

Research on the Application of Modern Educational Technology in Higher

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Abstract: With the rapid development of information technology, the application of modern educational technology in higher education is increasingly extensive, providing a new perspective and method for teaching and learning. Modern educational technology can improve teaching efficiency, enrich teaching resources, and enhance students' learning experience. At the same time, it also faces challenges such as improving teachers' technical ability and ensuring teaching quality. This paper discusses the application values, principles and strategies of modern educational technology in higher education in order to provide guidance for higher education institutions and educators and promote the effective application of modern educational technology in higher education.

Keywords: Modern educational technology; Higher education; Application

Foreword

In the era of knowledge economy in the 21st century, the rapid development of information technology has had a profound influence on the field of education. As an important base for cultivating innovative talents and promoting social progress, higher education is urgently needed to reform the traditional education mode and improve the quality and efficiency of education with the help of modern educational technology. Modern educational technology, including online learning platform, virtual reality technology, intelligent teaching system, etc., provides rich teaching resources and flexible teaching methods for higher education. By analyzing the application status and trend of modern educational technology in higher education, this paper discusses its value and effect in promoting students' independent learning, enhancing teaching interaction and realizing personalized teaching, in order to provide theoretical support and practical guide for the innovative development of higher education.

1. The application value of modern educational technology in higher Education

With the rapid development of information technology, modern educational technologies such as multimedia, network teaching and virtual reality have been widely used in higher education. The use of these technologies breaks the space-time limitation of traditional teaching, and makes it possible to share teaching resources and interactive learning. Students can access rich teaching resources anytime and anywhere through the network platform to conduct personalized learning, which enhances the initiative and flexibility of learning, and also promotes the cultivation of students' critical thinking and innovation ability. The application of modern educational technology also promotes the innovation of teaching methods and educational concepts. With the help of educational technology, teachers can adopt new teaching modes such as flipped classroom and project-based learning, transform the traditional teacher-centered teaching mode into student-centered learning mode, and effectively improve the interactivity and sense of participation of learning. At the same time, modern educational technology also provides teachers with effective teaching evaluation tools. Through data analysis and feedback, teachers can more accurately grasp students' learning situation, adjust teaching strategies in time, and realize personalized teaching. Modern educational technology also plays an irreplaceable role in cultivating students' lifelong learning ability and the ability to adapt to the future society. Through online learning platforms and online courses, students can learn the latest knowledge and skills, and develop the ability of independent learning and continuous learning. Modern educational technology also provides students with opportunities for cross-cultural communication and cooperation, helping to cultivate students' international vision and teamwork ability.^[1]

2. Principles of the application of modern educational technology in Higher Education

2.1 Respect for personality

The application of the principle of respecting individuality promotes the transformation of higher education from a “one-size-fits-all” teaching mode to a teaching mode that focuses on students’ individual differences among students, and helps each student to maximize their potential in his or her own pace. This not only improves the effectiveness of education, but also enhances students’ learning motivation and satisfaction. For example, through data analysis and learning analysis technology, teachers can understand students’ learning progress and difficulties, give timely personalized guidance and feedback, help students overcome learning obstacles and improve their learning effects. The principle of respecting individuality also means providing students with diversified learning resources and interactive platforms to meet students with different learning styles and interests. Modern educational technology enables the realization of video teaching, multiple teaching modes of collaborative learning and flipped classroom. Students can choose the most suitable learning mode according to their own preferences, thus in their hands

2.2 Independent learning

Through modern educational technology, students can access a large number of learning materials and courses anytime and anywhere, which improves the convenience of learning and enables students to adjust their learning plans according to their own learning progress and understanding degree. For example, students can teach themselves through online courses, experimental manipulation exercises using virtual laboratories, or specific skills training through educational applications. This learning method is helpful to cultivate students’ self-management ability and independent inquiry ability, so that students can become the subject of learning, not just passive knowledge recipients. At the same time, modern educational technology also supports the design of personalized learning paths. Through the intelligent learning management system, personalized learning suggestions and resources can be provided according to students’ learning performance and preferences, to help students achieve their goals more effectively. The use of social media and collaboration tools also encourages students to communicate and cooperate with others on the basis of independent learning to solve problems together and further expand the connotation of independent learning. However, achieving effective self-directed learning also faces challenges, such as students may lack self-drive and time management ability, and educators need to rationally design learning activities, provide guidance and support to help students overcome difficulties and give full play to the advantages of modern educational technology. For example, organizing regular online discussions, giving real-time feedback on learning progress, and setting learning goals and incentive mechanisms are all effective ways to support students’ independent learning.

