

Research on the Reform of Informational Teaching

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ABSTRACT. Teaching is a key link in the cultivation of talents. The entering of information technology into campus is leading the emergence of teaching reform. The continuous innovation of information technology forces and leads the continuous reform of teaching. It is urgent to identify the technical needs, value orientation and figurative shortcomings of teaching reform. "Screen changes fate" is a controversial argument. Behind the controversy, the different groups of society have different recognition of the application of information technology in the field of teaching. It is necessary to lead the teaching reform based on this re-inspection of information technology. In the information age of "technology is dominant", the continuation of information technology for the teaching reform should pay attention to the top-level design, construct the implementation plan of teaching reform; face the teaching reform, pay attention to the technology introduction and application process; based on curriculum construction, promote teaching and information technology Integration; improve teachers' ability, strengthen teachers' information literacy cultivation; focus on student experience, give play to students' value in teaching; take root in teaching evaluation and lead the process adjustment of teaching reform.

KEYWORD: Information technology, teaching reformation, "screen changes fate"

1. Introduction

The application of information technology to the field of education is a fundamental issue that educators all over the world must face[1], "allowing information technology to effectively promote teaching reform, which is entrusted to educators, especially information educators, in the new century. The new mission", deepening the integration of information technology and teaching, and strengthening the service and support of information technology for teaching reform is the key point of China's education reform[2]. With the spread of information technology in the field of education, especially the informatization teaching in the underdeveloped

areas of education, the society has been paying attention to the integration of technology and teaching to lead the teaching reform. On January 12, 2018, the "China Youth Daily" article "The Horizontal Line of Education" (the title of the text "This Screen May Change the Destiny") was discussed in the article by the first middle school of Luquan County, Yunnan Province. Through web-based live teaching, weak schools in remote areas have obtained the high-quality resources of Chengdu Seventh Middle School, and a group of students have been admitted to Tsinghua University and other famous schools to change their destiny[3]. On May 23, 2019, this "screen" was listed on the Shenzhen Stock Exchange, and its market value reached 9.901 billion[4], once again highlighting the huge demand capacity of China's education information industry, and information technology teaching is at a key position. Education Informationization Stage 1.0 China has realized the application of information technology in various fields of teaching. The 2.0 stage information technology has shifted from the comprehensive application of promoting teaching to the application technology to lead the innovation of teaching. The 1.0 era entered the 2.0 era, and information technology that leading the teaching reform will further expand its scope of influence. In view of this, this paper intends to explore the phenomenological proposition that information technology leads the teaching reform from a dialectical perspective, and analyzes the "screen change fate", which provides some consideration for understanding and promoting the integration of information technology and teaching.

2. The information system technology reform has led the trend

With the improvement of the level of informatization, the development of educational concepts and educational technologies, the use of informatized teaching methods has gradually become a hot topic in teaching research. Informatization teaching means using the network platform, combined with computer application software and mobile APP to transform the traditional classroom teaching mode into online and offline interaction, students as the main teacher-led flipping classroom and other diversified modes. Through student self-learning Teaching videos and completing the tests online, the knowledge points are all completed before class. According to the talent training program, the existing resources of the school and the characteristics of the students, the teachers determine the learning content and the difficulty of teaching. Through the network, upload multiple learning videos on the teaching resource platform, let the students watch the videos outside the classroom anytime and anywhere, and complete the basic knowledge points and Conceptual autonomous learning. The students complete the process of knowledge digestion and absorption through the guidance of teachers and the collaboration between groups. The classroom becomes a place for interaction between teachers and students. It is mainly used to answer questions such as doubts, report discussions, homework exercises, and practical operations to achieve better and more valuable teaching results.

