On the Innovative Application of Modern Educational Technology in University Teaching Management

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〔**Abstract**〕With the development and application of information technology, modern educational technology has been widely applied and promoted in the teaching management of colleges and universities. As a new educational means, modern educational technology can not only improve the teaching effect, but also strengthen the teaching management and improve the teaching quality. This paper will focus on the innovative application of modern educational technology in university teaching management, in order to provide some new ideas and methods of university teaching management.

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1 Introduction

With the continuous development of information technology, modern educational technology has become an indispensable part in the field of education. Modern educational technology, including computer technology, network technology, multimedia technology, and artificial intelligence technology, is widely used in teaching and management. In the teaching management of colleges and universities, the application of modern educational technology is also more and more common. Applications of modern educational technology in university teaching management can include educational administration management system, online learning platform, teaching resource database, data analysis and decision support system, etc. These systems can help teachers and administrators manage the information of students, courses, examinations, teaching resources, etc. , improve the efficiency and quality of teaching management, and provide decision support for schools. At the same time, the current teaching management in colleges and universities also faces some challenges, such as low efficiency of teaching management, uneven distribution of teaching resources, deficient student evaluation and so on. Therefore, the application of modern educational technology in university teaching management can not only improve the quality and efficiency of teaching, but also optimize the allocation of teaching resources, promote information sharing and knowledge innovation, and improve the level of decision-making and management.

The application of modern educational technology in university teaching management is very necessary, which can improve the quality and efficiency of teaching, promote information sharing and knowledge innovation, improve the level of decision-making and management, and promote the modernization of university teaching management. First, improve the efficiency of teaching management. Modern educational technology can help teachers and administrators manage the information of students, courses, examinations, etc. , improve the efficiency of teaching management, reduce the working time and cost. Second, optimize the allocation of teaching resources. Modern educational technology can provide rich teaching resources, promote the sharing of teaching resources, optimize the distribution of teaching resources, and improve the quality and efficiency of teaching. Third, promote information sharing and knowledge innovation. Modern educational technology can provide online learning platform and teaching resource database, promote information sharing and knowledge innovation between students and teachers,

and improve the learning and teaching effect for students and teachers respectively. Fourth, improve the level of decision-making and management. Modern educational technology can provide data analysis and decision support system to help administrators analyze data, predict trends, make more reliable decisions, and improve management level.

2   Application scenarios of modern educational technology in university teaching management

The wide application of modern educational technology in the teaching management of colleges and universities can help them improve the efficiency, innovation, quality and level of teaching.

2. 1 Application in educational administration management system

The educational administration management system can provide comprehensive information services for the teaching management of colleges and universities, assist the school in managing the information of students, courses, examinations, teachers, etc. , improve the efficiency and quality of teaching management, optimize the allocation of teaching resources, and improve the level of decision-making and management. First, student management. The educational administration management system can assist the school in managing student information, including student's status, score, course, etc. Students can query their status and score information through the educational administration management system, and teachers can view students' information through the system to facilitate the management and guidance of students. Second, curriculum management. The educational administration management system can assist the school to manage the course information, including setting, arrangement, and selection of the course. Students can choose and withdraw courses through the educational administration management system, and teachers can arrange courses through the system to facilitate management and teaching. Third, examination management. The educational administration management system can assist the school in managing examination information, including arrangement and results of the examination. Students can query their examination information and scores through the educational administration management system, and teachers can view students' examination scores through the system, which is convenient for students' evaluation and guidance. Fourth, teacher management. The educational administration management system can assist the school in managing teacher information, including professional title, work experience, teaching situation, etc. Teachers can query their own teaching information through the educational administration management system, and administrators can evaluate and assess teachers' performance through the system. Fifth, data analysis and decision support. The educational administration management system can provide data analysis and decision support to help administrators analyze and make decisions on the teaching management of the school.

2. 2 Application in teaching resource database

The application of modern educational technology in the teaching resource database can provide students and teachers with richer, more convenient, more efficient and more personalized teaching resources, promote the sharing and exchange of teaching resources, and improve the quality and efficiency of teaching. First, storage and management of teaching resources. Teaching resource database can be used to store and manage teaching resources, such as courseware, video, audio, documents, etc. Through the standardized management of teaching resources, it is convenient for students and teachers to find and use teaching resources, and improve teaching efficiency and quality. Second, sharing and exchange of teaching resources. The teaching resource database can provide a platform for sharing and communicating teaching resources. Teachers can upload their own teaching resources to the teaching resource database, and other teachers and students can share these resources to improve the utilization efficiency and teaching quality of teaching resources. Third, customization of teaching resources and personalized learning. The teaching resource database can provide personalized teaching resources. Teachers can customize teaching resources according to students' different needs and characteristics to help them better learn and master knowledge. Fourth, online learning and evaluation of teaching resources. The teaching resource database can provide online learning and evaluation functions. Students can learn and evaluate teaching resources online

through the teaching resource database, so as to acquire knowledge and improve learning effect conveniently and quickly. Fifth, the opening and co-construction of teaching resources. The teaching resource database can provide an open and co-construction mechanism. Students and teachers can co-build and develop teaching resources in the teaching resource database, and improve the quality and diversity of teaching resources.

