Research on the Construction of Information Literacy Education System in Universities under AI Environment

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Abstract. Traditional information literacy education in China focuses on using an information literacy course to cultivate students' theoretical learning such as information source collection. Students have a single learning channel and weak abilities in self-directed learning and innovation. The research on the cultivation system of information literacy in universities in China is still incomplete. Resulting in a low overall level of information literacy and insufficient information knowledge among college students, which greatly undermines their innovation and entrepreneurship abilities; There is a lack of information ethics education, and students often participate in situations such as online violence and attacks. This article studies the technical and application characteristics of AI smart education environment, explores the education system model of information literacy in universities, and improves the overall information literacy level of university students.

Keywords: AI, information literacy, system construction.

1. Introduction

China is promoting the AI enabled Education Informatization 2.0 Action Plan, which will drive the overall improvement of information literacy among college students. Meanwhile, the improvement of information literacy will further promote the integration of AI+education. Information literacy education and artificial intelligence are interdependent and mutually reinforcing, and the comprehensive embrace of education by artificial intelligence has become a trend.

In the cultivation of information literacy in colleges and universities, the smart education model of "artificial intelligence+college education" will be adopted to "promote the improvement of information literacy, implement the plan of" Internet plus+literacy improvement ", and comprehensively improve students' information literacy".

(1) The Ministry of Education has clearly stated that improving information literacy plays an important role in cultivating innovative talents. Traditional information literacy education in our country focuses on using an information literacy course to cultivate theoretical learning such as collecting information sources for students. Students have a single learning channel, and their ability to learn independently and innovate is not strong.

(2) The existing talent cultivation system in universities has not fully considered the supporting role of AI intelligent education environment. This study will demonstrate an example of "artificial intelligence+higher education" through the reform of information literacy education in a smart environment, providing a way to promote deeper reforms in talent cultivation in universities.

(3) The information literacy education system model based on AI education environment constructed in this article will comprehensively improve the overall information literacy level of college students. It is of great significance to implement the pilot provincial project of ICT in Education 2.0 in our province and promote the development of Internet plus vocational education from integration to innovation.

2. Current research status at home and abroad

(1) Current status of research on information literacy training systems in China

Under the promotion of the Ministry of Education, information literacy education in universities was launched in 2018, and domestic scholars have summarized many experiences in information literacy education. Li Shanshan from Beijing Normal University proposed that under the new situation, information literacy education in universities needs to shift from literature retrieval courses to comprehensive information literacy; Huang Ruhua from Nanjing Normal University proposed a plan for universities to carry out information literacy teaching in a ubiquitous knowledge environment; Bai Xue from Tianjin University studied the relationship and path between information literacy and career acquisition among college students in the 5G era, and proposed that universities urgently need to build an integrated employment information literacy education system; Cao Lingqiu from Hunan Vocational and Technical College of Finance and Economics proposed strategies to enhance the information literacy of college students in the context of innovation and entrepreneurship.

Overall, domestic scholars have formed several consensus on information literacy education in universities: information literacy education should be integrated into subject courses; Information literacy education needs to develop into an independent "curriculum group" system composed of multiple courses; Information literacy education should not be limited to curriculum, but should form an educational system.

(2) The Current Status of Research on Information Literacy Education Systems Abroad

There are three typical education models in foreign information literacy education systems, including the BIG6 model, PLUS model, and Six Framework model, which are more influential.

The BIG6 model was co founded by Dr. Mike Eisenberg and Dr. Bob Berkoweta from George Washington University in the United States in 1988. It focuses on addressing the six key information skills that students must master in the process of information literacy education.

The PLUS model, proposed by James Herring from Queen Margaret University in Edinburgh, UK, is an information skills teaching model based on four steps: purpose, positioning, utilization, and self-evaluation.

The Six Framework Model was proposed by Dr. Christine Bruce of Queensland Institute of Technology in Australia in 2006, which achieves information skills learning by setting six frameworks: content, abilities, learning to learn, individual relevance, social influence, and relationships.

These three models greatly contribute to cultivating students' exploratory learning and innovation abilities.

3. Research process and framework

Based on the theoretical research on the curriculum and evaluation system of information literacy in the AI environment; Using a self-developed adaptive learning platform as the training platform; Conduct specific pilot research using our college's professional group classes as a pilot. During the implementation process, the system framework will be adjusted at any time based on the learning effect, and the system content will be improved to obtain the optimal information literacy education system.

The overall framework of this study will construct a curriculum and evaluation education system for information literacy in an AI environment. Reforms will be made in classroom teaching and student learning evaluation, with a focus on cultivating students' thinking skills and independent innovation abilities.

(1) Research the main functions of AI smart education environment and its application in higher education, including the main functions and shortcomings of AI smart education in self-directed learning, curriculum teaching, learning evaluation, and other aspects. Research the information literacy education system in higher education both domestically and internationally. Compared with the National Education Informatization 2.0 Action Plan and the Hunan Vocational Education

Informatization Innovation and Development Action Plan, there are systematic deficiencies and deficiencies.

(2) Building a college information literacy curriculum system based on AI intelligent education. After studying the characteristics of AI smart education and the shortcomings of the existing information literacy education system, a strategy is proposed to fully utilize the smart education ecosystem to reconstruct the information literacy training system.

(3) Conduct practical research based on the new information literacy education system. After more than a year of exploration, a preliminary artificial intelligence based adaptive learning platform has been established. We will conduct a pilot program for information literacy education in our school, validate the training effectiveness of the new education system over a period of 1-2 years, and continuously improve to address any issues that arise, ultimately resulting in a relatively complete education system.

4. Conclusion

Focusing on the information literacy needs of university talents in the era of intelligence, this study explores the construction of an AI oriented university information literacy education system from the perspective of adaptive learning and personalized learning theory, guided by the National Education Informatization 2.0 Action Plan and the Hunan Vocational Education Informatization Innovation Development Action Plan.

The self-developed adaptive learning platform can promote students to achieve intelligent development that conforms to personalized growth laws, combining AI2 intelligent education with information literacy, and providing a practical and reliable implementation path for pilot research.

By utilizing multiple channels such as Fanya, Xuexuetong, and self built adaptive learning platforms, the level of information literacy has been improved. A system pilot has been conducted on campus, verifying the effectiveness and scientificity of the system model.

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