

Analysis on the Present Situation and Existing Problems of the Development of Creator Education

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Abstract. The creator movement has swept the world, and creator education is in the ascendant. The vigorous development of the global creator Movement provides a new opportunity for innovative reform of education. This article simply gives a basic overview of the creator education, and makes a brief explanation of the current situation of the creator education at home and abroad, and discusses some controversies and challenges in the process of the implementation of the creator education.

Keywords: creator; creator education; substance; reflection.

1. Introduction

Creator Education is a new type of education which integrates information technology, adhering to the educational concept of “open innovation and inquiry experience”, taking “creating middle school” as the main learning mode and cultivating all kinds of innovative talents. To do middle school, happy Education, Dacheng wisdom, tectonics is the core idea behind creator Education [1]. The decision of the State Council of the CPC Central Committee on Deepening education Reform and promoting quality education in an all-round way clearly states that cultivating students’ innovative spirit and practical ability is the focus of quality education. However, the lack of student’s innovative spirit and practical ability is still a prominent problem facing the current education work [2]. The famous educator of our country, Mr. Tao Xingzhi, pays great attention to the cultivation of innovative spirit and practical ability, and combines the two, he puts forward the educational idea of “facing life, hand and brain.

Creator Education can promote the integration of science and technology and education, such as information technology, but also enrich educational resources and innovate the way of education and teaching, which is a new way to cultivate innovative practical ability and quality education reform.

2. Creator Education Overview

The background of the rise of creator education: The rise of creator education is inseparable from the progress of science and technology and the development of the Times, and its rise has a complicated background. With regard to the “creator event” (Maker Movement), it is generally believed that the first project from the Center for Bit and atomic research in the United States Institute of Massachusetts (MIT) was launched in 2001 by the FabLab innovation program [3]. Fab Lab refers to the concept of personal creativity, personal design, personal production as the core, aimed at building a user-centric, design, production, assembly, commissioning, analysis and document management, such as the integration of the whole process innovation production environment.

The rise of Maker education is widely believed to be directly related to President Barack Obama’s speech at the “Educate to Innovate” conference in November 2009. At the conference, Obama called for “every student should be the creator, not just the consumer”, and then the White House immediately launched the “Creator Education Program” (Maker) and let Dale Dougherty, founder of Maker magazine, leads the responsible implementation [4]. The aim of the program is to stimulate the interest, confidence and creativity of young people by promoting the construction of creative spaces and the development of various creative projects, so that every teenager can become a creator.

The specific rise of the condition is that, first of all, the rise of the new industrial Revolution requires a large number of talents, it provides the demand for talent training for creator education.

Embodied in the new industrial Revolution, represented by the German Industry 4.0, which depicts the future vision of the manufacturing industry, and proposes that after three industrial revolutions, such as the application of steam engines, large-scale production and electronic information technology, mankind will usher in an information physics fusion system based on the production of highly digital, networked, machine self-Organization (intelligent) Marked the fourth industrial Revolution [5]. And the realization of the Industrial Revolution requires a large number of skilled personnel, creator education to adapt to this demand.

Secondly, the integration and development of information and communication technologies has spawned a knowledge society and promoted changes in innovation models. Science and technology innovation are no longer the patent of a few scientists, everyone is the main body of scientific and technological innovation, life, work in society users really have the ultimate voice. The Innovation 2.0 model, which takes users as the center, takes social practice as the stage, and is characterized by common innovation and open innovation, is gradually becoming apparent. It is being widely concerned by the scientific community and the general public.

Thirdly, the development of open source Movement provides the leadership of open spirit and the support of technical conditions for creator education. The specific open source movement is the abbreviation of the Open source movement, which is a cultural phenomenon in the field of computer science, which originates from the hacker's pursuit of the sharing and freedom of intelligent achievements, and its significance lies in open source, information sharing and free use.

The concept of creator education: Creator (Maker) refers to people who do not aim for profit and strive to turn ideas into reality. They are a group of people who like or enjoy innovation, pursuing the realization of their own ideas, regardless of whether or not to achieve business value, whether it is helpful to others, etc.

Academic circles on the concept and connotation of creators are divided, here on the morning of February 22, 2016, campus creator space construction and campus creator Activity Case Study topic seminar "2016 creator education expert committee first meeting" held in the Ministry of Education Educational Equipment Research and development center. To reach a consensus on the definition of "creator education" at this stage, that is: Creator education is a combination of creator culture and education, based on students' interest, using digital tools in the way of project learning, advocating creation, encouraging sharing, cultivating interdisciplinary problem-solving ability, teamwork ability and innovation ability of a quality education.