2.3 Application in teacher evaluation system

The application of modern educational technology in teacher evaluation system can provide personalized teaching feedback and guidance for teachers, optimize the evaluation index system, improve the accuracy and fairness of evaluation, automate and digitize the evaluation process, improve the efficiency and accuracy of evaluation, help teachers improve teaching strategies and methods, and improve the teaching effect and quality. First, collection and analysis of teacher evaluation data. Educational technology can help collect and analyze teacher evaluation data, such as student feedback, teaching evaluation, teaching effect, etc. Through the analysis and mining of teacher evaluation data, we can provide personalized teaching feedback and guidance for teachers, and help teachers improve the quality and effect of teaching. Second, design and optimization of teacher evaluation index. Modern educational technology can help design and optimize the teacher evaluation index system, combine educational technology with teaching index, realize a comprehensive, objective and scientific teacher evaluation system, and improve the accuracy and fairness of evaluation. Third, automation and digitization of teacher evaluation. Educational technology can digitize and automate the process of teacher evaluation, simplify the evaluation process, and improve the efficiency and accuracy of evaluation. For example, the automatic evaluation system can automatically evaluate according to student feedback, teaching evaluation and other data, so as to improve the accuracy and objectivity of the evaluation. Fourth, feedback and improvement of teacher evaluation. Educational technology can provide teachers with timely evaluation feedback and improvement opportunities, help teachers improve teaching strategies and methods, and improve teaching effect and quality.

2.4 Application in data analysis and decision support system

The application of modern educational technology in data analysis and decision support system can help colleges and universities obtain, analyze and use educational data, discover educational laws and trends, formulate more scientific and reasonable teaching management strategies, improve teaching effect and quality, provide personalized teaching support for students, and improve students' interest in learning and achievement. First, data collection and cleaning. Modern educational technology can help colleges and universities collect and clean all kinds of educational data, such as student achievement, course evaluation, teacher evaluation, teaching resources, etc. Through data collection and cleaning, colleges and universities can obtain a large number of education data to provide data support for data analysis and decision support system. Second, data analysis and mining. Modern educational technology can help colleges and universities analyze and mine educational data and find potential laws and trends. Through data analysis and mining, colleges and universities can have an in-depth understanding of students' learning situation, teaching effect of courses, teachers' teaching level and other aspects, so as to provide support for teaching management and decision-making in colleges and universities. Third, development and application of decision support system. Modern educational technology can help colleges and universities develop and apply decision support systems, and realize the visualization and interactive analysis of educational data. Through the decision support system, colleges and universities can formulate more scientific and reasonable teaching management strategies to improve the teaching effect and quality. Fourth, personalized teaching recommendation system. Modern educational technology can help colleges and universities develop and apply personalized teaching recommendation system according to students' learning characteristics and needs, provide personalized teaching recommendation and support for students, and improve their learning interest and achievement.

3　Advantages of modern educational technology in university teaching management

Modern educational technology has obvious advantages in teaching management in colleges and universities,

which can help colleges and universities improve the efficiency, innovation, quality and level of teaching.

3. 1 Improve the efficiency of teaching management

Modern educational technology can bring many benefits to teaching management, such as improving efficiency, reducing workload, and improving the satisfaction of students and teachers, as well as the quality of teaching. First, online learning platform. The online learning platform can make it easier for teachers and students to access and share teaching resources and course materials. At the same time, it also features the functions of homework submission and evaluation, which can save time and energy and improve the efficiency of teaching management. Second, intelligent teaching management system. The intelligent teaching management system can automate and simplify many teaching management tasks, such as course arrangement, score record, attendance management, etc. , so as to improve the efficiency and accuracy of teaching management. Third, mobile learning application. Mobile learning application can allow students and teachers to access educational resources and course materials at any place and any time, so as to improve the efficiency and flexibility of teaching management. Fourth, video conference tools. Video conference tools can enable teachers and students to conduct distance teaching and learning in different places, avoiding time and space constraints, and improving the efficiency and coverage of teaching management. Fifth, intelligent data analysis. Intelligent data analysis can help teachers and administrators better understand students' learning situation and teachers' teaching effect, so as to adjust teaching strategies and management methods and improve the efficiency of teaching management.

