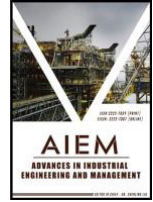


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## REVIEW ARTICLE

# ON THE REFORM OF PUBLIC ELECTIVE COURSE BASED ON ONLINE COURSE IN THE ERA OF ARTIFICIAL INTELLIGENCE EDUCATION

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## ARTICLE DETAILS

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## ABSTRACT

The advent of the era of artificial intelligence education provides a new platform for the development of higher education. The application of artificial intelligence educational means enriches and expands the mode and connotation of traditional education, and plays a positive role in the supply of learning resources and the innovation of teaching mode. Public courses are an important way to cultivate students' all-round development. Under the background of the rapid development of online education, this paper attempts to use online courses to reform the teaching of public elective courses, explore the construction of public elective course system, and analyze and think about the problems existing in the reform of public elective courses, in order to provide useful reference for the reform of public elective courses in colleges and universities.

## KEYWORDS

Artificial intelligence education, public elective course, online course, reform

## 1. INTRODUCTION

In the age of information network, artificial intelligence provides opportunities and challenges to higher education. Especially, artificial intelligence technology is widely used in the field of personnel training, which has a huge impact on the professional personnel training of various disciplines in higher education. The advent of the era of artificial intelligence education provides a broad space for the innovation and reform of the training mode of higher education talents (Zhong and Zhan, 2022).

With the promulgation of the "14th Five-Year Plan for Digital Economy Development" and the strategic deployment of education digitization, 5G, big data, artificial intelligence, cloud computing, virtual reality and other technologies are promoting the development of new infrastructure in education. Online course is an innovative exploration of the deep integration of information technology and education teaching. By November 2022, the number of online courses in China has reached 62,000, with 979 million students (People's Daily, 2023: 1-3). Online courses are popular among learners because of their unique advantages — large-scale, open, interactive and personalized.

As the main carrier of general education, public elective courses (hereinafter referred to as public elective courses) are an important supplement to professional education and an important path to expand students' knowledge, improve their overall quality, improve the quality

of talent training, and cultivate students' all-round development (Liu et al., 2017). Based on the analysis of the current situation of public elective courses in colleges and universities, combined with the characteristics of online course, this paper explores a new model of public elective course system, in order to provide useful reference for the reform of online teaching in colleges and universities.

## 2. TECHNICAL CHARACTERISTICS OF ONLINE COURSES IN THE ERA OF ARTIFICIAL INTELLIGENCE EDUCATION

Artificial intelligence profoundly affects learning, teaching, resources, the environment, teachers and students in the education system, as well as education (Zhang and Li, 2022). Artificial intelligence technology provides the possibility for the realization of large-scale personalized learning from the aspects of environment, resources and paths (Gu and Li, 2022).

### 2.1 Rich Course Resources

Artificial intelligence education resources are the basic elements to realize the innovation of artificial intelligence teaching mode and the fundamental guarantee for teachers to promote teaching reform and education mode innovation. Online courses are open, emphasizing the free sharing and opening of high-quality learning resources. With the support of Internet technology and information technology, it breaks the boundaries of time and space of education and the walls of

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schools. Learners are not restricted by learning time and space, and enjoy the high-quality teaching resources of famous teachers in famous schools. The course content is rich, covering comprehensive literacy, general ability, growth foundation, innovation and entrepreneurship, engineering technology, personal development and other course categories.

## 2.2 Various Operating Platforms Are Easy to Operate

The effective supply and high quality supply of AI educational tools are the premise and foundation for the realization of AI advantages. At present, there are a number of teaching platforms in China, such as China University MOOC, Xuetang Online, and Super Star Learning, which use the Internet, big data, face recognition and other advanced technologies to integrate teaching interaction, resource management, data statistics, educational administration and other functions. It is the latest form of teaching tools in the era of artificial intelligence. Learners can operate through PC or mobile phone, simply and easily.

## 2.3 Meet students' Personalized Learning Needs

Public elective courses are mostly taught in large classes, which are composed of students from different majors and grades. There are differences in knowledge structure and cognitive ability of students. As a new mode of education, online course breaks the boundary of time and space of education, closely combines education, entertainment (thinking games) and social network, stimulates students' interest, and changes the teacher-centered to learn-centered. Students are not limited by learning time and space. Online coursein breaks through the limitation of time and space and provides a new development idea for education, which is welcomed by learners (Huang et al. 2020). They can control their learning time, progress, ask questions, participate in discussions, and submit assignments. Students can control the learning time and adjust the learning progress according to their own situation, and watch teaching videos "anytime and anywhere", and the learning process is repeatable.

This way of learning can help to explore the potential of students, cultivate the ability of independent learning, and meet the needs of "personalized" learning.

## 3. ANALYSIS OF THE STATUS QUO OF PUBLIC COURSES IN COLLEGES AND UNIVERSITIES

Public elective courses focus on the cultivation of students' comprehensive quality beyond their professional quality, and bear the

heavy responsibility of training application-oriented composite talents. It is the main platform to expand the scope of students' knowledge and cultivate their all-round development. The public elective course has put forward its own unique requirements on teachers' quality, curriculum system and resource construction, teaching methods and teaching management.

