

Strategies for improving the application ability of modern educational technology in college teachers

Zhao Wenming

Yili Normal University, Yining, Xinjiang, 835000, China

Abstract: *With the continuous innovation of information technology and educational means, the application of modern educational technology in the field of higher education has gradually shown its vital role. As the main body of education, the improvement of teachers' application ability in modern educational technology is the key factor to improve the quality of teaching and meet the diversified needs of students. This article starts with explaining the importance of improving the application ability of university teachers with modern educational technology, analyzes the challenges faced by university teachers in the process of applying modern educational technology, and puts forward strategies to improve the application ability of university teachers with modern educational technology, in order to provide a reference for university teachers and education managers, and further promote the improvement of higher education quality.*

Keywords: *College teachers; Modern educational technology; Application ability; Promotion strategies*

1. Introduction

The rapid development and popularization of modern educational technology has not only changed the traditional teaching model in the field of education, but also put forward higher requirements for teachers' professional ability. Especially in the field of higher education, with the intervention of the Internet, big data, artificial intelligence and other emerging technologies, teaching means and methods have undergone significant changes. However, many university teachers are often powerless in the face of these new technologies, and are unable to effectively apply them to teaching practice. On the one hand, this may be due to the lack of teachers' ability to apply modern educational technology, on the other hand, it may also be due to the existing support mechanism and resource allocation is not reasonable. Therefore, how to improve the ability of university teachers in the application of modern educational technology has become an urgent problem to be solved.

2. The importance of improving the ability of university teachers to apply modern educational technology

2.1 Improving the quality of teaching and enabling innovation in education

In the context of today's information society, the ability of university teachers to use modern educational technology directly affects the quality of teaching and educational innovation. Specifically, the skillful use of modern educational technology can not only make the teaching content more vivid and increase the students' interest in learning, but also effectively broaden the teaching methods and methods, so as to improve the quality of teaching^[1]. For example, through the use of multimedia teaching, online teaching platforms and educational software, teachers can more effectively teach knowledge, and then improve students' understanding and absorption ability. More importantly, the use of modern educational technology can empower educational innovation. By integrating various advanced technologies and teaching models, teachers can not only better personalize their teaching to meet the learning needs of different students, but also introduce more diversified teaching interactions and assessment methods in the classroom. Improving the application ability of modern educational technology is an important way to improve the quality of teaching and empower educational innovation, which is worthy of great attention and investment from all aspects.

2.2 Improve teaching efficiency to meet diverse needs

The use of modern educational technologies, such as online education platforms and artificial intelligence teaching assistants, can greatly save time and resources for teachers and students, and make the process of teaching and learning more efficient. For example, through data analysis and intelligent algorithms, teachers can accurately understand each student's learning progress and problem points, so as to carry out more targeted teaching. At the same time, modern educational technology can meet the diverse learning needs of different students. Through personalized recommendations, intelligent teams, and multimedia interaction, teachers can provide tailored learning programs and resources for each student. This can not only increase students' learning enthusiasm, but also improve their learning effect. Therefore, improving teaching efficiency and meeting diverse needs are important aspects of improving the application ability of modern educational technology of university teachers, which has far-reaching educational significance and social value.

2.3 Enhancing students' participation and enriching teaching means

By improving the ability of university teachers to apply modern educational technology, students' participation can be significantly enhanced. Modern educational technology provides infinite possibilities for interactive learning. Teachers can create a more attractive teaching environment through tools such as online discussions^[2], virtual experiments, and multimedia textbooks. Students will be more actively involved as they are able to explore knowledge, share views and interact with their classmates at their own pace, which helps develop their collaborative spirit and critical thinking. Improving teachers' ability to apply modern educational technologies also enriches teaching means. From online courses to virtual LABS, from educational games to adaptive learning platforms, these tools can not only meet the learning needs of different students, but also make teaching more diverse and flexible. Teachers can choose the right technology tools according to the subject characteristics and teaching objectives to improve teaching effect and achieve personalized education, so that each student can learn in the best way. Therefore, the improvement of college teachers' application ability of modern educational technology can not only stimulate the active participation of students, but also broaden the teaching means, improve the quality of education, make education more in line with the needs of The Times, and provide a broader stage for students' comprehensive development.

