

Research on curriculum teaching reform in colleges and universities under the background of "Internet+"

Hong Zheng^{1,a}, Kai Li^{2,b}, and Tianyu Zhu^{3,c*}

¹ Citycollege, Wuhan university science and technology, Wuhan, China

² Wuhan, China

³ Wuhan, China

^acolorful_day@126.com, ^b78459906@qq.com, ^couyangzhiyuan2009@126.com

*Corresponding author

Keywords: Internet +, Course, The teaching reform.

Abstract. in the era of "Internet +", the rapid development of information network technology has brought new challenges to curriculum teaching and new requirements for talent training. As the front line of cultivating new talents, colleges and universities should actively respond to the changes brought by the "Internet +" era to carry out curriculum teaching reform and promote the construction of compound, learning-oriented and innovative talents. Aiming at the characteristics of education and teaching in the era of "Internet +", this paper discusses the problems existing in the course teaching in colleges and universities, and puts forward improvement measures from the aspects of teaching objectives, teaching content, teaching mode, practical teaching, etc., emphasizing the teaching mode of "students as the main body and teachers as the leading", so as to improve the teaching effect and meet the needs of talent cultivation in the Internet era.

1. Introduction

As a new form, "Internet +" is rapidly changing the traditional business model, and also brings new challenges and opportunities to the field of education. It is imperative to change the traditional education mode and adapt to the "Internet +" education mode. Curriculum construction is the core of subject and specialty construction in colleges and universities, and curriculum teaching reform is an important means to improve teaching effect and talent training quality in colleges and universities. How to apply the new technology and new ideas under the background of "Internet +" to carry out curriculum teaching reform is an urgent problem for colleges and universities to solve. This paper use the Internet thinking to promote the curriculum teaching reform with the new technology and concept of "Internet +", deconstructs and integrates the overall curriculum design from the aspects of curriculum teaching objectives, teaching content, teaching mode and practical teaching, gives the curriculum teaching reform strategies under the background of "Internet +", and deduces the implementation process of curriculum teaching reform, so as to improve the teaching effect.

2. The reform of education and teaching in the "Internet +" era

With the advent of the era of "Internet+", the new generation of information technologies and concepts, such as big data, cloud computing, Internet of things, blockchain, artificial intelligence and sharing concept, constitute the Internet technology ecosystem, which is deeply integrated with the field of education at an unprecedented speed. At the same time, many traditional fields of work have been gradually replaced by computers, robots, artificial intelligence, all walks of life in the society have put forward new requirements for talents. In this context, the Internet is no longer an instrumental role in supporting education, but a transformative role in transforming education and teaching. For the teaching work in colleges and universities, the changes in teaching objectives, teaching contents and teaching modes are no longer the simple digitization and informatization of course resources, but the new teaching modes that make full use of the advantages of information resources in the era of "Internet +" and derive and develop. In order to ensure that curriculum teaching

and learning meet the needs of current talent cultivation, we should reform the curriculum in an all-round way with Internet thinking.

2.1 User thinking - personalized teaching and learning

In the Internet era, people, as producers and disseminators of information, are also users, namely Internet users. From the perspective of users, it provides a new way for the reform of college curriculum teaching, which takes users as the root and improves user experience, sense of participation and sense of achievement. This provides the basis for personalized customized teaching courses and innovative learning mode, and improves the stickiness of students' learning of courses. We can set up case teaching, game teaching, distance teacher teaching and other ways for students to choose, realize the goals of individual learning, cooperative learning, experiential learning and inquiry learning, and create a good learning experience close to students.^[1]

2.2 Platform thinking -- creating ubiquitous learning mode

Internet platform thinking is open and Shared thinking. Network technology is the premise and guarantee of online learning. Mobile terminals enrich online learning and promote the coordination and linkage of online and offline learning. Embedded wisdom campus, school internal network learning system, research and development of mobile phone APP, build the interactive share the application system, make the students according to their own learning content and the target of cognition, initiative, anytime, anywhere access to course teaching resources for learning, so as to realize ubiquitous learning^[2]. The e-learning platform provides a complete learning system for students through various learning methods such as digital learning, mobile learning and lifelong learning, which can effectively promote students to actively acquire knowledge and participate in the academic practice process.

