Construction characteristics of intelligent teaching space of innovation and entrepreneurship studio from the perspective of 5G+AI

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Abstract: The emerging technology of 5G+AI is quietly going deep into everyone's life, and in this stage, we also have a renewed pursuit of the improvement of living standards and quality of life. While the traditional learning way has been far from meeting the basic needs of people now, the intellectualization of teaching space is the main melody of The Times and the trend of The Times. This paper introduces 5G+AI, briefly analyzes the advantages of the integration of the two, and puts forward feasible strategies.

Keywords: 5G+AI; Intelligent service; Intelligent education

1. Introduction

The intelligent community needs an automatic, self-healing, self-optimizing and self-managed network, and artificial intelligence plays a big role here. Since the definition of artificial intelligence was clearly put forward at Dartmouth Symposium in 1956, it has gone through several important stages of development and application. The next generation AI 2.0 covers new features such as deep learning, cross-border integration, man-machine integration, group intelligence development, and active control. Artificial intelligence consists of a variety of disciplines and technologies, covering a variety of learning theories. The combination of machine, optimization, game, control, meta-heuristic, etc, artificial intelligence and 5G can build an end-to-end closed-loop theory, provide specific and unique services for all kinds of services in the network, and create a 5G technology network slice service. Under the background of rapid innovation of information technology,AI2.0 will become a new economic growth point and profoundly change the shape of the social field, and the education field is no exception. The impact of artificial intelligence on the field of education appears in three aspects: improving personalized learning, intelligent online lifelong learning, and building a lifelong learning environment.

In July 2017, The General Office of the State Council issued the "Plan for the New Generation of Artificial Intelligence" (hereinafter referred to as the "Plan"), which clearly put forward the guidelines for the construction of new artificial intelligence in China by 2030 to build a country of innovation and a global technological power. The Plan further defines the focus of China's next generation of high-tech development[1], synchronizes the overall development technology and application of the new generation of artificial intelligence to reach the global leading technology level, makes the new generation of artificial intelligence chain to form a new sustainable development economic growth point, and makes full use of the next generation of computers to improve life; At the same time, we will gradually conquer some core technologies and applications to reach the international leading level, and strive to become the world's leading AI innovation center. The new information technology represented by the computer will be one of the key scientific and technological supporting forces and important driving forces to promote the rapid development of the economy and society at a high level, to build a large country of science and technology innovation, and to realize the new type of socialist industrialization, informatization, urbanization and rural informatization in China's 14th Five-Year Plan. In April 2018, the European Commission released Artificial Intelligence in the EU[2], which further advances AI technology towards education. With the development of social intelligence informatization, virtual reality technology and its wide application in the field of education, it has become an inevitable trend to use artificial intelligence development technology to create intelligent teaching space of innovation and entrepreneurship studio and construct a flexible education service system.

After deepening the reform and innovation of the cognitive, communication, management and use mode of information technology, the spatial organization form and cognitive interaction mode of "man-machine-object" will be described again by five G and AI. On the other hand, the 5G network has a broader coverage area, ultra-high transmission rate and low delay, which can effectively activate virtual reality and wireless sensors, thus providing a foundation for comprehensive cognition, virtual-real fusion and remote control. In addition, through the interaction between AI technology and 5G equipment, the intelligent connection and deep interaction of "man-machine-object" can be gradually realized. In terms of intellectual education, 5 g + "AI" will promote the collaborative innovation in the education technology application services strategy[3], will lead to high definition, mobile, three-dimensional education knowledge innovation vigor, to form a seamless, intelligent education knowledge space, to create high quality teaching resources, enhance teachers' wisdom course of flow experience, produce more portable, the wisdom of education method, to enhance teaching Teachers' cognitive and collaborative consciousness ability, to achieve a real sense of individualized teaching. Any student can learn systematically and independently through the open interface of artificial system.On this basis, through the cross-space arrangement and combination of educational elements, deep interaction with the real world and low-latency remote control, and the comprehensive development of a variety of channels, the "5g + AI" technology field will promote education and teaching gradually toward intelligence and commercialization, and on the basis of Internet technology, it will develop in the direction of ubiquitous and personalized.

2. Review of the online learning platform of innovation and entrepreneurship studios from the perspective of 5G+AI

In recent years, online learning platforms at home and abroad have risen rapidly due to the development of modern information technology and distance and open education. Early online learning platforms in China mainly include MOOC of Chinese universities, Guokai Learning Network, Aopeng Learning platform, etc. Among them, Chinese University MOOC (MOOC) network is a high-quality online learning platform in China. Its core application in IT learning is the first IT skills learning application in China. At the beginning, some relatively famous online learning platforms in foreign countries mainly include edX, creative LIVE, FutureLearn, Udacity and so on established by Harvard University and Massachusetts Institute of Technology.

