their personal growth and career development.

(3) Advocating for lifelong learning: Universities can actively promote the concept of lifelong learning by establishing online learning platforms, promoting open courses, setting up online degree courses, and conducting remote training courses, providing students and all sectors of society with opportunities and resources for continuous learning, assisting personal career development and knowledge updating, and promoting comprehensive social progress.

Firstly, establish an online learning platform. Universities can develop and maintain online learning platforms, providing course resources, teaching videos, learning materials, etc., allowing teachers and students to learn anytime, anywhere. This platform should include courses from various disciplines and cover different levels and needs to meet the lifelong learning needs of students. Secondly, promote open courses. Universities can create open courses that allow non enrolled students to participate in learning and open up their high-quality educational resources to the public. This not only promotes the dissemination and sharing of knowledge, but also provides opportunities for people from all walks of life to continue learning. Thirdly, establish online degree courses. Universities can offer online degree courses, allowing individuals who wish to further their education and enhance their qualifications to obtain corresponding degrees through online learning. This degree program not only ensures the quality of education, but also provides more flexible learning methods, making it convenient for professionals and other groups with learning needs. Finally, conduct remote training courses. Universities can provide remote training services for enterprises, government agencies, and other organizations, providing customized online training courses tailored to specific fields or professional needs, helping employees improve their skills, update their knowledge, and achieve lifelong learning goals.

These methods will help break down time and geographical limitations, make learning a sustainable attitude towards life, make higher education more in line with social needs, and better serve students and social development.

(4) Strengthening interdisciplinary education: Universities can strengthen the connections and exchanges between different disciplines, break down disciplinary barriers, promote academic integration and innovation, and cultivate composite talents with multi-disciplinary knowledge by establishing interdisciplinary courses and projects, establishing interdisciplinary research centers, conducting interdisciplinary professional settings, and strengthening interdisciplinary cross training.

Firstly, establish interdisciplinary courses and projects. Universities can offer interdisciplinary courses and invite experts from different disciplines to teach together, helping students cross disciplinary boundaries and gain diverse knowledge perspectives. At the same time, it should organize interdisciplinary projects to enable students from different majors to collaborate and solve practical problems, thereby cultivating their teamwork and interdisciplinary thinking abilities. Secondly, establish interdisciplinary research centers. Universities can establish interdisciplinary research centers,

gather interdisciplinary experts and scholars, carry out cutting-edge research work, and promote exchanges and cooperation between different disciplines. Through interdisciplinary research, it explore new areas of knowledge and cultivate students' ability to comprehensively apply knowledge. Thirdly, carry out interdisciplinary professional settings. Universities can design interdisciplinary majors that integrate knowledge from different disciplines, providing students with a wider range of knowledge coverage and comprehensive ability development. This professional setting helps to cultivate versatile talents, enhance students' comprehensive quality and competitiveness. Finally, strengthen interdisciplinary cross disciplinary training. Universities can implement a system of interdisciplinary elective courses for students, encourage them to take courses in other majors across disciplines, broaden their knowledge, and improve their overall quality. At the same time, it should organize academic reports, forums, and other activities to promote interdisciplinary exchanges between teachers and students and broaden academic perspectives.

These methods will help broaden students' academic horizons, enhance their comprehensive and innovative abilities, adapt to the demand for versatile talents in the information age, and promote the development of higher education towards a more comprehensive and diversified direction.

(5) Strengthening soft power cultivation: Universities can enhance soft power cultivation by offering innovation and entrepreneurship courses, promoting team cooperation projects, strengthening practical teaching, and offering communication and expression training courses, cultivating students' innovative spirit, team cooperation ability, communication and expression ability, and other soft power.