The essence of creator education: Some scholars believe that the essence of creator is an educational type of cultivating young creators in the creative space, and it is a kind of engineering education to cultivate students' comprehensive practical ability in the form of creation. Creator Education is an engineering education, which is to play middle school, do middle school, entrepreneurial consciousness, virtual fusion, subject integration, subject mixed education [6].

First of all, the creator is to play the middle school education. The first tone of creator education is to be fun, and students should play happily in the creator space. This involves giving students access to a variety of fresh "toys", usually children's attention is not easy to concentrate, but when children play with what they are interested in, they will be very focused and in the process of playing to find problems, solve problems, and even the object of play to produce a variety of views and ideas. At the same time, let children according to their preferences to carry out selected topics and design. Also learn to share, because there is sharing to evaluate and improve, in order to stimulate further learning and creation. Finally, so that students in the "play" process to learn to learn, feel the value of knowledge learning, access to create a sense of accomplishment and pleasure, to achieve the state of music middle school, learning and music.

Secondly, we all know that the learning activities of creator education are usually based on a project, and the learning results are visualized to help students form self-motivation, planning and design, time management, autonomous Learning, group collaboration and other qualities. Creator education at the same time, let students go through a complete process of exploring and making a project work. Therefore, the significance of creator education in helping students to use their

knowledge to solve practical problems, but also in the process of exploration, creation and change to actively discover knowledge.

Thirdly, creator education is an education with entrepreneurial consciousness. Creator education encourages teenagers to make their ideas into works that can be shared, or to gain a sense of accomplishment by realizing other people's ideas, and to form the awareness and consciousness of the role of adolescent product makers. As far as the basic education stage is concerned, the education of entrepreneurial consciousness is not to train entrepreneurs directly, nor is it necessary for students to develop products with concrete practical value, but to cultivate students' "market consciousness", which is oriented to interest and novelty, and to think about whether the works they create have the value of sharing in the process of creation, Whether you can gain the attention and liking of a particular group of people, so as to gain a sense of self-realization, so that learning becomes a continuous, proactive process.

Finally, creator Education is a virtual integration of the educational revolution. Embodied in the learning environment, not only need the online environment to provide the creator Exchange community and learning resources, but also need offline creator space to carry out creative design and creation, in the creation of tools and objects, not only need modeling, programming and other software, but also need to implement the design of ideas into a specific physical model or product.

Because of the characteristics of the subject integration of creator education, creator Education is also a mixed education of the main body. From the point of view of teachers' subject, it needs the cooperation of multi-disciplinary teachers, and even parents with work experience from all walks of life can participate in guiding students, and the diversity of teachers' professional background is worthy of recognition. From the perspective of students' main body, students of different grades and classes can be mixed to form unique group of creators to communicate ideas, exchange experiences and transmit experience to each other. It can be seen that creator Education provides a useful supplement to the class teaching system.

3. The Development of Creative Education at Home and Abroad

The development status of creative education abroad: The creation of passenger transport originated in the United States, in the world also the largest scale and influence. The vast majority of colleges and universities in the United States have created creator spaces that are not affiliated with any faculty, grade and discipline, open to all students, and students choose the type of creator they love according to their needs and interests. Compared with colleges and universities, the creator education of primary and secondary schools in the United States, although starting late, but developing rapidly, they provide creative space for primary and secondary school students through the e-Port Technology center, and primary and secondary school students can use the technical equipment of the center to carry out subject research as long as they register for the course. To promote new technologies such as 3D printing, to attract students to join the creator space and enjoy the fun of creation.

As the creator movement is revolutionary for the development of the whole social economy, coupled with the impact of American creator Education, many regions and countries around the world have launched creative education activities. The European Union has launched the project, which aims to enhance the technological innovation capabilities and competitiveness of EU citizens. Costa Rica, Norway, Iceland, Spain, India, South Africa and other countries have also set up their own characteristics of the creator Space Laboratory.