At present, colleges and universities are facing many difficulties in choosing public courses. And students do not attach importance to the general curriculum in consciousness. On the one hand, many teachers think that opening public elective courses is not very meaningful, and it is not useful to open specialized courses or conduct scientific research, and it is not within the scope of teachers' assessment and evaluation. On the other hand, public courses are open to students of all grades and majors in the whole school, with relatively high degree of freedom. Students no longer choose courses based on their own long-term development needs and interests, but rather focus on some courses that are easy to obtain credits, so as to meet the graduation requirements. Third, the course opening form is relatively simple, teachers and even schools do not pay enough attention to the public elective course, insufficient energy and resource investment, teaching effect and teaching quality cannot be guaranteed, it is difficult to complete the task of training application-oriented composite talents.

## 4. EXPLORATION OF THE CONSTRUCTION OF PUBLIC COURSES

### 4.1 Optimize the Curriculum System

In order to improve the quality of public elective courses, comprehensively improve students' comprehensive literacy, and promote the development of the school, R School has made a lot of attempts in the teaching practice of public elective online courses. Since 2018, about 71,000 students have been enrolled in courses, with an average of 8,000 students per semester.

In the first semester of each academic year, freshmen did not participate in course selection, so the number of course selection was less, while the data of the second semester could more accurately reflect the situation of course selection. As can be seen from Figure 1, the number of students attending online courses increases year by year, while offline courses show a downward trend. It shows that with the development of information technology and online courses, online courses are more and more popular among students and play a n increasingly important role in the public elective course system. Adding online courses into

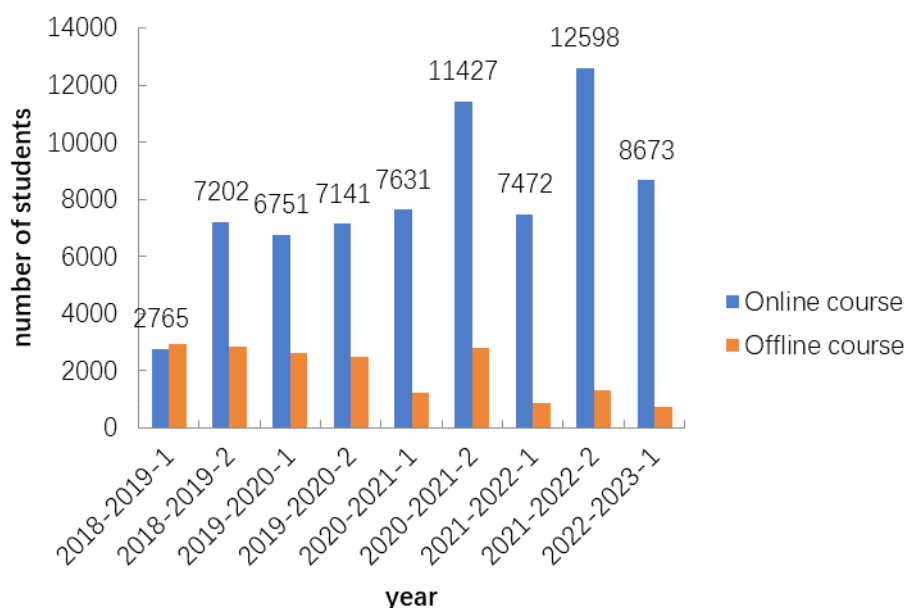


Figure 1: Comparison of the number of students choosing courses from 2018 to 2022

the public course selection system effectively alleviates the shortage of teachers and teaching resources.

#### 4.2 Strengthen Process Management

According to the characteristics and needs of students, the school independently sets the learning cycle and the proportion of video viewing, chapter testing, homework and exam results in the total score, so as to strengthen the management of the learning process and improve the quality of learning. R school stipulates that only after completing 60% of the learning tasks of online courses can you participate in the online exam. Total score = 20% of watching videos + 25% of unit and chapter tests + 50% of online exam results. This more emphasis on the learning process of students, fully mobilize the enthusiasm of students, thus improving the learning quality of public courses.

### 5. EXISTING PROBLEMS AND THINKING

Since the online course is incorporated into the public elective course system, it greatly enriches the course resources, innovates the teaching mode, simplifies the teaching management, and is welcomed by the students. It is a relatively successful teaching reform. However, there are still some deficiencies in course resource optimization, course mode setting, learning process and assessment monitoring, which need to be further improved.

At present, curriculum resources are mainly selected by teaching administrators directly from general curriculum database. Teachers should be organized to conduct curriculum demonstration and recommendation, and further research among students to select courses that meet college students' preferences and development needs.

The most basic online learning mode is adopted. In the future, the mixed teaching mode combining online learning and offline classroom can be tried according to actual needs.

Strengthen the management of public course selection process, construct the management system of public course selection, and set up a management team composed of teaching management, teaching assistants and information technology personnel.

The learning platform should further strengthen the technical support, improve the background data monitoring, effectively avoid cheating in online learning and exams.

The reform and innovation of education mode has become the inevitable trend of higher education development. In the era of artificial intelligence education, modern information education concept is the core, and artificial intelligence education technology and education means are the foundation (Du et al., 2019). Therefore, it is an important measure to deepen the information-based teaching reform of our college and promote the conformal development of our school to select general courses that are in line with the characteristics and training direction of our students and to construct an "online + offline" public elective course system together with the offline quality courses to meet the diverse needs of students and improve the types of public elective courses.

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