

Innovative Learning Mode Based on “Internet +”

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Abstract: With the continuous development of Internet technology, the era of Internet 2 has arrived. As the Internet 2 era of “Internet +” application scope continues to expand, the concept of “Internet +” has gradually penetrated into all fields, and gradually changed people's lives. On the one hand, the idea of “Internet +” put forward the integration of traditional industries and the Internet industry, and provided innovative ideas for the development of traditional industries. On the other hand, it also promoted the development of the concept of innovation in the whole society. In this context, maker learning is proposed and developed. Based on innovation education, maker learning strives to cultivate students' innovation spirit and ability, and guide students to transform their knowledge into application ability. The integration of customer learning and “Internet +” creates customer space, which provides a practical platform for creating customer learning. It not only promotes the cultivation of students' innovative ability, but also complies with the requirements of innovation and entrepreneurship education in China.

1. Introduction

With the advent of the Internet era, people's exchanges and cooperation have been accelerated, and the world has been connected as a whole, the Internet has quietly changed people's way of life and thinking, and promoted the development of the global economy. “Internet +” is an important symbol of the era of Internet 2. With the concept of “innovation”, it expands the application scope of the Internet industry, accelerates the integration process of traditional industries and the Internet industry, and promotes the development of information technology and innovation mode of the whole industry. Creative learning is based on the “Internet + education” integration of innovative education mode, striving to change the Chinese education has long been faced with the “poor ability of innovation” lack of education, cultivate innovative talents, speed up the development of innovation and entrepreneurship education in China.

2. Maker Learning Overview

The term “maker” comes from the transliteration of “maker” in English. It mainly refers to those who are not for the purpose of profit, but more for the purpose of interest and hobbies, but for the purpose of transforming creativity into application. The concept of “maker” has formed maker education and maker learning through development. Maker education takes cooperation and practice as the development concept, relies on Internet technology, and takes maker spirit as the main goal of education. Through the cooperation, exchange and sharing among teams, the purpose of transforming creativity into application can be realized [1].

Maker learning is a learning form under maker education mode. Maker learning regards innovation and practice as the purpose of learning, fully respects students' interest and innovation consciousness, advocates meaningful learning, and cultivates students' innovation consciousness and innovation spirit. Different from traditional learning, maker learning effectively makes up for the lack of innovation in the process of traditional education, and provides an effective way for the cultivation of national innovative talents.



Fig.1 Maker Education Realization

3. The Dilemma of “Internet +” Innovation Learning At the Present Stage

“Internet + creating customer education” provides a platform for development and practice to create customer learning, to a certain extent, breaking through the limitations of traditional education and promoting the development of innovation and entrepreneurship education in China. But at this stage, the development of maker learning still faces some problems.

3.1 There Are Certain Difficulties in the Implementation of Innovative Ideas

According to the investigation and analysis of “innovative talents group” of Chinese Academy of Engineering in 2010, it is pointed out that China's education is faced with such problems as “single talent training mode, insufficient attention to innovation and entrepreneurship education, lack of engineering and weak practice links, single evaluation system, emphasis on papers, light design and lack of practice, and low participation of enterprises in talent training process”. The emergence of these problems seriously restricts the cultivation of innovative talents in China. The idea of innovation is a challenge to the traditional education model [2]. At present, the educational circles have generally realized the problems faced by the educational system of our country and the importance of innovation. However, the implementation of “innovative” education is facing a huge problem. First, the long-term concept transformation of traditional education can not be completed overnight. In addition, the implementation of innovation education needs a lot of practice sites and financial support, which can not be solved in a short time [3]. Moreover, innovation learning needs practice platform and joint participation of enterprises. How to improve the enthusiasm of enterprise participation is also a problem encountered in the implementation of innovation concept.

3.2 It is Difficult to Establish Innovation System

Although the concept of maker learning has been recognized by the education sector, the establishment of innovation system is very difficult. For a long time, the traditional education mode is deeply rooted. Although some colleges and universities have opened relevant innovative education courses, the corresponding curriculum system is not perfect, and more of them are still in the stage of theoretical communication, far from the core of maker concept. The classroom system can not take into account the dual needs of the Internet and maker, which greatly limits the development of maker learning.