Firstly, offer courses on innovation and entrepreneurship. Universities can offer courses related to innovation and entrepreneurship to guide students in cultivating innovation awareness and creativity, as well as learning entrepreneurial knowledge and skills. By participating in innovation and entrepreneurship projects, students can exercise their problem-solving skills, teamwork spirit, and stress resistance. Secondly, promote team collaboration projects. Universities should organize interdisciplinary team projects, allowing students to play different roles within the team, and exercising their teamwork skills and coordination communication abilities. Through team collaboration projects, students can learn to communicate effectively and collaborate to solve problems. Thirdly, strengthen the practical teaching process. Universities should add practical teaching elements to the curriculum, allowing students to experience real-life work scenarios firsthand and cultivate practical operational and problem-solving abilities. By combining practical teaching, we can guide students to learn reflection and summary skills, critical thinking, and self-learning abilities. Finally, offer communication and expression training courses. Universities can offer training courses on communication skills and expression abilities to help students improve their oral, written, and nonverbal communication and expression abilities. Cultivating good communication skills among students is beneficial for them to better communicate and cooperate with others, and enhance their personal professional competitiveness.

These methods will help students develop comprehensively, enhance their overall quality, better adapt to the challenges of future society, better integrate into the workplace, and demonstrate leadership skills, laying a solid foundation for personal career development. Strengthening the cultivation of soft power is not only beneficial for the personal growth of students, but also meets the demand for versatile talents in the information age, and helps to promote social progress and development.

5. Conclusion

The information age has brought unprecedented opportunities and challenges to higher education, requiring universities to actively innovate education models and talent cultivation paths. This article delves into the transformation needs of higher education in the information age and emphasizes the importance of continuous innovation. Universities should keenly grasp the pulse of the times, continuously adjust teaching methods, and cultivate talents with comprehensive literacy and innovative spirit. In the future, universities should strengthen their connection with the technology industry and social needs, promote deep integration of industry, academia, and research, upgrade the talent training system, and achieve leapfrog development in education. I hope that universities can bravely take the lead in the wave of informatization, contribute to the cultivation of more outstanding talents who can meet the needs of social development, and jointly create a new situation in education.

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Research on the Construction of University Students' Voluntary Service System, Yan 'an University 2023 Ideological and political work research project, 2023szgzyjkt-09.

References

- [1] Khimich Y. Formation of Information Culture of Higher Education Students in the Digital age[J]. Scientific journal "Library Science. Record Studies. Informology", 2023. DOI:10.32461/2409-9805.1.2023.276773.
- [2] Li X, Wang Y, Zhang Q, et al. Innovation of International Logistics Talent Training Mode in Applied Undergraduate Colleges and Universities Based on the 'Belt and Road'[C]//International Conference of Artificial Intelligence, Medical Engineering, Education. Springer, Cham, 2023. DOI:10.1007/978-3-031-24468-1_57.
- [3] Yinqi W, L Z L M. The Realistic Dimension and Action Path of the High-Quality Vocational Undergraduate Talent Training Model: A Text Analysis Based on the Education Quality Reports of 21 Vocational and Technical Universities[J]. China Higher Education Research, 2023, 39(05):101-108. DOI:10.16298/j.cnki.1004-3667.2023.05.15.
- [4] Li C, Li W. Research on the Construction of "Practice and Innovation" Integration System and Model Innovation in Higher Education Institutions—A Case Study of Beijing Institute of Fashion Technology [J]. Creative Education, 2023. DOI:10.4236/ce.2023.141001.
- [5] Ghardashi F, Yaghoubi M, Teymourzadeh E, et al. The innovation capability model in higher education: A structural equation modelling approach[J]. African Journal of Science, Technology, Innovation and Development, 2023, 15(4):473-481. DOI:10.1080/20421338.2022.2125594.
- [6] Cai W. Innovation and path of teacher literacy in basic education in the era of artificial intelligence [J]. Region - Educational Research and Reviews, 2023, 5(3):55-57. DOI: 10.32629/rerr.v5i3.1294.
- [7] N S Barbashina, I I Astapov, M I Delov, et al. New challenges and approaches in training personnel for research projects of the "MegaScience" class [J]. Journal of Physics: Conference Series, 2022, 2210(1). DOI:10.1088/1742-6596/2210/1/012013.
- [8] M M Mintii. STEM education and personnel training: systematic review[J]. Journal of Physics: Conference Series, 2023, 2611(1). DOI:10.1088/1742-6596/2611/1/012025.