Education policy dominates education reform to a certain extent. In the new century, the Ministry of Education and other departments have successively formulated, promulgated and implemented the "Basic Education Curriculum Reform Program (Trial)", "Primary and Secondary School Teachers' Educational Technology Competency Standards (Trial)", "National Primary and Secondary School Teachers' Educational Technology Capacity Building Plan" and "Educational Information" Development Plan for the Decade of Development (2011-2020), "Implementation Plan for Constructing Effective Mechanisms for Expanding the Coverage of Quality Education Resources by Means of Informatization", "13th Five-Year Plan for Education Informatization", "Code for the Construction of Digital Campus in Primary and Secondary Schools (Trial)" "A series of education policies on the implementation plan for promoting network poverty alleviation (2018-2020)" on strengthening the construction and application of network learning space, including the key points of education informatization construction The information-based education environment with high-quality resources, the information-based education support service system that basically forms a learning-oriented society, the comprehensive realization of the comprehensive coverage of campus broadband networks, and the promotion of the integration of information technology and teaching have significantly improved. Moreover, coupled with the creation and popularization of educational equipment and systems, the application and application of information technology in the field of teaching is expanding Thus information construction has become an important means for the country to promote education reform, narrow the regional education gap, and improve the quality of education. Influenced by this, information technology has become a foregone conclusion into the campus, especially the introduction and application of information technology in the teaching field and the transformation of teaching elements such as driving teaching methods. The deep integration of technology and teaching has shifted from advancing teaching reform to leading teaching reform.

Objectively speaking, the entry of information technology into the campus is highly demanding for the conditions of school informatization. The introduction and application of technology provides a possibility to break through the limitations of traditional teaching places, time and space in the school field[5]. In the current period, information technology plays an irreplaceable role in primary and secondary schools. A series of educational transformation initiatives such as teaching reform are closely related to information construction[1][6-10]. According to the statistics of China's education industry in 2017, the conditions and equipment for information-based education in the basic education stage have a high level. It has the basis to lead the teaching reform based on information technology. Relatively speaking, the construction of education informatization is better implemented in primary schools, the implementation of high schools is more general, and the conditions of urban schools are better than those of township schools and rural schools[11]. In addition, the campus network construction has developed rapidly, and many schools have achieved full coverage of the local area network. Even in rural areas, the proportion of primary schools accessing the Internet is 94.84%[12]. At the same time, on September 17, 2018, the Ministry of Education promulgated The Opinions on

Implementing the Excellent Teacher Training Program 2.0 pointed out that it is necessary to “deepen the information technology to promote education and teaching reform”, emphasizing that all aspects of teaching should fully introduce and apply information technology to optimize traditional teaching. Based on this, strengthening the information construction of schools and exploring the educational value of information technology has become the focus of school reform. Among them, teaching has become a prominent field of reform, and information technology is leading the way in teaching reform.

First, the teaching methods are changing. In today's school, smart classroom construction makes information teaching as "same classroom + two teachers". It is the shaping of "technology + terminal + network + platform + resources", leading to new teaching style that crosses time and region, combining one-on-one live, on-to-many live, recording, and live broadcast, supported by visual, listening, and speaking synchronization technologies. The traditional "School-style" teaching is also refined.

Second, the number of teaching equipment is increasing. The change of new technology to education is first reflected in the updating of teaching tools. In the history of mankind, traditional teaching mainly relies on a single teaching tool such as blackboard and chalk[13]. The reform reveals that information technology is integrated into the teaching and learning desk to become a projector, blackboard to whiteboard, board eraser to buttons, and chalks to touching pens. At the same time, the computer, projection, audio, console, and other auxiliary equipment can realize the effective transmission and projection of sound and image, which brings the sensory impact to the students and promotes the resonance with the knowledge and knowledge.

Third, teaching resources are increasingly rich. Teaching materials are the “sources of traditional teaching resources”. The popularization of information technology allows teachers and students to access the resources channels in general, so that the teaching choices are not only based on the domestic, but also can be seen abroad. The gathering of cutting-edge educational resources is presented in the classroom. Visual, intelligent, and more interactive resources are rich in teaching. The frontier knowledge is integrated into the traditional teaching resource system in the form of MOOC and micro-courses.

