

The Influence of Internet on Higher Education and Countermeasure

Peng Cao

The Key Lab. of High-end Printing Equipments of Signals
and Information Processing
Beijing Institute of Graphic Communication
Beijing, China
pcaorf2012@163.com

Wenqiu Luo

The Key Lab. of High-end Printing Equipments of Signals
and Information Processing
Beijing Institute of Graphic Communication Beijing, China
luowenqiu@bigc.edu.cn

Abstract—The influence of Internet on the subversion of higher education has been widely concerned by the society. This paper explores the deep influence of the Internet on the reform of higher education. After introducing the evolution process of teaching mode and teaching content, the paper points out that the influence of the Internet on higher education mainly focuses on two aspects: teaching mode and the teaching content, and the main measure to promote the sustainable development of higher education is to accelerate the modernization of teaching mode and teaching content.

Keywords—Higher Education; Internet; Teaching mode; Teaching content

I. INTRODUCTION

The Internet is a powerful tool for human being to understand and change the world. With the rapid development of Internet technology, The Internet not only enhances the productivity, changes the production mode, but also is rapidly changing the human life, the work and the study way. New technologies as MOOC, cloud computing, big data, and intelligent technology due to the development of Internet technology find fission applications in the field of education and learning. These technologies promote the teaching innovation, and have a huge impact on the traditional education. The existing teaching mode and teaching content which are quite backward restrict the development of universities, hinder the improvement of personnel training quality, and cannot meet the challenges of the internet. In universities, there is a tremendous gap between teaching content and the social needs, and teaching mode is also out of date. Although PPT and other modern equipments are mostly used in teaching, but many of them are used just as a replacement of blackboard writing, teachers develop a strong PPT dependency syndrome, and depth study on teaching content is increasingly inadequate. Therefore, some people do not look good on higher education, they think higher education has no promising future; but some people firmly believe that the prospects of the higher education is bright, they think "subversion" is purely alarmist. This paper considers higher education is moving into a new era. In the face of the development of science and technology, universities, training institutions, and network education institutions all face a major strategic choice [1].

II. BASIC ELEMENTS OF LEARNING

The purpose of learning is to obtain the knowledge (information), improve quality of human being, and enhance abilities. The development of education, in the long run, is the development and changes of teaching mode and teaching content. Teaching mode is the specific method or measure taken in the learning, which has diversity and operability, and must be fit for the teaching objective and serve the teaching objective; teaching content is the teaching objective achieved through teaching. According to the concrete or abstract teaching content, the teaching process adopts the best teaching mode to achieve the ultimate goal of personnel training. Teaching mode and teaching content are the two essential factors of learning.

A. The evolution of teaching mode

Teaching mode with the characteristics of typical, stability and easy to learn is a teaching style, including the form of teaching and the method of teaching. The teaching mode includes teaching idea, curriculum design, teaching principles, and the structure, ways and means of teacher and student activities under the guidance of this teaching idea.

The goal of traditional teaching mode is to impart knowledge to students and develop students' skills. It focuses on fully tapping the memory, reasoning ability and indirect experience of students, so that students can effectively grasp more knowledge and improve skills. The traditional teaching mode is regarded as a one-way process, because knowledge is passed to students by teachers, it emphasizes the guiding role of teachers. Therefore, this kind of teaching mode pays great attention to the authority of teachers. Traditional teaching mode can make students get a lot of knowledge in a short time, and can cultivate students' discipline and improve students' abstract thinking ability. But this teaching mode is not conducive to training students' creative thinking and the ability of solving practical problems, and is not conducive to the students' all-round development. It cultivates a large number of people without their own idea, with high score while incompetent. On the first half of nineteenth Century, the traditional teaching mode represented by Herbart has been challenged, while Dewey's pragmatism educational theory, which takes "learning by doing" as the basis of pragmatism

This research was financially supported by The Importation and Development of High-Caliber Talents Project of Beijing Municipal Institutions (No.CIT&- TCD20130329).

teaching model has been respected. But this teaching mode belittle the guiding role of teachers in the teaching process, undue emphasis on the importance of direct experience, and ignore the systematic study of knowledge, so that the quality of teaching is affected[2,3].

With the development of science and technology, the traditional single teaching model is constantly being challenged, teaching model began to diversify. In particular, with the study of human brain's activities of receiving and selecting information, many new teaching models, such as a paradigm, analytical, collaborative, discovery and so on, are being accelerated to form a new teaching model.