3.3 Lack of Professional Teachers

The promotion and development of innovative learning needs professional teachers' guidance, but for the current education development mode in China, the traditional teachers are still the

leading role in education. Traditional teachers have certain advantages in the field of professional teaching, but they know little about innovative learning, which is difficult to meet the needs of maker learning and maker education. However, those who study innovative education are lack of teaching experience, which leads to the disconnection between “theory” and “practice”. And maker learning is to achieve the integration of online and offline with the help of the Internet platform. Therefore, for the teachers who guide maker learning, they need to master more knowledge and skills, establish a curriculum system in line with the development of students, and guide students to cultivate innovative thinking and ability.

3.4 Lack of Practice Site

The ultimate goal of maker learning is to transform creativity into practice and application, so practice place is necessary, which is commonly called maker space. From the survey of maker space in schools at this stage, it is found that many schools do not have a separate maker space and basically use the existing resources of the school, such as training room, library, etc. In other words, there are serious deficiencies in maker space from capital investment to human investment. To some extent, the lack of practice places limits the development of maker education.

4. Research on Creating Customer Learning Mode Based on “Internet +”

4.1 Establish and Perfect Maker Education System

Students' poor innovation ability and theory divorced from reality are the biggest problems facing the talent training mode in China at this stage. After four years or even longer learning and training, students can not meet the needs of society or lack the ability to transform knowledge into application. From the point of view of the school, a lot of funds have been invested from teaching resources to teachers, but the knowledge acquired by the students has no practical significance, the students lack the ability of innovation, and the knowledge acquired only stays in the theoretical stage and cannot be applied to the reality. The concept of maker learning and maker education is proposed to fundamentally reverse this situation, change the way of talent training, establish and improve the maker education system. At the beginning of the development of the training program, we should take the social needs as an important reference, start from the reality, increase the practicality of the courses, and choose more innovative and practical courses, such as joint enterprises to carry out maker education Competition, etc. (Figure 2). Let students improve their understanding of specialty and knowledge from time, and master the ability to transform knowledge into practice. In China, maker education is in the groping stage, with few references and lack of experience in curriculum. Therefore, we need to strengthen exchanges and cooperation among our schools, draw lessons from some relatively perfect curriculum systems abroad, extract the essence, and build a scientific and reasonable customer education system combining with the current situation of education in China and the reality of students.



Fig.2 “Internet +” College Students' Innovation and Entrepreneurship Competition

4.2 Construction of a Professional Internet + Teacher Education Team

Teachers are the guide of maker learning, the practitioner and promoter of maker education, and also the main force of innovation and entrepreneurship education. In the era of “Internet +”, in order to better promote the mode of customer education, colleges and universities at all levels should try their best to create a teacher who has the ability to create customer education. The ability of “maker education” mainly includes the following aspects: firstly, teachers should have the spirit of innovation, agree with the concept of maker learning, have certain Internet skills, and have the dual experience and ability of theoretical and practical teaching. Secondly, teachers have a deep understanding of maker learning, can design the corresponding teaching content in combination with the actual situation of students, and provide opportunities for students to innovate and practice in combination with online and offline platforms. In addition, because the goal of maker education is application and practice, the selection of teachers for maker education should not stay in the field of professional teachers, but expand the scope of teacher selection. For example, some people with first-line practical experience and certain theoretical knowledge can be selected from enterprises, so that they can better understand social needs and have rich practical operation experience. In fact, it can effectively supplement teachers who pay more attention to theoretical teaching.

4.3 Change the Traditional Teaching Mode and Pay Attention to the Cultivation of Students' Innovation Ability

In order to cultivate and enhance students' innovative consciousness, teachers should first change their teaching ideas, and update the teaching methods and evaluation standards in an all-round way. Give up the traditional teaching method with teachers as the main body completely, improve the status of students as the main body of teaching, and start with new models such as problem presupposition, flipped classroom or summer camp (as shown in Figure 3), so as to provide more opportunities for students to think and innovate. In addition, curriculum evaluation should be freed from the previous standardization and examination mode, establish a diversified evaluation system, and increase the process and practical assessment links. In the process assessment, we should increase the proportion of innovative spirit, encourage and guide students with innovative consciousness, and build up students' self-confidence. Add more design links to guide students to apply what they have learned to practice.



Fig.3 College Students' Internet Maker Summer Camp

5. Conclusion

Maker learning and maker education do not exist alone. They are interdisciplinary integration, application and practice. They need to break the limitations of disciplines and apply in many fields. Based on the “Internet +” innovative learning mode, it provides a platform for online learning and offline learning. It provides a broader space for students' innovation and practice, improves students' innovative ability and practical ability, and also points out the direction for China's innovation and entrepreneurship education.

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