3. 2 Optimize the allocation of teaching resources

Modern educational technology can help schools and educational institutions allocate educational resources more equitably and effectively, realize the sharing and optimization of educational resources, and improve the teaching effect and students' learning outcomes. First, online course platform. The online course platform can provide a large number of educational resources, including video, audio, text, images, etc. , which can be accessed anytime and anywhere. Students can choose the courses and learning resources they are interested in according to their own learning needs, thus optimizing the allocation of teaching resources. Second, virtual laboratory. Virtual laboratory allows students to experiment and explore in a virtual environment, thus avoiding the limitations of experimental equipment and venues, and making the allocation of teaching resources more equitable and effective. Third, personalized learning system. Personalized learning system can provide students with appropriate educational resources and courses according to their learning needs and ability level, so as to realize the personalized distribution of teaching resources. Fourth, online learning community. Online learning community allows students and teachers to exchange and share educational resources and learning experience with each other, so as to optimize the allocation and utilization of teaching resources. Fifth, intelligent resource management system. The intelligent resource management system can automate and simplify many teaching resource management tasks, such as resource collection, sorting, storage, sharing, etc. , so as to improve the efficiency and quality of teaching resource allocation.

3. 3 Promote information sharing and knowledge innovation

Modern educational technology can provide teachers and students with a more convenient and efficient platform for information sharing and knowledge innovation, promote the exchange and sharing of knowledge, and improve the quality of education and the comprehensive quality of students. First, online education platform. The online education platform can provide teachers and students with massive learning resources and knowledge base, so that they can obtain the latest knowledge and information anytime and anywhere, and share their learning and teaching experience through online discussion and exchange. Second, digital library. Digital library can provide teachers and students with rich learning resources, including e-books, journals, academic papers, etc. , so that they can obtain knowledge and information more conveniently. It also provides a platform for knowledge innovation for teachers and students. Third, social media. Social media platform can promote the communication and cooperation

between teachers and students, and promote the innovation and development of knowledge by sharing and discussing knowledge. Fourth, big data analysis. Big data analysis can help schools and educational institutions analyze students' learning and behavior data, so as to discover their learning interests and needs, and promote the personalized distribution of educational resources and knowledge innovation.

3. 4 Improve decision-making and management

Modern educational technology can help schools and educational institutions to achieve information and intelligent management, improve management efficiency and quality, so as to better serve the cause of education and students' learning outcomes. First, data analysis and decision support system. Data analysis and decision support system can help schools and educational institutions collect, analyze and use students' learning and behavior data to provide decision support for administrators, so as to improve management efficiency and quality. Second, school management information system. The school management information system can help schools and educational institutions realize information management, including the management of teacher and student files, course, examination, score, etc. , so as to improve the management efficiency and accuracy. Third, artificial intelligence management system. Artificial intelligence management system can help schools and educational institutions automate and intelligentize many management tasks, such as course scheduling, adjustment, selection, etc. , so as to reduce the workload of administrators and improve management efficiency and accuracy. Fourth, pre-warning system for education. Pre-warning system for education can help schools and educational institutions find students' problems and needs in time, so as to take targeted educational measures to improve students' learning effect and education quality. Fifth, online meeting and collaboration platform. The online meeting and collaboration platform can help schools and educational institutions improve the efficiency of communication and collaboration, so that administrators can meet and collaborate with each other anytime and anywhere, so as to better manage and make decisions.

4　Development trend of modern educational technology in university teaching management

The development trend of modern educational technology in the teaching management of colleges and universities will pay more and more attention to the direction of personalization, diversification, intelligence and mobility, which will bring more innovation and change to the teaching management of colleges and universities.

4. 1 Intelligent education management

It refers to the comprehensive management and intelligent service of educational resources, student information, teacher information and teaching process through modern information technology means such as artificial intelligence, big data analysis, cloud computing and Internet of things, which can improve the efficiency and quality of educational management and promote the innovation and development of education. First, data-driven. Through the collection, analysis and processing of massive data, intelligent education management can realize the comprehensive monitoring and analysis of education resources, student information, teacher information, teaching process, etc. , and provide strong support for education management decision-making based on data. Second, personalized service. Intelligent education management can provide students with personalized learning paths, resources and support according to their learning characteristics, needs and interests. At the same time, it can also provide personalized teaching aids and support for teachers to improve the quality and efficiency of teaching. Third, intelligent evaluation. Intelligent education management can realize the comprehensive evaluation and feedback of students' learning achievements and teachers' teaching effects through automatic and intelligent evaluation, so as to improve the scientificity and impartiality of education management. Fourth, collaborative management. Intelligent education management can realize the collaboration and information sharing between different departments and teams, strengthen the overall collaboration and resource sharing of education management, and improve the efficiency and effect of education management.