From 2000 to 2010, large enterprises in the education industry were founded one after another. Since 2011, with the further extensive use of mobile Internet and electronic mobile intelligent terminals, more and more cutting-edge technologies have been included in the education industry. By 2012, there was a global boom in online courses[4]. The popularity of edX, creative Live and Ted has driven the growth of a large number of Chinese online learning platforms. In addition, the transformation of science and technology is bound to catalyze the sustainable development concept of online distance education. For example, the Chinese government and universities vigorously promote the construction of MOOC platform, and the Ministry of Education and the Ministry of Finance jointly support the establishment of the "Love Course" platform. At present, this platform is an online learning platform with the largest category and the most complete categories of subjects.

Compared with traditional teaching mode, online learning platform has many advantages. The development of new technology has promoted the rapid development of cultural and educational informatization and constantly improved the online learning platform. However, AI+ 5G seems that the online learning platform still has the following deficiencies:

First, the overall planning of the platform is insufficient. First of all, the major learning platforms do their own thing. For example, online learning platforms require learners to have certain skills in electronic devices. If they cannot use computers or the Internet, they cannot use online platforms to learn. However, each major learning platform operates independently, and this construction situation causes that learners have to "circle" in each platform, with variable operation, and adapt to one of them constantly learning the usage of the next platform, and the "purpose" of learning is shelved. As the so-called "easy as a hand", for non-professionals, it is often difficult to obtain simple, rapid and diversified one-stop learning purpose, and learners' learning experience is reduced and learning efficiency is low. Second, each platform is researched and developed by different companies. Even if there is a specific platform to provide the interface, the system software data mode, standard system and design scheme of the research and development are very different between enterprises. At this time, there will be artificial obstacles to data flow analysis, which brings some difficulties to statistical learning behavior data, and it is difficult to achieve the role of big data mining and data statistics.

Second, the platform learning experience is weak. Online learning must require students to have learning ability and self-discipline consciousness, and it is easy to lose direction without on-site guidance and control. If you can't learn independently and continuously absorb knowledge on the platform, it's hard to benefit from it. Although AR and VR technologies have long been applied to the field of education and learning, in traditional Chinese classrooms, when students have questions about the teaching content, they can timely solve the problems by discussing with classmates and communicating with teachers after class. But online learning can't do that. Students encounter difficulties, only to constantly play the video processing, online search answers may not get authoritative answers, and the answer is very uncertain. In the network distance education activities, the relationship between teachers and students is weakened, which not only reduces the dominant position of teachers, but also the lack of students' consciousness. Finally, it is very easy to move towards the four-wind problem of "teacher conniving, student self-exile". In addition, online learning cannot be observed, operated and practiced repeatedly, which leads to students' sense of experience. In the long run, students will lose interest in learning when their problems accumulate, and if there is no proper guidance from teachers, students are more likely to fail or learn ineffectively. In addition, the platform lacks the record of learners' learning and growth, so learners cannot intuitively perceive their own learning and growth. Therefore, the designer of the online course should not be limited to the construction of resources, but should consider all the above aspects to build a good online learning platform.

Third, the platform's resources are not centralized enough. The learning content is of a single form, with the platform, photos and texts as the learning content, and short videos as the learning content. The lack of concise and comprehensive curriculum and problem resources, and the lack of teaching plan design for this kind of "classroom teaching matter" cannot be closely combined with resources and learning, so that students cannot fully interpret and apply the curriculum, and it is difficult to achieve the purpose of the curriculum. According to the educational concept of "learner-centered", the design of online courses must meet the needs and provide learners with learning support services so that they can learn more effectively, ensure the learning effect and complete the course objectives.

Fourth, the platform's general application is not enough. The nature of online education and online learning platforms enables learners to learn at any time without being limited by time and space. Such a platform can help learners to better understand the course content and communicate and collaborate effectively with others. Nowadays, with the continuous decline in the cost of electronic products, there are more and more forms of online learning, not only desktop computers and laptops, but also more and more devices and mobile phones applied to online learning. The carrier of online learning platform determines the preferences of learners, and gradually becomes a small video resource that can be accessed at any time using "fragmented" time.