2.3 Openness and diversity

In the field of higher education, the application of modern educational technology should adhere to the principle of openness and pluralism, which emphasizes the openness and diversity of educational resources and learning channels, and encourages innovative thinking and interdisciplinary learning. The practice of open and pluralistic principles aims to break the boundaries of traditional education and provide students with a comprehensive educational experience by introducing international teaching resources, interdisciplinary curriculum setting and flexible and diverse learning paths. However, achieving the goal of open and pluralistic education also faces a series of challenges, such as how to ensure the quality of educational resources, how to evaluate and verify non-traditional learning outcomes, and how to ensure educational equity. The solution to these problems requires the joint efforts of higher education institutions, government departments and all sectors of society, and establishes an effective quality assurance and evaluation system through the formulation of corresponding policies and standards to ensure the healthy development of open and diversified education.^[2]

3. The application strategy of modern educational technology in Higher Education

3.1 Forming modern educational concepts

Modern educational concepts emphasize that the design and implementation of teaching activities should pay attention to students’ active participation and personalized development, and promote the cultivation of students’ critical thinking, innovation ability and social responsibility. For example, the introduction of the “flipped classroom” teaching mode is an application strategy to reflect the modern educational concepts. In this model, the traditional order of classroom teaching and homework is reversed, students learn new knowledge by watching online videos before class, and class time is spent on discussion, practice and problem solving. This practice increases students’ learning initiative, and is more conducive to teachers to provide personalized guidance according to students’ learning situation. For another example, big data and artificial intelligence technology can be used to build a personalized learning

recommendation system and recommend learning resources and paths suitable for students according to their learning behaviors and preferences. The application of this technology can effectively support students' self-directed learning and help students to build a knowledge structure that meets their personal interests and career development needs. Modern educational concepts also emphasize the teaching method of interdisciplinary and practice. By setting up interdisciplinary projects to encourage students to apply knowledge in different fields to solve practical problems, it can enhance students' comprehensive ability and stimulate their innovative thinking. At the same time, the use of virtual laboratory, simulation and other modern educational technologies is used to provide students with more practical operation opportunities, so that students can learn and explore in the simulated environment, and make up for the lack of practical links in traditional teaching.^[3]

3.2 Highlight the main body status of students

The application of modern educational technology in higher education is the main position of students. This means that students should be placed at the center of learning activities in the teaching process, and students' active participation, independent inquiry and personalized learning needs should be emphasized. Through the use of modern educational technology, we can create a more diverse and interactive learning environment for students, so as to promote the comprehensive development of students' ability. For example, the use of online learning platform can realize the digitalization of courses and resource sharing, and students can flexibly choose the learning time and content according to their own time arrangement and learning progress. This learning method greatly enhances students' independent learning ability. Through these platforms, students can have access to quality educational resources from all over the world, and can also communicate and discuss with teachers and other students through forums and comment areas and other functions, increasing the interactivity and sense of community of learning.

3.3 Actively enrich the teaching mode

The application of modern educational technology can break through the space and time limitation of traditional classroom teaching, and can also provide students with more diversified and personalized learning experience. Create immersive learning environments using virtual reality (VR) and augmented reality (AR) technologies. In medical education, through VR simulation, students can learn and train surgical operation in a risk-free environment; in history education, AR technology can "revive" historical events, allowing students to learn historical knowledge more intuitively in an environment as if they are in it. Collaborative learning is also a mode of teaching promoted by modern educational technology. Through online forums, social media platforms, and collaboration tools, students can transcend geographic constraints to communicate and collaborate with students from different backgrounds to complete project tasks together. This learning style helps students improve their communication and collaboration skills, broaden their international vision, and enhance their understanding and respect for multiculturalism. Actively enriching the teaching mode requires educators to keep an open mind, constantly learn and master new educational technologies, understand the needs and interests of students, and design and implement teaching activities in line with the characteristics of students' learning. Through continuous attempts and optimization, the organic combination of traditional teaching and modern educational technology can effectively improve the quality of teaching, stimulate students' 'enthusiasm for learning, and cultivate students' innovative ability and lifelong learning ability.

Epilogue

The introduction of modern educational technology has brought revolutionary changes to higher education, changed the way of teaching and learning, and provided possibilities for improving the quality and efficiency of education. The effective application of modern educational technology requires the joint efforts of higher education institutions and educators to construct modern educational concepts, respect the principal position of students, enrich the teaching mode, and improve teachers' ability of technical application and teaching design through continuous technical training and teaching practice.

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