4. 2 Mobile education management

It refers to the realization of comprehensive coverage and mobile services for education management through mobile devices and wireless network, so that education management can disregard time and space, and bring more convenient management methods and more efficient management effects for education management. First, real-time. Mobile education management can realize the real-time monitoring and management of education resources, student information, teacher information, teaching process and so on anytime and anywhere, and realize the real-time education management. Second, portability. Mobile education management can achieve full coverage of education management through mobile devices（such as mobile phones, tablets, laptops）, so that education management can disregard time and space, and improve the portability and flexibility of education management. Third, diversity. Mobile education management can provide diversified education management services for students, teachers and administrators through a variety of application software and service methods, such as online classroom, education cloud, learning platform, etc. Fourth, personalization. Mobile education management can provide students with personalized learning paths, resources and support according to their learning characteristics, needs and interests. At the same time, it can also provide personalized teaching aids and support for teachers to improve the quality and efficiency of teaching.

4. 3 Virtualized education management

It refers to the realization of comprehensive coverage and online services of educational resources, teaching process and management services through virtualization and network, and the transformation of educational management from physical space to virtual space, bringing more convenient management methods and more efficient management effects to educational management. First, linear. Virtual education management can realize all-round online learning and teaching services for students through online teaching, examination, counseling and other ways, and improve the online and comprehensive nature of education management. Second, virtualization. Virtual education management can realize the virtual service of education management through virtual reality, augmented reality and intelligent technology, so that students, teachers and administrators can complete the teaching and management tasks in the virtual space. Third, visualization. Virtual education management can realize the visual monitoring and management of education management process through visualization and data visualization, and improve the efficiency and quality of education management. Fourth, intelligence. Virtual education management can realize personalized service and intelligent support for students, teachers and administrators through intelligent technology and data mining, and improve the efficiency and quality of education management.

4. 4 Student-centered education management

It refers to taking students as the center, putting their needs and learning experience at the core of education management, and providing them with more personalized, diversified and innovative learning services and education management through the means of educational technology and information. It can improve students' learning effect and experience, promote their all-round development and quality improvement, enhance their learning motivation and interest, and realize the sustainable development of university education management. At the same time, student-centered education management also needs to pay attention to the scientization and standardization of education management, so as to realize the scientificity and effectiveness of education management and ensure the learning quality and learning results of students. First, personalization. Student-centered education management can realize personalized service and education management for students through personalized teaching, evaluation, counseling and other ways, so as to meet the diversified learning needs of students. Second, innovation. Student-centered education management can realize the innovation of education management and teaching process by means of educational technology and informatization, and promote the development of education management to be more intelligent, digital, virtual and mobile. Third, service-oriented. Student-centered education management can put students' needs and experience at the core of education management, pay attention to service quality and service experience, and improve students' satisfaction and sense of belonging.

Student-centered education management is also of great significance to the development of higher education management.

4. 5 Social education management

Social education management is a kind of education management method, which aims to cultivate students' social ability and interpersonal skills. Through social education management, students can develop the abilities of strong adaptability, high EQ, positive values and teamwork spirit, which are of great help to their future career and personal life. First, the role of teachers. Teachers should be the guides of students, encourage students to participate in social activities, and provide them with opportunities to learn, practice and apply social skills. Second, interaction between students. Students should be encouraged to participate in group discussions, cooperative projects and other team activities to help them develop their social skills and build good interpersonal relationships. Third, emotional management. Emotional management is a method to cultivate students' emotional health. Students should be taught on how to manage their emotions and how to establish positive and effective relationships with others. Fourth, community participation. Community participation is another important aspect of social education management. Students should be encouraged to participate in volunteer work, charity activities and other community projects to establish their connections with society. Fifth, cooperation between family and school. The school should keep close contact with the family to ensure that students establish a good relationship between the family and the school and receive the support of the family and the school.

5　Conclusion

Modern educational technology can improve students' learning efficiency and learning outcomes. Through the application of diversified teaching scenarios and adaptive teaching, students can better understand and master knowledge, and better interact with teachers and classmates, so as to improve learning efficiency and outcomes. Modern educational technology can improve teachers' teaching quality and work efficiency. Through the application of intelligent teaching and learning analysis, teachers can better understand students' learning situation, provide more personalized teaching programs, and manage and evaluate students' learning situation more efficiently. Modern educational technology can make education more diversified and flexible. Through interdisciplinary and mobile applications, students can better understand and apply the knowledge of different disciplines, and can choose learning time and methods more freely, so as to make education more diversified and flexible. The development trend of modern educational technology is to be more intelligent, personalized and diversified. In the future, educational technology will pay more attention to the application of artificial intelligence and big data, as well as the application of personalized learning and diversified teaching scenarios.

To sum up, the research on the innovative application of modern educational technology in university teaching management can help us better understand the advantages and development trend of modern educational technology, and provide important reference for the improvement of university teaching management.

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