B. The Evolution of Teaching Content

Teaching content is the primary information conveyed in the teaching and learning process. In general, it includes curriculum standards, textbooks and curricula. The role of curricula is to teach students knowledge and skills, to instill their ideas and viewpoints, and to develop the habits and behavior. The specific content of textbooks is composed of facts, concepts, principles, and the intrinsic link between them. Textbooks are not exactly the same as teaching content; it is just a "carrier" of teaching content. Especially in the rapid development of technology, "textbook" lags far behind the actual pace of technological development, how to effectively organize the teaching content is the problem every teacher must face.

The teaching objectives is to cultivate qualified citizens who with noble sentiments, have advanced cultural and scientific knowledge, serve and promote social development, and maintain harmony and stability of national, ethnic, class and family. Therefore, teaching content must be able to meet the needs of teaching objectives, and update with the development of society and technology. Three combinations need to be done in the organization of teaching content: 1. Combining with the culture of the humanities. Cultivate student's morality and ethics, and develop responsible, ethical qualified citizens. 2. Combining with advanced technology and culture. Enable students to master the scientific and cultural knowledge of the needs of society, and to be the talents who can adapt to the development of science and technology, can serve and promote social development and progress. 3. Combining with a Global Vision. Enable students have the concept of globalization, while retaining their own national culture. Cultivate the ability to participate in international competition and the talent to lead the international scientific and technological development.

III. REFORM OF HIGHER EDUCATION

Since the emergence, higher education has been adopting a form of learning in which students listen to the teacher concentrated at a specified time and place, usually is in the classroom, and then complete experiment in laboratory or practice in social. But now with the development of the Internet, mobile Internet, and smart technology, learning is no longer limited by time, space, and cost. These lead to a global education revolution.

The Internet is affecting different universities in different ways. According to Jim Leman, a professor of education at the University of Kean in New Jersey, in the United States, universities affected by MOOC mostly is the middle level universities which take cultivation of teachers, middle managers and administrators as their own responsibility. But universities which have a great reputation and a number of outstanding teachers, such as Ivy League in the US, Oxford University, Cambridge University in UK can still well survive and continue to develop even without providing MOOCs. If providing MOOC, these universities will bring a greater threat to universities with less global competitiveness. In the winner-take-all Internet era, universities which unable to meet the informationization, internetize and globalization of education development will be subverted. What kind of universities are the first ones to be subversive? It is undoubtedly the universities which are weak strength, mediocre, weak social impact, lack of character, lack of innovation of teaching content, not able to meet the needs of community, and the universities whose existence to a certain extent relying on policies[4,5,6].

To deal with the subversive influence of the Internet on higher education, we must recognize the nature of the problem. The impact of the Internet on higher education has three aspects: (1) Remove the restrictions of traditional education, such as time, space, enrollment and cost. Students can learn through the Internet at any time, from anywhere, and can learn over and over. Learning becomes more convenient and easy; (2) With the development of virtual reality and real-sensing technology, various learning motivation is easily mobilized through the Internet, and learning effects easily reach or exceed that of traditional education. Learning becomes more effective; (3) Students become more critical for learning. As knowledge and technological needs by the society change rapidly, what students have learned in school will soon be obsolete, school education is difficult to meet students' needs for lifelong benefit, even the students have not yet graduated, content of the course has become outdated.

These factors will challenge higher education in the future, and promote the evolution and polarization of universities, universities either develop better or therefore decline even die.

IV. NEW TYPES OF MODERN HIGHER EDUCATION

The influence of Internet on higher education is the changes of teaching model and teaching content. In the future, in order to be welcomed in the Internet environment, a university, or a discipline, or even a course must provide proper teaching mode and advanced teaching content, and manage the whole process of learning scientific.

Only accurately grasp the reasons why the Internet and modern technology bring subversion to higher education, and take measures timely, universities can probably obtain the recognize of students and community, and are likely to have more development opportunities.

A. Reform of Teaching Mode

While people are not dissatisfied with the traditional teaching mode of "blackboard + chalk + PPT", under the environment of the Internet, online education as a new teaching mode appears. Different from traditional teaching mode, this new teaching mode is a system of methodologies based on computer networks, virtual reality, learning data collection, analysis of closed-loop learning, and tracking service. It is a framework and procedures for teaching activities based on certain teaching theory.

