

Practice Thinking On The Application Of Modern Information Technology In The University Curriculum Construction

Hejiao Yang

College of Marxism, Dalian Maritime University, Dalian, Liaoning, China

Email: yanghj2018@dlmu.edu.cn

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Abstract: Relying on modern information technology, the new curriculum module becomes the growth point of university curriculum construction and reform. As a new increment of teaching, modern information technology sets new requirements for its construction. Moreover, the era of informatization teaching promotes university teachers to rethink their roles. Under the background of higher education informatization, the effective teaching practice of university curriculum needs to enhance the application of modern information technology. Meanwhile, it also needs to constantly explore the optimization path of curriculum construction, further clarify the practical significance and application scope of modern information technology in its construction, and highlight the essential needs of educational and teaching modernization.

1. The Supplement of Informatization Curriculum Module to University Teaching Effect

“Curriculum is the most important educational medium. The generation, selection, organization, implementation and environment of curriculum will influence the effect of curriculum teaching, and lead to knowledge quantitative change in different directions, or knowledge increase or decrease.”^[1]⁷¹ In today's high-speed variables of information technology, an integral factor that cannot be ignored and triggers curriculum variables is modern information technology. Actually, understanding and applying modern information technology has become the internal requirement of university curriculum construction in the new era.

The integration of informatization curriculum module in universities mainly represents the curriculum design link which takes information technology and Internet platform as the teaching carrier. The implantation of this new curriculum module greatly enhances the flexibility of classroom teaching. “The charm of curriculum is the charm of teachers.”^[2]²⁰⁹ In the era of mobile Internet, how to pull students from mobile phones back to the classroom is also an important purpose of informatization of university classroom construction. In this sense, the technical means connected with the age can enhance the curriculum affinity from perspectives of consensus, sharing and co-construction, which has gained wide recognition. The integration of informatization curriculum module can better solve the problem of insufficient teaching effect, because the application of modern information technology can extend the curriculum benefit. Through the Internet platform, it can achieve pre-class preparation or after-class continuation. For example, FCM, MOOC and OML, which are widely known and closely related to modern information technology, extend or broaden the classroom scope by integrating its technology, so as to achieve the multi-dimensional interactive teaching effects before and after class, in class and after class. For example, MOOC, a massive open online course, has launched 135,000 courses from over 900 universities around the world by the end of 2019. Just in 2019, 450 universities have launched 25,000 courses. “MOOC” is characterized by openness. “MOOC is an online course that anyone at any age, any profession, or any region, who is interested and willing, can join in, regardless of nationality, with just an email.”^[3]¹⁰² Thus, students can freely look for quality courses based on their needs. Besides, teachers can also guide students to choose extra-curricular information independently through targeted sharing of information resources, broaden the curriculum application, and use informatization interactive means to form curriculum network structure and

improve the its effect.

In the process of applying informatization curriculum module, it is easier to form an innovative group discussion mode, which shows the positive supplement of this technology to the teaching effect of university curriculum. The application of information technology can build a diversified and three-dimensional curriculum structure, like pre-class topic release platform, in-class discussion class, after-class topic extension, etc. As a result, we can realize the effective interaction between teachers and students, curriculum doubts and focus from “point” to “surface”, realize the internal transformation of excellent curriculum resources to students, and achieve the transfer of teaching. Moreover, its application can optimize the curriculum structure, change the classroom model of teachers' single preaching, and realize the flexible transformation of the two subjects. By integrating students' fragmented time before and after class and setting up subjects for self-learning and group discussion, we can share theme-based teaching content with targeted, timely and open themes as well as rich and diverse information technology means, so that students can independently polish what they have learned and highlight the teaching theme.

As a result, the curriculum transformation formed by modern information technology can highlight the social function of higher education. The university curriculum has not only the traditional functions of imparting knowledge, skills and values, but also has the orientation to adapt to social development. “The 'social needs-oriented' university curriculum objectives should not be measured by how much knowledge they grasp... Instead, it should be turned to the principle of improving students' thinking ability and mastering scientific and reasonable learning methods.”^{[4]71-72} With the development of social modernization, the mastery of thinking ability and learning methods is limited by the flexibility and depth of modern information technology to a certain degree. On the one hand, the application software generated in today's university classroom compresses the time and space for people to integrate information. On the other hand, it also requires the ability to independently extract useful information while accelerating the information digestion, namely, to cultivate information thinking ways and skills. The integration of university curriculum informatization is exactly the comprehensive requirement for its construction on this basis.

In general, the application of informatization curriculum module in university curriculum should insist on innovating knowledge transmission, breaking the traditional mouth-to-brain path. This can improve the development of teaching design, organization and leading functions, and strengthen the practical effect of knowledge transmission. The advantage of this module is that it fully reflects the treatment method of teachers for teaching. Namely, its “overall design” and “target orientation” of teaching can be brought into full play through information means. From the overall process of curriculum development, this is good to break the barrier of two-way interaction in teaching. Thus, the informatization curriculum module has become an important support for teachers to transfer knowledge. Meanwhile, through the real-time participation of the module, students can timely feedback the curriculum requirements according to their and professional social needs, so as to establish an effective teaching evaluation mechanism.

