

Importance of Online Deep Learning in Education Field in China

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Abstract: In the face of the fourth industrial revolution and with the significant change in the world, the possibilities of billions of people connected by mobile devices, with unprecedented processing power, storage capacity, and access to knowledge, are unlimited. Facing the significant changes of the times, more and more world-class universities are developing online education strategies or making online education a school priority and part of their long-term strategic development plan.

Keywords: Online Learning; Importance of Deep learning; Core Competencies

1. Problems during Online Learning

In such a context, the prediction of 5 million jobs lost by 2020 to technology will have serious consequences. Researchers keep studying if the various educational models and learning styles will meet the needs of the employment market. Inefficient learning or surface learning will reduce students' employment competitiveness and affect the employment rate. Online learning plays a vital role in higher education. However, educators caution that deep thinking does not take place when students learn online.

Online learning model needs to optimize the technology involved in learning, expecting to produce creative, innovative, and competitive graduates to face the era of Industrial Revolution 4.0. Online learning is now part of the mainstream education system and provides educational opportunities for hundreds of millions of Chinese and chances to apply for jobs. While online enrollment has been growing, the high dropout rate compared to face-to-face courses shows that there are severe problems with students' online learning. According to statistics, the dropout rate of students from online courses is 10 to 20 percent higher than that of traditional courses. At present, online courses and open learning resources are experiencing explosive growth. However, in the teaching practice, despite the advantages of online education, such as rich media resources, convenient cognitive tools, friendly assistance, and interaction, the learning effect is not as ideal as expected. Thus, when teachers and students teach and study online, it is essential to help them know the importance of deep learning and have a systematic mental strategy. Many researchers have studied the influencing factors of deep learning and the influencing factors of online learning.

In the context of COVID-19, the growth of online education around the world has soared. For deep learning, international and Chinese educational institutions and organizations have proposed the profound significance of deep learning. For online learning, in China, the government and society have paid much attention to online learning.

2. Importance of Deep learning

With the rapid development of information technology and education reform in China, what kinds of qualified people are needed for the 21st century in the world? What qualifications are required for students in Chinese school education? Under the background of a new era, deep learning is a meaningful way to promote the all-round development of individual learners.

In China, the Core Competencies and Values (CCV) for Chinese Students' Development was published on October 13, 2016. Figure 1.3 shows the Core Competencies and Values for Chinese Students' Development.

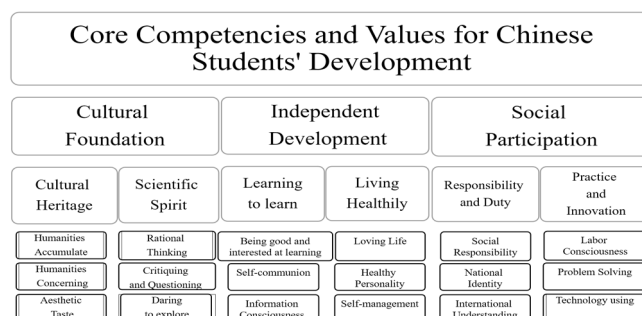


Figure 1.3: Core Competencies and Values for Chinese Students' Development

According to the Core Competencies and Values (CCV) for Chinese Students' Development, enhancing the core competencies and values of students in China has become an important goal of students' development for the future. From then on, many Chinese researchers began to study the topic combined with different levels and perspectives of education. The government encourages schools and universities to make the necessary educational reform to help develop the education systems. Deep learning is the crucial competency for building the structure of CCV.

The importance of deeper learning is also emphasized in the Horizon Report: 2017 Higher Education Edition. Deeper learning is a long-term trend that will drive the development of high education for five or more years. The Bologna Declaration states that successful higher education should allow students to engage in deep learning.

The Alliance for Excellent Education of United States highlighted that deep learning means that teachers deliver rich core learning content to students through innovative teaching methods, guide them to learn effectively, and apply what they have learned. It also emphasizes that deep learning links standardized tests with mastering communication, collaboration, autonomous learning, and other abilities. The William and Flora Hewlett Foundation is the most represented organization in deep learning research about learning goals. The Hewlett Foundation indicated that deeper learning is an umbrella term for the skills and knowledge that students must possess to succeed in 21st-century jobs and civic life.

In conclusion, one of our goals as educators is to help students reach a deep level of learning and acquire the skills necessary for social development in the 21st century. The speed of knowledge updating is accelerating. Deep learning is an effective way to promote individual lifelong learning ability, and lifelong learning has become the only way to maintain individual competitiveness in the current society.

3. Importance of Online Learning in China

The Ministry of Education of the People's Republic of China has released the Guidance on Promoting the Healthy Development of Online Education, Guidance on Strengthening The Construction and Application of Network Learning Space in 2019.

The first document mentions that by 2020, the infrastructure construction level of online education will be significantly improved. Modern information technologies such as the Internet, big data, and artificial intelligence will be more widely applied in education, with more abundant resources and services and a better online education model.

The second document indicates that by 2022, a green, safe, manageable, functional, and distinctive real-name system will be made available to all levels of education, all teachers and school-age students. The government encourages students to study online according to their own learning needs by selecting all different kinds of network courses.

By June 2019, the number of online education users in China had reached 232 million, an increase of 31.22 million over the end of 2018, accounting for 27.2% of the total number of Internet users. The number of mobile online education users reached 199 million, an increase of 5.3 million over the end of 2018, accounting for 23.6 percent of mobile Internet users. Data analysis of China's online education industry: the number of online education users will reach 305 million by 2020.

Affected by the COVID-19 outbreak in early 2020, Chinese universities have fully used online education for teaching. On the 17th of February, the national cloud platform and the China Education TV aerial classroom were officially launched. As of May 8, 1,454 universities nationwide had launched online teaching, and 1.07 million courses, or 12.26 million courses, had been taught online by 1.03 million teachers. A total of 17.75 million college students, or 2.3 billion person-times, took part in online learning. According to data from iiMedia Research (2020), the market size of online education keeps growing year by year. In 2019, the market size of online education had exceeded 400 billion yuan, and the epidemic situation further accelerates the market education. It is expected that the market size of online education in China will reach 800 billion yuan in 2025, with a compound growth rate of 11.4% from 2020 to 2025.

In 2020 May, the Ministry of Education of the People's Republic of China held a press conference to introduce online education during the epidemic prevention and control in China. According to the conference, the scale, scope, and depth of online teaching is unprecedented in the history of higher education in the world, and the first experiment on a global scale, and they put a strong emphasis on ensuring the quality of online courses.

4. Conclusion

In China, online education has become a significant method and platform of education. Facing the vast online education system, besides continuous improvement of online education technology, teachers and learners should also pay attention to their teaching methods, teaching qualities, psychological problems, which can help deep learning happens during the online learning. However, this paper aims to tell readers that deep learning can be a problem. It can also be a chance in the future.

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