

Research on Innovative Teaching Methods in Higher Education Based on Digital Media Technology

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ABSTRACT

The rapid advancement of digital media technology has propelled higher education teaching methods into an innovative stage. This paper explores the application of digital media technology in higher education, particularly how to promote the diversification, personalization, and refinement of teaching methods, while improving teaching efficiency and interactivity. The paper also explores strategies for optimizing blended learning, promoting collaborative learning, and achieving personalized teaching through data analysis using digital media technology. These innovative strategies provide modern education with more flexible, efficient, and customized teaching models. This can help higher education effectively respond to the challenges and opportunities of the new era.

KEYWORDS

digital media technology; teaching innovation; higher education; blended learning; personalized teaching

1 Introduction

In today's rapidly developing information technology, digital media technology has penetrated into various fields of education, especially playing an increasingly important role in higher education; This provides a new approach to address the shortcomings of traditional teaching models in terms of personalization, interactivity, and efficiency. This paper will analyze how digital media technology can help diversify and personalize teaching methods in higher education, explore innovative paths to improve teaching efficiency, and meet the needs of modern education.

2 Optimizing Blended Learning Mode through Digital Media Technology

In modern higher education, blended learning combines the advantages of traditional face-to-face interactive teaching and digital technology; By digitizing teaching platforms and resources, blended learning models have improved the flexibility of teaching content and structure, as well as the interactivity and efficiency of the teaching process.

In order to cultivate applied talents, higher education should reasonably adjust the ratio of theoretical teaching to practical teaching, making the curriculum structure of universities more flexible. Compared to traditional fixed time and location teaching methods, micro courses assisted by digital media technology allow teachers to record theoretical explanation videos in advance; This allows students to watch at any time and place, allowing them to spend more time in class discussing and practicing. This model shifts the course structure from linear to non-linear and allows

students to freely choose their learning path based on their individual learning needs, thereby enhancing their ability for self-directed learning. [1] Meanwhile, in traditional classroom teaching, teachers can focus on improving students' creative thinking and other directions, thereby enhancing classroom efficiency and solving problems such as slow course progress and unsatisfactory teaching results caused by students' lack of proficiency in basic operations.

In addition, digital media technology can enrich teaching resources and tools, and optimize the presentation of content. Through the widespread application of digital media technology, teachers are no longer limited to traditional blackboards or projectors when presenting teaching content, but can use virtual reality (VR) and augmented reality (AR) technologies to concretize abstract concepts. In the TV program production technology course, teachers use digital technology to build a virtual studio (VVS), which synthesizes live characters with digital virtual scenes in real time, achieving synchronous changes between characters and virtual backgrounds, thus achieving perfect integration of the two and creating realistic visual effects. This type of online platform, which integrates audio, video, animation, virtual scenes, etc. through digital media technology, provides a multi sensory learning experience. This diverse teaching tool helps students to have a more comprehensive understanding of complex concepts.

In this process, teachers need to possess certain technical literacy and teaching design abilities, in order to effectively implement blended learning. Therefore, universities should provide necessary digital media training and technical support to help teachers master digital tools proficiently, and provide instructional design guidance to enable teachers to effectively master how to use digital media technology for curriculum design and resource integration, ensuring the efficient implementation of blended learning. This requires teachers not only to possess basic technical skills, but also to have innovative teaching design thinking and be able to improve teaching quality through digital tools.

In summary, the application of digital media technology can significantly optimize blended learning methods, improve the display effect of teaching content and teacher-student interaction, while providing data support for teaching evaluation. In this regard, universities should actively promote the application of digital media technology and facilitate the optimization and improvement of teachers in blended learning design.

3 Utilizing Digital Media Technology to Promote the Implementation of Collaborative Teaching Methods

The collaborative teaching method emphasizes cooperative learning among students, focusing on team collaboration and task allocation, enabling students to help each other in the process of learning and solving problems together. This type of teaching effectively cultivates students' teamwork skills, communication skills, and critical thinking. The introduction of digital media technology has made the implementation of collaborative teaching in higher education more efficient and flexible.

On the one hand, teachers use digital media technology to create virtual reality and simulate real work scenarios; Students can integrate offline practical creation into online platforms, simulate real design processes, make up for the practical shortcomings of traditional online learning, and improve the efficiency of skill acquisition. On the other hand, teachers use digital media technology to simulate real industry projects; Students can participate in practical projects such as digital media project design, UI and interaction design through online platforms. Online project practice not only enriches students' practical experience, but also enhances their teamwork ability.