Teaching mode under the Internet environment is getting more and more attention. The new teaching mode requires introducing new theory and new achievements of modern science and technology into teaching, placing extra emphasis on applications of the newest development achievements in computer networks, virtual reality and real-sensing technology, artificial intelligence, using many kinds of methods to stimulate students' learning interest and solve the problems in the learning process, so it can complete the teaching task with high quality and achieve the teaching goal. The new teaching modes are the combination of behavior modification model, social interaction model, personal mode of personality development, information processing model, and constructivism model. In addition to the features of diversification, networking and virtualization, these teaching modes can track and analyze students learning, provide students with personalized learning, make learning process and content in line with their level, and improve the efficiency and effectiveness of learning.

The implementation of the new teaching model relies on the establishment and application of the network platform, the teaching content, the students' learning archives, and the academic database and so on. In the future, O2O (online and offline) will become the new normal of teaching mode. The learning mode that students learn in the way of autonomous, cooperative and inquiry is gradually becoming the main mode of learning. Dominant position and role of teachers to be scientifically established, and the main body status and role of the student are further developed.

B. Reform of Curriculum Architecture and Teaching Content

The realization of higher education is mainly by way of studying courses systematically, mastering basic knowledge, basic theory and basic skills of science and technology, and cultivating students' ability to work in the field of professional field. Obviously, higher education should teach students the basic ability to survive and develop in the future, so curriculum architecture should meet students' needs for professional knowledge, organize professional basic theory, basic knowledge and basic skills, which is in line with the needs of social development, as well as practice and innovation activities together.

The modernization of the curriculum architecture refers to curriculum architecture fully meets the needs of the social development for talents. Curriculum architecture should reflect the inner link among curriculum, its structure is required to have a strong logical and systematic.

The modernization of teaching content requires teaching content can fully reflect the latest achievements of social development and the actual needs.

Regardless of the teaching content is the professional basic courses, professional courses, or innovative ability training courses need to be updated in accordance with the requirements of personnel training specifications and social development needs, otherwise too complex professional foundation courses will consume the energy of students, the outdated teaching content becomes completely useless knowledge, both will affect the teaching effect.

Currently, update of teaching content has become a serious problem facing the world's higher education. The problem brings Chinese universities especially the second-class or third class Chinese universities a great challenge.

C. Informationization of Higher Education

To speed up and realize the informatization of higher education, the Ministry of Education issued the ten year development plan (2011-2020) of education informatization, made clear the guiding ideology, working principles, development goals, development tasks, major projects and safeguard measures in the future ten years. To achieve higher education informatization, works in the following aspects need to be done.

Firstly, support the innovation of learning objectives, learning ways and methods as the main application direction. Effectively support students to discover problems, construction plan and solve problems, so that students can master what they have learned and study actively, happy learning, and get high quality and efficient learning effects. Secondly, Update teachers' teaching ideas, and enhance teachers' IT application ability. Focus on building the best learning process under the conditions of information technology, choosing the software according to the integration point, and using the network to carry out teaching activities and so on. Thirdly, Construct effective support software and network learning space. Build institutions learning network space first, and then personal network learning space. The construction of teaching resources and software is focused on the construction of discipline tools software and simulation laboratories. Focus on the construction of the discipline tools software, supporting teacher preparation and communication activities on the software service platform, supporting the development of teaching monitoring, information gathering and analysis, early warning and decision-making and other activities on the software management platform.

V. SUMMARY

Universities need to be prepared for the challenges of the internet. But because Chinese university is mainly sponsored by Chinese government, so the government is also expected to actively support and guide the development of universities, to encourage and support the approach, methods and mode innovation of higher education, and to convince people that Internet education can not completely replace university education, since university education not only providing

students with higher education and good jobs, but also bear the responsibility for cultivating the talents for the development and progress of the social , carrying out scientific research, social services, cultural heritage and innovation, etc..

ACKNOWLEDGMENT

This research was financially supported by The Importation and Development of High-Caliber Talents Project of Beijing Municipal Institutions (No. CIT&- TCD20130329).

REFERENCES

- [1] Liu Yafang, A study on the trend of research methods of higher education in China in recent 20 years, Northwest Normal University, Lanzhou,2013.
- [2] Lu Xiaogen,Guan Jichun,Xiao Hao, Accelerate the transformation of the strategic direction of the development of Higher Education, Higher Education Exploration, 02(2014):47-52.
- [3] Yang Ting, On the trend of British higher education policies under the background of the Massification of higher education, Anhui University, Hefei, 2014.
- [4] Lin Miao, A research on development trends of the 21st century American higher education based on futurology of education, Hebei University, Baoding, 2011.
- [5] Han Mengjie, Mechanism of changes in American higher education structure, Dalian University of Technology, Dalian ,2013.
- [6] Chen Liu, The influence of the rise of MOOC to higher education, Guangxi Normal University ,Guilin, 2014.