3. Challenges faced by teachers in colleges and universities in the application of modern educational technology

3.1 Rapid technological update and difficulties in adaptation

In the educational environment of colleges and universities, teachers are faced with multiple challenges in the application of modern educational technology, the most prominent of which is the rapid update of technology, and it is relatively difficult to adapt. With the rapid progress of science and technology, educational technologies and tools change rapidly. These emerging technologies have great potential and application value in teaching, but at the same time, teachers are required to constantly update their technical knowledge and application skills. However, for most university teachers, their professional background is not related to technology, so it is easy to feel powerless in the face of such a rapidly changing technological environment. They need to spend a lot of time learning new technology, which undoubtedly increases their workload. Even if they master a new technology, it is likely to be replaced by more advanced technology due to its rapid update, making the previous study and efforts go to waste. This phenomenon of rapid technological updating and difficulty in adapting not only affects the teaching effect of individual teachers, but also causes the whole education system to lag behind in the application of technology, restricting the improvement of the quality and efficiency of education.

3.2 Lack of effective resources and limited application

In addition to the rapid pace of technological updating and the difficulty of adaptation, university teachers also face the problem of lack of resources in the process of applying modern educational technology, which further limits their application scope and teaching effect. For many colleges and universities, especially those in non-key universities or those in remote areas, funds and facilities are often insufficient. This means that even if teachers are willing and able to apply new technologies, they may not be able to fully implement them because of a lack of hardware support, poor network

infrastructure or specialized educational software. At the same time, the lack of targeted and high-quality educational resources is also an important problem. Existing teaching resources may not be matched with the latest technology or optimized for the specific needs of higher education. This results in difficulties for faculty in finding, screening, and applying these resources. Therefore, this lack of resources not only affects the quality of individual teachers' teaching, but also restricts the popularization and application of modern educational technology in colleges and universities on a larger scale.

3.3 Teachers' self-drive is low and their participation is not active

College teachers also face the problems of low self-drive and inactive participation in the application of modern educational technology. On the one hand, for many teachers, modern educational technology may be seen as an added burden rather than a beneficial tool, especially for those who have been used to traditional teaching models. This perception may lead them to hold a negative attitude towards new technologies and lack the motivation to explore and apply them. On the other hand, even if there are some teachers who are open to new technologies, their actual engagement may not be high due to various reasons, such as lack of enough time and energy, or fear that they are not skilled enough to apply them efficiently. In this case, even if the school provides the corresponding support and resources, the promotion and application of modern educational technology is difficult to be widely accepted. Therefore, teachers' self-motivation and participation not only affect their teaching quality, but also become a bottleneck in the promotion of modern educational technology in colleges and universities, which increases the complexity and challenge of promoting the application of modern educational technology.

3.4 Lack of social cooperation and strong limitations

In addition to internal factors, university teachers also face external challenges in the application of modern educational technology, especially the lack and limitations of social cooperation. In many cases, the promotion and application of educational technology requires cross-field and cross-agency cooperation, including cooperation with technology providers, educational research institutions and even government departments. However, the reality is that such cooperation is often difficult to achieve or ineffective due to various reasons such as the lack of effective cooperation channels, or because the partners have inconsistent goals and interests. This lack of effective social cooperation not only limits the depth and breadth of application of modern educational technology in colleges and universities, but also restricts the further improvement of education quality and efficiency. For example, some educational technology products or solutions that have the potential to greatly improve the quality of teaching and student participation may not be widely promoted and applied due to cooperation difficulties

4. Strategies for improving the application ability of modern educational technology in college teachers

4.1 Regular training and continuing education to adapt to technological updates

In order to ensure that the skills of university teachers keep pace with The Times, the implementation of regular training and continuous education is an indispensable concrete step in view of the rapid change of technology. Emerging technologies and teaching tools can be covered through a training program organized jointly by the educational administration and the information technology department at the beginning of each semester. These trainings are not limited to traditional classroom lectures, but can also include online courses, flipped classrooms, and even hands-on sessions. At the same time, after each training, teachers are required to complete a practical assessment, which can include simulation teaching of new technology application or solving a practical problem related to new technology on the spot. The assessment results will be used as part of the teachers' personal files for future teaching evaluation. Continuing education should also include topical lectures and academic presentations that are updated in real time. Whenever new papers and research related to educational technology appear in the market, teachers should be notified in the first place, and experts in related fields should be organized to come to the school for communication when possible^[3]. In addition, teachers should be encouraged to participate in the preparation and feedback of this series of activities. They should not only be recipients of training and continuing education, but also co-shapers of content and form. Doing so will not only help improve the practicability of the training content, but also further enhance the self-driven enthusiasm of teachers.