Fourth, the teaching evaluation is more comprehensive. To evaluate teachers' ability well, it is necessary to understand the actual information resources generated before, during, and after the teaching. Only by comprehensively grasping the whole process of teaching input, process and results can the scientific evaluation be implemented. Information technology embedded in teaching evaluation can collect teaching process data from multiple dimensions, at least covering the dimensions of home-school communication, class evaluation, courseware production, class interaction, after-school communication, and student achievement. This clarify the teaching practice to evaluate teacher teaching.

Fifth, the teaching environment has changed significantly. The teaching environment is the guarantee for the effectiveness of teaching. Even a certain degree

of environmental change determines the teaching effect. The smart classrooms, virtual classrooms, virtual laboratories, and virtual schools in the campus information construction are new types of education fields such as “digital”, “networked”, and “intelligent”, especially for interactive smart tablets and other hardware. With the maturity and follow-up of the corresponding system software development, the smart teaching environment has become a product of the application of educational informationization.

Sixth, teacher training has been effectively improved. The use of information technology has changed the traditional centralized listening and teaching of teachers. The rise of online training has broken through time, geographical, and space constraints, allowing teachers to receive high-quality training and create at any time and place with network conditions. Online professional learning and training communities between teachers in the same region enable teachers to express their own views, to contribute their own teaching experience by affirming or questioning other teachers' views, and broaden the scope of teacher training and quality training resources.

3 The leading role of information technology in teaching reform

In the information age, technology has become a powerful driving force for reforming various fields of society. Education and teaching are no exception. The continuation of information technology should face the teaching reform and pay attention to the process of technology introduction and application. First, changing the educational concept of teaching participants and making it clear that technology is introduced into teaching is an inevitable trend of educational development in the information age. The willingness of teaching participants to accept informatized teaching is positively related to the improvement of real teaching effect. Accepting information is a necessary choice for teaching reform. Second, continue to improve the construction of Internet infrastructure in primary and secondary schools with “three links and two platforms”, accelerate the promotion of “broadband network school-to-school communication”, and continuously optimize the information hardware and software conditions of first-line schools to provide an information-based foundation for teaching reform. Third, using the advantages of information technology, we will build a teaching process data collection, collation, analysis and sharing system, and direct the teaching analysis, management, and decision-making based on big data. Finally, focusing on the guardianship of teaching ethics. The introduction of technology into teaching does not infringe the privacy of students and teachers. Pays attention to the respect of the “cultural human rights” of teaching participants. The specific effects are as follows:

(1) Pay attention to the top-level design and construct the implementation plan of teaching reform

The unified management of educational institutions is the basis for the rapid application of information technology in the teaching field. The teaching reform can effectively complete the training of information technology in the

information age, leading the education administrative department to pay attention to the top-level design and construct the implementation plan of teaching reform. The first is to change the relatively isolated and closed situation of the first-line schools. With the help of the government departments, the school will support the introduction and use of information-based teaching resources to achieve the mutual construction and sharing of regional high-quality resources and complementary advantages. Second, encourage internet education enterprises to develop technical resources according to teaching needs, provide personalized teaching services for schools, identify the convergence of interests between schools and enterprises, and enhance the applicability and effectiveness of information technology products. The third is to actively introduce the specialized teaching research team of colleges and universities, analyze the advantages and disadvantages of the new teaching from the theoretical point of view, study the future improvement direction, introduce good technology into the "entry barrier" of teaching, and lay the foundation for promoting information teaching. The fourth is to take the initiative to play the role of administrative leadership in adjustment and guidance, reduce the multi-government and multi-management, and of bridges and links in the reform of information-based teaching. Promote the education cooperation between the first-line schools, science and technology companies, and universities.