The status quo of domestic creator education: With the rise of the creator movement and the continuous strength of its influence, educators are also keenly aware of the new opportunities for the development of education. In particular, in 2015, Premier Li Keqiang clearly stated in the report on the work of the government that "to make many creators stand out and allow many creators to start their own businesses", the development of China's creator education has been very rapid, and the establishment of local creator space has sprung up. Shenzhen's firewood creator space, Beijing creator Space, Shanghai also has a number of creator space and other creative space throughout the country

slowly developed, and local government agencies through the creator competition, creator Salon, creator enthusiasts and creator seminars and other forms, to promote the development of creative education [7]. At the same time, primary and secondary schools and teaching and research institutions actively set up a demonstration base for creators, to provide sufficient research funds for each creator base, to carry out a variety of training activities to promote the vigorous development of creative education everywhere.

Cases of domestic creator education: Campus creator Space is an important position for schools to implement creative education. Under the background of new curriculum reform and the vigorous development of creator education, Wenzhou Middle School, as a pioneer of domestic creator education, held the first STEAM Education Innovation Forum in primary and secondary schools in August 2013, and then set up a creative space to explore how to build a creative space and develop creator education under existing conditions. And actively seek support and development throughout the country. Then, Wenzhou Middle School set up a "creation space" for all students. The creator space of Wenzhou Middle School is an open laboratory with processing workshop and studio function. Space is not used for normal classes, but is open to all students in their spare time. Through various creator sharing activities, instructors encourage students of different grades and classes to observe life, identify problems, study interdisciplinary and comprehensive projects, enhance technology and exchange ideas.

At present, in addition to Wenzhou Middle School DF creator Space, there are Beijing Jingshan School' creator Space, Beijing Jingshan School first in the school to establish a creative space, and set up from primary to high school creator course, the original robot course teaching resources have been re-integrated, Let the students of the robot group extricate themselves from the pressure of the competition and be a young creator who freely made the invention. Including the grade from primary to high school, as well as Wenzhou Leqing Middle School's creative space for high school students, as well as Wenzhou experimental Middle school in Zhejiang Province for junior High school Wenzhou Youth creator Base, Wenzhou, Zhejiang Province, and many other secondary schools are aimed at junior high schools or high schools to establish creative space.

4. The Controversy Facing the Creator Education and its Reflection

Although the creator education has achieved great results, the creator education is also faced with many criticisms, such as the technology of value orientation and the excessive emphasis on manufacturing products, as well as the shortage of teachers' resources, funds and other difficult problems. Professor Debbie Chachra of the Olin School of Engineering in the United States published an article entitled "What I Am not a Maker" on the Atlantic website on January 23, 2013, which generated extensive discussion. [1] Chachra expressed deep concern about the creator movement, arguing that the creator's excessive emphasis on the value of manufacturing products was a deformed technology culture that ignored respect for the value of the non-invasive guest population. Behind this discussion is actually people's understanding of the essence of creator education. The creator does not have to create materialized products, it can also refer to the creation of spiritual products, for example, speaking a song adaptation or design to present a novel course are all creators.

The essence of creator education is to integrate the spirit of "innovation, practice, cooperation and sharing" among the creators of the creator movement into the education, so as to realize the goal of promoting human development. Creator technology is not only a tool to bring together educational resources, but also a means to promote the realization of creative education. But the combination of creator and education, while providing new opportunities for educational reform, also presents great challenges. We all know that the educational environment in our country is more complicated than that in the United States, and there are serious problems of educational resources imbalance and educational equity in our country. Therefore, the task of developing creative education is also more difficult. Ching and others have pointed out that China's promotion of creative education first faced two practical problems: one is the financial problem, many schools do not have the capacity to build the creator laboratory; The above example shows that the distribution of schools that now create

creative space for students to learn is mainly concentrated in coastal areas, and there is a real investment in the construction of creator education in primary and secondary , But the problem of small income, the second is the teacher problem, teachers do not know how to carry out creative education, because of the subject integration of creative education and the characteristics of the subject mix, but also to implement the creative education of teachers put forward higher requirements.

On the other hand, most of the current education in China is the supremacy of scores, many parents clearly understand the importance of the spirit of innovation, but also understand the importance of creative education in the cultivation of children's innovative spirit, but parents ' concern remains whether the development of creative activities will affect children's education and achievement. China needs to carry out research on the impact of creative activities on children's academic performance, and issue authoritative announcements to dispel parents ' concerns.

Creator Education is a wisp of spring breeze in the development of educational reform, it has the potential of educational reform, but whether it can form a new educational meteorology, but also need to focus on the wisdom of education researchers, managers, teachers, students and all sectors of society, but also need to get the understanding and recognition of the whole society, the need for social talent and employment evaluation mechanism Need an educational environment with the characteristics of creative education.

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