



Research on the Construction of Gold Courses Based on Artificial Intelligence

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Abstract. In response to the low satisfaction of personalized learning needs, lack of teaching resources, insufficient teaching evaluation, and inconvenient teaching process management, artificial intelligence technology is adopted to improve course design and teaching effectiveness. Firstly, the basic concepts of artificial intelligence technology were outlined. Secondly, the current application status of artificial intelligence in the field of education was discussed. Finally, the evaluation and optimization of the effectiveness of gold course construction driven by artificial intelligence were discussed, including the construction of evaluation index system, optimization strategy, and continuous improvement mechanism. The above content provides theoretical support and practical guidance for the construction of gold courses based on artificial intelligence.

Keywords: Artificial Intelligence, Gold Course, Construction

1 Introduction

With the rapid development of information technology, educational models are undergoing unprecedented changes. The traditional classroom teaching mode can no longer meet the needs of today's students, so advanced technologies such as artificial intelligence [1] are needed to innovate teaching content and methods [2]. Artificial intelligence technology has made tremendous progress in recent years, especially in fields such as natural language processing, machine learning, and data mining [3]. The continuous evolution of these technologies provides rich possibilities for the education field [4], especially in the construction of golden courses. Although gold courses have become an important component of higher education, there are still some challenges in their construction process, such as how to improve the attractiveness and effectiveness of courses, and how to personalized meet the learning needs of students [5]. The application prospects of artificial intelligence technology in the field of education are broad, which can help teachers guide students in personalized learning, provide intelligent

auxiliary teaching tools, optimize course design, and so on. Therefore, introducing artificial intelligence technology into the construction of gold courses [6] is of great significance. Education is the foundation of national development, and improving the quality and level of education has become an important goal for governments and educational institutions in various countries [7]. Utilizing artificial intelligence technology to improve the quality and effectiveness of gold courses can help cultivate more high-quality talents and promote sustainable socio-economic development.

2 The Theoretical Basis of Artificial Intelligence in the Construction of Golden Courses

2.1 Overview of Artificial Intelligence Technology

Artificial Intelligence refers to a technological science that simulates, extends, and expands the understanding, reasoning, learning, and interaction abilities of human intelligence. Artificial intelligence technology aims to enable computer systems to perform tasks that require human intelligence, such as perception, understanding of language, decision-making, planning, and problem-solving. Artificial intelligence technology includes multiple subfields, among which natural language processing, machine learning, computer vision, and expert systems are important directions. Natural language processing is committed to enabling computers to understand and use human language, enabling them to understand speech, text, and dialogue, thereby achieving intelligent interaction. Machine learning is a core field of artificial intelligence, which enables computers to use data for learning and improving algorithms, enabling machines to automatically optimize and improve performance based on experience. Computer vision focuses on enabling computer systems to "see", that is, understand and analyze images, videos, and real-time scenes, thereby achieving functions such as pattern recognition and object recognition. Expert systems utilize professional knowledge and reasoning rules to enable computers to simulate human experts making decisions and solving problems in specific fields.

2.2 The Current Application Status of Artificial Intelligence in the Field of Education

In China, artificial intelligence technology is widely used in classroom teaching and curriculum construction. Zeng Jie and others studied the specific practices and effects of artificial intelligence in the application of educational informatization, and through case analysis and field research, explored the application effects and existing problems of artificial intelligence technology in teaching management, teaching design, student evaluation, and other aspects. Wang Xiaobin et al. systematically introduced the development history, research status, and future trends of intelligent education technology, and summarized its applications in personalized learning, intelligent tutoring, and teaching evaluation, providing reference for related research and practice. Xu Jianguo

and others analyzed the application and effectiveness of artificial intelligence technology in education, student management, and teaching evaluation through experiments and research, providing reference and suggestions for the further application of artificial intelligence in the field of education.

Based on the above analysis, the current application status of artificial intelligence in the field of education is constantly developing and expanding. One is personalized learning. Artificial intelligence can provide personalized learning paths and teaching content based on students' learning abilities, interests, and learning styles, helping them learn more efficiently. The second is intelligent tutoring. Intelligent education systems can interact with students through natural language processing technology, answer questions, explain concepts, and provide customized guidance and answers. The third is to learn analysis and prediction. Through machine learning and data analysis techniques, artificial intelligence can analyze the learning behavior and performance of students, provide educators and decision-makers with insights and predictions about their learning situation, and adjust teaching strategies accordingly. The fourth is intelligent evaluation and feedback. Artificial intelligence can automatically evaluate students' homework, tests, and exam answers, and provide immediate feedback to help students understand their learning situation and improve learning outcomes. The fifth is virtual teaching assistant. Virtual teaching assistants can simulate the behavior of human teachers through technologies such as computer vision and natural language processing, interact with students, answer questions and provide a more vivid and specific teaching experience. Six is education management and decision support. Artificial intelligence can help schools and educational institutions optimize the allocation of educational resources, develop teaching plans, and manage students, improving the efficiency of educational management and the scientificity of decision-making.