2.3 Big data thinking -- integration of digital course resources

In the Internet era, we can use cloud computing and other means to achieve the collection, transmission, storage and processing of data information, so as to explore the potential value of big data. Through the online collection and integration of network course related data, mining and enriching the teaching resources. On the basis of the integration of curriculum resources, the research methods and frontier knowledge are expanded to give full play to the effectiveness of three-dimensional curriculum resources.^[3]

3. The present situation and problems of curriculum teaching in colleges and universities

At present, under the background of information explosion and technological innovation, traditional course teaching cannot fully stimulate students' interest in learning, and it is difficult to meet students' rich thirst for knowledge and exploration. On the one hand, traditional course teaching resources are too simple to show knowledge points intuitively and vividly, and they are completely based on students' imagination. Moreover, knowledge points are often not corresponding to the actual post functions and tasks, and lack of practicality. On the other hand, teachers cannot fully mobilize their enthusiasm for learning only by teaching knowledge. In addition, college students vary greatly in their ability to understand knowledge, so teachers teach them in a unified way, which makes some students unable to keep up and understand, and teachers cannot control students' learning status, Leading to students' lack of motivation and poor teaching effect.^[4]

The era of "Internet +" has extended students' learning time and space. Students are willing to actively explore knowledge and master experience, but the original static teaching content and methods are far from satisfying them, which is the current problem of curriculum teaching in colleges and universities.

3.1 Course positioning deviation

At present, artificial intelligence has begun to replace some simple jobs with high repetition and low technical content. The demand for talents in all walks of life of the society is quietly changing. For colleges and universities cultivating talents, there will be some deviation in curriculum positioning according to the new situation and requirements, which will lead to certain problems in teaching objectives and connotations of courses, greatly affecting the effect of talent cultivation, and failing to meet the demand for application-oriented and complex talents in the era of "Internet +".

3.2 Teaching content updates lag

The course teaching content needs to be updated with the continuous development of subject areas and industrial technologies, while the traditional course teaching resources are mostly static resources such as paper textbooks, which require a long period of updating or revision, leading to the insufficient updating of course teaching content. On the one hand, it is difficult to obtain the latest trends and cutting-edge technologies in various professional fields from course teaching. On the other hand, the course teaching cannot reflect the data thinking mode, data visualization skills, data analysis technology and other knowledge under the background of "Internet +".

3.3 Teaching mode innovation is not enough

The traditional teaching mode usually adopts the three-stage teaching logic of "what, why and how" and the single teaching method of "the teacher speaks and the student listens". At present, teaching resources in colleges and universities are processed and integrated by relying on Internet information, supported by abundant course teaching resources such as MOOC and SPOC. With the continuous development of information technology, colleges and universities have built a network platform of "smart campus" and developed a variety of personal learning software. However, the three-stage teaching logic and single teaching method are often adopted in college curriculum teaching mode, which cannot meet the current teaching needs and lacks innovation in teaching methods.

3.4 The effect of practice teaching is not good

It has been one of the problems of traditional curriculum teaching, which restricts the teaching effect of college curriculum and improves students' ability and quality for a long time. The reason is that the teaching conditions of practical teaching are prepared, the teaching costs are too high, and there is a lack of post practice channels or simulation data and models in real environment. Under the background of "Internet +", the rate of iteration of new technologies and new ideas is improved, which makes traditional practice teaching more unable to meet the requirements of ability and quality of real posts and meet the needs of social practice.

4. Implementation strategy of college curriculum teaching reform under the background of "Internet +"

Make full use of the "Internet +" under the background of big data, new technologies, such as artificial intelligence and wisdom campus process comprehensive reform of the traditional courses, optimizing the teaching goals, improve the process of teaching content, reform teaching mode, strengthen the practice teaching, improving teaching effect and improve the quality of personnel training.

4.1 "Internet combined artificial intelligence" -- optimizing course teaching objectives

Artificial intelligence will have a huge impact on professionals from all walks of life. The first step of curriculum teaching reform in colleges and universities must analyze the market positioning of talents in this field in the era of artificial intelligence, master which skills are easy to be replaced by artificial intelligence in the future, reorganize the demand for talents' ability and quality, reshape the curriculum positioning, and optimize the teaching objectives.

4.1.1 Research the demand of social and market talents.

Colleges and universities should actively go to relevant Internet and related enterprises and institutions to carry out research activities on the new trend of talent demand under the background of artificial intelligence.

4.1.2 Optimize course positioning.

Based on the current application of artificial intelligence and the development trend in the future, this paper studies the role and sustainable development of various talents in the social market under the background of "Internet combined artificial intelligence", and optimizes and adjusts the course positioning from the perspective of the whole industry development and students' career.

4.1.3 Improve the content of teaching documents such as curriculum standards.

According to the current social development situation, the content of the curriculum is optimized by referring to the investigation situation, and the new curriculum positioning is integrated into the curriculum standards and various teaching documents.

4.2 "Internet combined with big data" -- improving course teaching content

In addition to mastering the basic knowledge and skills of their own fields, talents with big data background also need to have certain knowledge of big data. The course content should not only supplement the relevant knowledge of data thinking and analysis, but also update the new knowledge of the field and specialty in time, so as to ensure that the course content keeps up with the needs of social talents.

4.2.1 Analyze the change of talent position ability.

Based on the early survey data of enterprises and institutions in the Internet and related fields, this paper sorts out the changes in the work process of various talents in the era of big data (action field), and analyzes the changes in the demand for talents' positions.