In traditional classroom environments, collaborative learning is often limited by time and space,

and students must engage in face-to-face discussions and collaborations at specific times. The use of digital media technology, such as virtual simulation platforms, project management platforms, and various online collaboration tools, provides students with the possibility of project discussions, task assignments, and document sharing anytime and anywhere; It breaks through traditional limitations and enhances the flexibility of learning and collaboration. [2] These diverse collaboration tools enhance interaction among students and provide a collaborative experience that is closer to the actual work environment, thereby enhancing students' practical skills and teamwork abilities.

In collaborative teaching practice, the role of teachers gradually shifts from traditional knowledge transmitters to facilitators of collaborative processes. In order to fully unleash the potential of digital media technology, teachers need to design appropriate collaborative tasks and projects to ensure that students can collectively tackle challenging tasks. Through the visualization tools of digital media technology, teachers can assign tasks to students, set clear project goals and timelines, to ensure the coherence of the collaborative process. [3] In addition, teachers can use digital platforms to provide real-time feedback and support, assist students in solving problems in team collaboration, and ensure that each group achieves its goals smoothly.

The above strategies demonstrate the important role of digital media technology in the implementation of collaborative teaching. Teachers can use digital platforms to create flexible collaboration spaces, design diverse collaboration tasks, and use data-driven methods to evaluate and provide feedback on collaboration. The application of digital media technology has improved the efficiency of collaborative teaching, optimized students' learning experience and teamwork ability, and promoted the innovation of teaching methods in higher education.

4 To Promote Personalized Teaching Methods Based on Data Analysis Relying on Digital Media Technology

Personalized teaching methods aim to customize teaching content and strategies based on each student's learning needs, interests, and ability levels. Digital media technology provides important technical support for personalized teaching, especially in the field of data analysis, enabling teachers to accurately grasp students' learning dynamics and implement more effective teaching plans accordingly.

Based on the combination of digital media technology and artificial intelligence technology, teachers use intelligent generation of multimodal content and real-time feedback on learning monitoring to quickly calculate students' learning preferences, cognitive differences, and learning processes, and intelligently adjust and push teaching resources that match students' current learning situation and learning goals. [4] While, in the Learning Management System (LMS) and various online platforms, teachers collect and analyze students' learning data such as learning progress, test scores, participation, and homework completion status; Teachers can gain a deep understanding of students' learning habits and performance during the teaching process, and customize personalized learning plans for students in different classes. For example, by analyzing common errors made by students in online tests, teachers can identify students' knowledge weaknesses and provide corresponding supplementary materials and exercises. This personalized teaching method based on data analysis enables teachers to intervene in teaching in a targeted manner, so that each student can receive teaching content that matches their needs. [5]

By combining digital media technology with AIGC technology, teachers can provide students with rich personalized learning content and resources on online platforms. Teachers can use online platforms to flexibly recommend various forms of learning resources based on students' specific learning needs, such as AI digital human explanations, virtual interactive exercises, etc. These

resources are not static, but can rely on the growth of computing power and continuous updates of databases to achieve timely updates and continuous optimization; And with the continuous dynamic adjustment of students' learning progress and interests, to ensure the accurate matching of learning materials, so that students can always acquire cutting-edge knowledge.

At the same time, digital media technology, with the assistance of intelligent tools, provides precise learning feedback mechanisms. Online platforms use algorithms to analyze students' performance in depth and generate personalized learning reports, which can clearly present their strengths and weaknesses. This detailed feedback can help teachers develop more effective teaching strategies and provide students with direction adjustment, thereby making their learning process more clear about their goals. In order to effectively carry out personalized teaching based on data analysis, teachers need to possess certain data analysis abilities and technical skills. Universities should provide professional training to help teachers master the application skills of digital tools, especially in data analysis and personalized teaching design. Meanwhile, universities should provide advanced digital platforms and tools for teachers to ensure the smooth implementation of personalized teaching.

5 Conclusion

The application of digital media technology can fundamentally change the teaching mode and interactive approach of higher education. Through in-depth practice of blended learning, collaborative learning, and personalized teaching optimization, digital media technology provides educators with efficient and personalized teaching solutions. Looking ahead to the future, with the continuous advancement of technology, higher education teaching will continue to innovate, using the power of digital media technology to promote the comprehensive improvement of education quality and learning outcomes.

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