In general, the current learning platform may be difficult to meet the learning needs of learners in the AI +5G period. Only by making good use of AI+5G technology, building a learning platform with simple web pages, friendly interface, strong explanatory power, timely response, strong interactivity and high safety factor, meeting the humanized learning needs of learners under intelligent conditions, and serving the learning of all walks of life in the project will the online learning platform be more popular.

3. Concept and characteristics of intellectual adaptation learning platform from the perspective of 5G+AI

The advantages of IALP are as follows: 1) to provide 10 for immersion learning, to promote the coverage of 5G+AI in learning by using 5G+AI technology, to provide learning materials for the group, and to enhance the interest of learning; 2) to build a smart learning environment; 3)5G+AI technology provides data, auxiliary equipment, crowd, ubiquitous intelligent connection, to realize the rapid connection between people and data, people, data and data, in a real sense to achieve fast.

Compared with the existing competitive products in the market, IALP has the following characteristics:

First, more intelligent. Using AI technology, learning groups can quickly show learning content and receive personalized recommendations. When there is a problem, the platform can solve the problem in real time according to the learning individual, so as to achieve "one-to-one" online guidance in a real sense. The platform will also conduct data analysis on time according to the learning individual's situation and progress. Give the group a more suitable learning route, urge learners to learn quickly and

efficiently, let the group feel the intelligence of the platform.

Second, richer and more interesting content. 5G, AI, AR, and VR intelligence can convert the original content based on written knowledge, pictures, and audio materials into the form based on AR/VR, which makes learning more flexible and interesting, and also facilitates learning and memory.

The third, give feedback more quickly. For the characteristics of high speed and low delay of 5G technology, learning groups can share, collect and integrate data more quickly: quickly connect online and offline information and auxiliary tools: quickly help people to achieve accurate and detailed content search, exclusive to personal guidance, personalized learning. The real sense of network and entity to achieve seamless connection, so as to greatly improve efficiency.

The fourth, more comfortable experience. The application of AI, 5G, AR and VR technologies makes the platform design more easy to understand, beautiful and convenient, and the learning materials are presented in a combination of virtual and real.

Intellectual adaptation benefits from the deep integration and application of cutting-edge technologies such as artificial intelligence and big data in the field of education. Intellectual adaptation is mainly through intelligent artificial inspection and observation of students' academic level and learning status, so as to change learning methods and ideas, so as to improve learning performance and interest. The biggest feature of intelligent adaptive learning is that it can transform a series of behaviors in learning into a meta-universe and realize a complete closed-loop of learning. The intelligent adaptive learning system can analyze the big data of students' learning situation, estimate students' ability, the most real status and performance, recommend the most suitable development route, and automatically push online teaching videos and other learning content to complete the closed-loop of the learning process. The data layer of the platform is responsible for providing information of interest to interested users, including all types of people. The background will integrate this data as a mobile information base and mobile learning data. The database carries on the backup to transfer the data to realize the data sharing.

Compared with the usual data analysis class, 5G+ data learning is faster and more efficient. With 5G, the platform can calculate data and dig data more efficiently, complete every step from data collection to database formation, so as to realize feedback and self-improvement while learning[5].

There are a series of similar platform if you don't write this system integration optimization, promotion will be a bigger issue, one is the lack of stable users and the information is difficult to form meaningful learning, more is a one-off consumption, second is the lack of the one-stop learning, information integration degree is not high, question cannot be answered. Three is the lack of results display, results sharing, difficult to achieve more public services, four is the lack of unified standards, all kinds of platforms make people dazzling, lack of unity. Carrier demand for automated networks is strong. With the improvement of technical capabilities and the expansion   of application scale, the huge potential of AI in the field of 5G network operation and maintenance will be further released. Design IALP, need to be more adaptive AI + 5 g technology and the development of the industry, now want to meet more people, more areas and regions, the audience more wide noodles, and give priority to in order to spread knowledge, improve the user's thinking ability, to improve the quality of the population, promote efficiency, to correctly guide the audience, to promote continuous learning and conditions. Through AI+5G, IALP makes the learning content more meaningful and vivid, generates diversified learning environment, learning tools and learning approaches, and provides users with a more suitable form for themselves, so that users have a more natural feeling of "network flexibility" and improve efficiency.

4. Conclusion

This study summarized the shortcomings of existing competing products, put forward a more appropriate concept, analyzed the characteristics and value of IALP, and discussed how to promote its function and application. In future research, how to bring more convenient, convenient, efficient and more efficient experience to more groups? How can platforms be used to analyze data more accurately? And so on. These are the questions that we should observe and explore next. We need to do more research on this.

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