4.2.2 Grasp changes in the field of action.

Through the analysis of the changes of various tasks of talents, the corresponding knowledge content in the field of action is constructed from the dimensions of knowledge, ability and accomplishment needed by talents.

4.2.3 Integrate and enrich the teaching content.

The content of course knowledge is integrated into the course teaching content according to the actual situation of the training of professional talents in various fields, and the content of big data background is enriched in the course, as well as the knowledge of new technologies in various fields.

4.3 "Internet combined smart campus" -- innovation of course teaching mode

Under the support of course teaching resources in the "Internet +" era, the course teaching mode has been fully developed. On the one hand, the course teaching mode can effectively integrate MOOC, micro-course and classroom, and introduce mixed teaching, flipped classroom and other teaching means [5], so as to realize the "student-centered and teacher-led" teaching mode. On the other hand, with the gradual deepening of "smart campus" construction, various online learning platforms and PC and mobile terminal software are adopted to improve students' initiative in independent learning and realize the combination of online and offline teaching mode.

4.3.1 Bring into full play the effectiveness of "smart campus".

The classic teaching video and cases of courses on the Internet are sorted out and released to "smart campus" and other online platforms according to the teaching progress. Build a three-dimensional course teaching resource system, recommend MOOC and SPOC related to other universities; Update the homework, test and discussion questions timely, and expand the interactive space and time of teaching between teachers and students.

4.3.2 Innovating teaching methods.

Relying on the "smart campus" network platform, it releases part of teaching preview and pilot information on various terminal software, such as mobile APP. The teaching content is put forward to give full play to the advantages of students' independent learning so that students can enter the classroom with problems. Carry out multiple advanced teaching methods such as mixed teaching and flipped classroom, and analyze the advantages and disadvantages of different teaching methods.

4.4 "Internet joint sharing concept" -- strengthening practical teaching of courses

Under the background of "Internet +", the sharing concept has spawned a series of network operation platforms. By using the technology and data resources of these platforms, students can directly understand the knowledge and skills required for relevant posts. The image and data simulation of the work flow, core links and important parts involved in all walks of life is conducive to the completion of more real and reliable social practice activities under the condition of school training and overcome the weakness of traditional curriculum practice teaching.

4.4.1 Enrich practical teaching data.

Based on various platforms of sharing concept, I collected and sorted out cases related to posts at home and abroad, extracted simulation data, connected with college training platforms, enriched teaching data of training courses, and improved the teaching effect.

4.4.2 Enrich the training model.

Develop and collect various 3D, VR, holographic and other virtual simulation models based on virtual simulation technology. Based on the Shared platform, it collects and sorts out typical data modules at home and abroad to enrich the practical training model, so that students can experience the post practice process of single decision making of a single project, cross-decision making of multiple projects and overall decision making in the practical teaching.

5. conclusion

With the rapid development of information network technology under the new wave of "Internet +", the demand for talents in all walks of life keeps changing, requiring the structure of talents in all fields to drive the cultivation of new talents. As the front line of cultivating new talents, colleges and universities should actively respond to the changes brought by the "Internet +" era to carry out curriculum teaching reform, and promote the construction of compound, learning-oriented and innovative talent model. College curriculum reform can be carried out from the aspects of optimizing teaching objectives, improving teaching contents, innovating teaching modes, and strengthening practical teaching, so as to promote the demand of talents adapting to the changing situation.

References

- [1] [3] Liu Yingjie. Research on innovation and entrepreneurship curriculum reform in universities from the perspective of "Internet +" [J]. *Chinese market*, 2017, 31:231-232.
- [2] Pan Jixin, Leica Yaozeng, Cheng Lulu. Review of relearning theory [J]. *Journal of distance education*, 2010, 28 (2): 93-98.
- [3] Deng Lingfeng. Teaching reform of basic accounting in the era of "Internet +" [J]. *China management informatization*, 2017, 17:231-232
- [4] Yang Yuemei, Chen Zhongmin. Discussion on higher mathematics curriculum teaching in the context of "Internet +" -- based on moocs, micro-courses and flipped classroom [J]. *Education exploration*, 2013, 3:74-77.
- [5] Hao Minchai, Qiao Zhenmin. Reform and practice of curriculum teaching in vocational colleges under the background of "Internet +" education [J]. *China vocational and technical education*, 2017, 8:54-56.
- [6] Li Ruohui. Research on teaching reform approaches of design specialty courses based on "Internet +" [J]. *Design*, 2008, 13:94-95.
- [7] Wu Shuhan, Mou Hui, Lin Meiping. Path exploration of school-enterprise cooperation curriculum reform under the Internet environment [J]. *Science and technology of Chinese universities*, 2016, Z1: 116-118.