4.2 Build a resource sharing platform to broaden the horizon

In order to broaden the horizon of teachers, building a resource sharing platform is a concrete and practical method. First of all, existing educational resources, such as teaching plans, courseware, and online tutorials, can be centralized and stored in a cloud database that is easy to access and retrieve. This not only facilitates teachers to access the latest teaching resources at any time, but also facilitates knowledge flow across disciplines and fields. At the same time, the platform should also set up a special discussion area for teachers to share their experiences, ideas or problems in the application of new technologies. This forum can not only raise problems, but also exchange solutions, so as to achieve effective mutual assistance between teachers. The platform should also have a certain degree of scalability to facilitate cooperation with other educational or research institutions, such as collaborating with publishers to provide free or low-cost textbooks and reference materials, or cooperating with high-tech enterprises to obtain cutting-edge research reports and application cases. Through such a resource-sharing platform, teachers can not only obtain the teaching resources they need, but also broaden their professional and disciplinary horizons, so as to be more comfortable in the application of modern educational technology.

4.3 Establish an incentive mechanism and evaluation system to stimulate potential

The establishment of appropriate incentive mechanism and evaluation system is an indispensable link. Through the implementation of performance evaluation system, the comprehensive performance of teachers in teaching^[4], scientific research and technology application is emphasized based on the principles of clear and quantitative assessment standards. This not only helps to encourage teachers to explore and apply new technologies, but also facilitates the management to make more reasonable personnel decisions. Provide various special rewards, such as the "best Application of educational Technology Award", for those teachers who have outstanding performance in this field to give both material and spiritual rewards. In addition, teachers are encouraged to participate in various professional training and academic conferences, and teachers who obtain relevant certificates or publish papers are given additional incentives. Communicate with teachers one-on-one on a regular basis to understand their needs and puzzles regarding teaching and technology application, and provide them with personalized training and development paths. This will not only increase teachers' career satisfaction, but also help inspire them to be more enthusiastic about their work. An effective incentive mechanism and evaluation system can not only improve teachers' work efficiency, but also stimulate their interest and enthusiasm in the application of modern educational technology.

4.4 Expand the cooperation of production, education and research to achieve win-win results

Strengthening industry-university-research cooperation is a key to improving the quality of education and promoting scientific research progress. Cooperation with industry can provide opportunities for teachers and students to practice in the field. By organizing regular visits to enterprises, seminars or short-term internships, teachers and students can directly learn about industry dynamics and actual needs, thus making teaching content and research direction more practical^[5]. Establishing cooperative relationships with research institutions can promote academic exchanges and resource sharing. For example, joint undertaking of research projects, holding academic conferences and joint training of graduate students can not only improve the level of research, but also help optimize teaching content. Promoting cooperation with government agencies can get more support and resources. By participating in government-funded research projects or education reform pilots, you can not only get financial support, but also influence the development and implementation of relevant policies. Expanding industry-university-research cooperation not only contributes to the professional growth of teachers and students, but also helps universities to enhance their comprehensive strength and social influence.

5. Conclusion

In conclusion, the improvement of college teachers' application ability of modern educational technology is of great significance for improving teaching quality and meeting the diverse needs of students. College teachers and education administrators must pay attention to the latest trends in this field, and ensure that teachers' technology application ability can be comprehensively improved through regular training and continuous education. At the same time, building a resource sharing platform can effectively broaden the horizon of teachers, and a reasonable incentive mechanism and evaluation system

can further stimulate the teaching potential of teachers. In addition, expanding cooperation with industry, academic and research institutions can realize the effective docking between education and social needs, achieve the effect of multi-win, so as to promote the continuous improvement of the overall level of higher education.

References

- [1] Hu O X F. Research on the application of modern educational technology in the teaching of modular courses in colleges and universities [J]. *Science and Technology Horizon*, 2021(11):12-13.
- [2] Zhang Wei. Research on the application of modern educational technology in university teaching [J]. *Education Informatization Forum*, 2021(3):34-35. (in Chinese)
- [3] Wang Wei. Practice of modern educational technology in Mathematics teaching in colleges and universities [J]. *Electronic Journal of New Education Times (Teacher Edition)*, 2021(19):128-129. (in Chinese)
- [4] Hu J, Yang Y Y, Zheng C L, et al. How to improve the information literacy of university teachers [J]. *Computer Knowledge and Technology*, 2021, 17(4):108-109, 125.
- [5] Yang Jianqing. Research on the application of modern information education Technology in subject teaching [J]. *Huadong Paper*, 2022, 52(4):253-255.