2. Requirements of Modern Information Technology Means for University Curriculum Teaching Management

Modern information technology has become an important way to optimize the university curriculum construction, and also proposes higher requirements for the its teaching management. In general, university curriculum teaching management refers to the curriculum teaching management to guide departments in universities. The curriculum teaching management of university teachers also plays an important role in this construction. The teaching management of these two dimensions should be explored innovatively under the framework of adapting to the informatization curriculum construction. From the perspective of the curriculum teaching management of guidance departments, we should establish the assessment management method of the whole teaching process related to teaching activities of modern information technology, and constantly improve the humanized and intelligent teaching service system. In this way, it will “make teaching services free from time and space limits, enhance the user experience, convenience and salary of the platform, improve the

convenience to obtain learning service information, and enable the teaching service platform to play a greater role in teaching management.”^{[5]46} Meanwhile, teachers' curriculum teaching management should also transform traditional thinking and establish information awareness so as to make modern information technology tools to become an important carrier for them to conduct teaching management. The teaching management of teachers not only reflects the channel management of building knowledge learning platforms with information tools in class, but also reflects the recording and management of students' online learning trajectory before and after class. Based on these quantitative management indicators, teachers can guide, analyze and evaluate teaching activities, so as to better enhance the students' sense of participation and the effectiveness of learning. Thus, in the curriculum teaching management of teachers, “the first is to understand the various factors that may affect the ease of use and usefulness of technology.”^{[6]89} In this way, we can transmit the teaching informatization content and technical difficulties through good communication and demonstration, and play a positive role in management from technology application.

Meanwhile, we should also notice that the information-based curriculum teaching management of teachers and the guidance departments should be related. While trying to use information technology to achieve coordination, high efficiency, and high-quality teaching management, we actively establish an informatization teaching management team. On the one hand, we should use the informatization management system to “record and analyze the behavior data of education and teaching and comprehensive evaluation of learners. Under the concept of data, relying on the application of big data analysis and technology, we will give a more comprehensive and objective understanding and evaluation”;^{[7]152} On the other hand, we propose a systematic management mode for how to manage and assist classroom teaching more effectively from the angle of schools. These modes can promote teachers to change their teaching concepts, establish special curriculum and communication activities of teachers' information technology enrich their information feelings and grasp of information resources, set up special research topics and curriculum samples, and provide a long-term training system for teachers to improve their informatization skills.

3. Reflection and Optimization Path of the Curriculum Application in Modern Information Technology

While confirming the positive role of modern information technology in the university curriculum construction, it is necessary to reflect on its limitations and practical optimization path. Under the requirements of the development of the times, university curriculum construction needs to be further strengthened in two aspects:

The first is “curriculum connotation”, which emphasizes the conjunctive development of higher education, namely, the essence of higher education lies in educating people. “The educational nature of higher education is its fundamental attribute. People are the starting point, foothold and destination of higher education modernization.”^{[8]2} This requires us to constantly explore the effective ways to highlight the connotation of education, deal with the relationship between means and purpose, mode and content, as well as the relationship between culture in the times and times in culture. Then, modern information technology is undoubtedly the way of education in the times, but this way must be spread combined with the connotation of culture itself. This requires that, based on the basic characteristics of the content, the university curriculum should be uniquely explored, rather than with no differences. Information technology should be seen as a basic condition to implement university curriculum, rather than the essential connotation. Modern information technology should coordinate the teaching quality, curriculum structure, curriculum scale, teaching effect and other factors, so as to realize the increment of education and teaching connotation.

The second is “curriculum participation”. The development of modern information technology solves the problem of realizing full “participation” in university curriculum and improving its “affinity”. Generally, participation in class is a teaching method in which teachers divide the teaching content according to the teaching needs. The theoretical part is explained specifically by teachers, and the application of theoretical knowledge is designed by teachers to guide students to

study and display research results. However, not all professional courses have the practical conditions for full participation, especially large classes with many students. However, according to the law of teaching, effective participatory teaching can better promote the spread of knowledge, and organically integrate the cognition and application of knowledge. Then, modern information technology can better create the objective of “teacher-student community” in the reform of university education. “The ‘teacher-student community’ is the unity of learning objectives and directions, and the unity of teachers’ teaching and students’ learning.”^{[9]46} This teaching objective requires that the construction of the student-teacher relationship should be taken as the center of teaching activities, and the subjects of teaching and learning should run through the whole teaching process in both directions, which is the real way of effective knowledge transmission. Thus, the knowledge acquired by students is truly meaningful and generates their own knowledge of understanding, experience and assumptions. Practically, modern information technology can exactly meet the necessary conditions of establishing participatory classes in different disciplines, but it also has the problem of subject informatization ability in its application. Since the end of the 20th century, with the rapid development of information technology, improving the subject informatization ability in higher education has become a global consensus. Higher education in the information age not only requires that “to comply with the development concept of open, sharing and cooperation of education in the network era, university teachers should respect the individualized learning needs of students, which is a comprehensive teaching ability reflected when optimizing teaching practice with information technology.”^[10] Meanwhile, it also emphasizes the cultivation of students’ subject informatization ability, requires them to master the basic qualities of information awareness, informatization curriculum design and information skills. However, in the actual teaching process, the informatization abilities of teachers and students are different. How to solve the technical problems during informatization teaching, how to reduce the teaching time occupied by the technology, how to improve the fluency of informatization teaching, how to improve the satisfaction of students as experiencers, and how to avoid formalism are all the problems that should be noticed when applying modern information technology to university curriculum.

In this sense, university curriculum will certainly open up an important path to optimize curriculum design and innovate teaching methods through the integration of modern information technology. “When information technology and education achieve deep integration, it will form a new form of education - informatization education.”^{[11]46} This new form of education just indicates the only way for the reform and innovation of university curriculum. Besides, this also shows that its construction and reform must focus on the characteristics of subjects of teaching activities and the generality of teaching means. We should treat the relationship between people in education and modern information technology dialectically and avoid formal education + technology. We should explore the connotation of qualitative changes brought by information technology to education, and form the modernization construction of university curriculum system which is better to enhance learning motivation and satisfy the comprehensive development of people.

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