(2) Based on curriculum construction, promote the integration of teaching and information technology

The curriculum is the content of teaching. Although the channels for people to acquire knowledge through information technology in the information age are diverse, the core knowledge source that truly influences the physical and mental development of students in teaching is the curriculum. The reform of information-based teaching needs to be based on curriculum construction and promote teaching. Information technology integration. First, the teaching of the national curriculum adheres to the principle of "steadily advancing and quality first" and constantly promotes the insufficiency and accumulation of experience in the teaching process to ensure the efficiency of the national curriculum and promote informational teaching. Second, teachers and students collaborate to develop information and school based curriculum and teaching materials. So that teachers and students can "learn through practice", broaden their horizons of information, and popularize information-based teaching common sense and common sense to create a curriculum foundation. Third, pay attention to the curriculum review, introduce the professional strength of both education and technology to integrate the existing curriculum, pool the curriculum resources, reduce the marginal "courses", inject modern information elements, and create the characteristics of school education. Fourthly, with the construction of information platform as the center, build a professional cooperation community of schools, establish a curriculum implementation group for inter-school informationization teaching, and implement a curriculum reform model of "one school with multiple schools" and "one point drives more points" to help

informatize co-construction and sharing of high-quality curriculum resources under the background of teaching.

4 The advantages brought by education informatization to college teaching

1. Improve the storage of students' teaching theory knowledge in the information age. The way of knowledge dissemination combines the significant advantages of informationization bring rich resources and timeliness to college teaching[14]. For example, teachers introduce informational methods in traditional forms of teaching and use Internet information technology to integrate text, pictures, videos, and audio into the teaching process, giving the teaching form more digital features. This practice can effectively improve students' storage of teaching theory knowledge, broaden the breadth of the audience of teaching theory knowledge to a certain extent, and transmit more theoretical teaching resources for college students, thus improving the quality of teaching in colleges and universities.

2. Accelerate the speed of teaching reform Informatization era. A major feature of social development is that the speed of resource transmission continues to accelerate, and is not limited by time and space. The advantage of the rapid development of information technology in China has brought new development opportunities for college teaching, which has broken through the limitations of traditional teaching forms and contents. Under the guidance of the complete network system, college teaching actively optimizes and adjusts the content and form of teaching. With the advantage of the Internet, teachers can quickly spread teaching knowledge at any place and at any time, which has improved the timeliness and convenience of teaching in China.

3. In the era of facilitating the exchange of teachers and students, the internet has shown a diversified development trend[15]. The exchange of information resources is mainly realized by means of computers, multi-media, and third-party intelligent platforms. Network social software such as WeChat and QQ has become the main platform for teacher-student communication and interaction after class in the teaching process of colleges and universities. Therefore, in the context of informatization, college teaching should pay more attention to the interactivity in the teaching process while providing organic sharing of educational resources, and provide various conveniences for teachers and students to communicate.

5. Conclusion

In summary, under the "Internet +" trend, colleges and universities can build a complete mobile communication development course teaching resource platform for students through cloud computing, Internet of Things, and other technologies. In this way, it can not only strengthen the effectiveness of the teaching of mobile internet development courses based on innovation and entrepreneurship education, but also accelerate the development of the combination of industry and education and greatly

promote the economic benefits of the region and promote the development of the mobile internet industry.

In short, technology-driven has become a key feature of teaching reform in the current period. The purpose of information technology entering the campus to lead the teaching reform must be directed to educating people to grow better, become talented, become good, become beautiful, and become independent. Teaching as a career of education cannot be despise the existence, occurrence, and value of its reforms. The development of contemporary information technology makes students even have more knowledge than teachers. Teaching that relies on traditional experience is difficult currently. The lack of information technology to help the teaching is difficult to implement the new tasks and new goals of social development for education. In addition, although education requires imagination and innovation, teaching needs to be pragmatic and truth-seeking. After all, teaching reform takes students' growth as a cost. While facing the prosperity of information technology, the attitude of teaching and participating in various subjects should be believing but not superstition, faithful but not blindly obeying, relying but not relying on, changing in time and not sticking to the same, and interpreting information technology intervention from a dialectical perspective. The value and shortcomings of teaching reform are vigilant against the formalized technological prosperity for reform. Believe that even the "screen" does not necessarily change the "destiny", information technology also makes teaching reforms full of possibility. Although the road is long, it can be expected!

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