2.3 Analysis of the Correlation between Artificial Intelligence and the Construction of Gold Courses

There is a close correlation between artificial intelligence and the construction of high-quality courses, mainly reflected in the following aspects:

One is the combination of personalized teaching and intelligent technology. The construction of Jinke aims to create high-quality course content and teaching methods, and personalized teaching is one of the important characteristics of Jinke. Through artificial intelligence technology, it is possible to analyze the learning situation, learning methods, and learning preferences of students, and achieve customization of personalized teaching plans. Intelligent technology can dynamically adjust teaching content and methods based on the learning situation of students, providing a teaching experience that better meets their needs, thereby improving the teaching effectiveness and attractiveness of gold courses.

The second is the improvement of intelligent assisted teaching and teaching efficiency. The construction of Jinke aims to maximize teaching effectiveness, while intelligent assisted teaching technology can effectively improve teaching efficiency. Through artificial intelligence technology, intelligent teaching aids can be developed, such as intelligent question banks, intelligent homework correction systems, etc., to

help teachers better manage and evaluate student learning, reduce the teaching burden of teachers, and improve the teaching efficiency and quality of gold courses.

The third is data-driven curriculum optimization and intelligent decision support. The construction of golden courses requires continuous course optimization and improvement, and artificial intelligence technology can provide data-driven decision support. By collecting, analyzing, and mining student learning data, problems and areas for improvement in curriculum design can be identified, providing a basis and direction for the optimization of golden courses. At the same time, artificial intelligence technology can also provide intelligent decision support systems to help teachers and educational managers formulate more scientific course management and teaching decisions, and promote the continuous improvement and enhancement of the construction of golden courses.

The fourth is the innovation of teaching content and the development of intelligent teaching resources. The construction of golden courses requires continuous innovation and updating of teaching content, and artificial intelligence technology can provide rich and diverse intelligent teaching resources. Through artificial intelligence technology, intelligent teaching content generation systems, virtual experimental platforms, intelligent teaching games, etc. can be developed to enrich the teaching resources of Jinke, enhance the attractiveness and fun of the course, and stimulate students' learning interest and enthusiasm.

3 Evaluation and Optimization of the Effectiveness of Gold Course Construction Driven by Artificial Intelligence

3.1 Construction of Performance Evaluation Index System

The evaluation system for the effectiveness of gold course construction driven by artificial intelligence includes the following aspects.

Learning effectiveness evaluation: By using artificial intelligence technology to analyze students' learning performance in the Golden Course, including answering questions, completing assignments, etc., evaluate their level of knowledge mastery. Analyze the learning progress and trajectory of students in the Golden Course, evaluate their learning efficiency and effectiveness of learning methods. Evaluate the level of interest of students in the gold course content and the effectiveness of artificial intelligence technology in stimulating their learning interest through student behavior data and feedback information.

Teaching effectiveness evaluation: Analyze the application effect of artificial intelligence in the Golden Course, evaluate its improvement level on teaching methods and teaching effectiveness. Evaluate the effectiveness of artificial intelligence technology in optimizing and utilizing teaching resources for gold courses, including personalized recommendation of teaching content, optimization of learning paths, and other aspects.

Student feedback evaluation: Based on student feedback and evaluation, evaluate their recognition and satisfaction with artificial intelligence technology in the construc-

tion of the Golden Course. Collect students' opinions and suggestions on artificial intelligence technology in the construction of gold courses, providing reference for further improvement.

By establishing a comprehensive evaluation system for the effectiveness of gold course construction driven by artificial intelligence, the application effect of artificial intelligence technology in gold course construction can be comprehensively evaluated, providing guidance and support for further optimization and improvement.

3.2 Optimization Strategy and Continuous Improvement Mechanism

In order to continuously improve and optimize the effectiveness of gold course construction driven by artificial intelligence, the following strategies and mechanisms are adopted.

One is a regular evaluation and feedback mechanism. Establish a regular evaluation mechanism to comprehensively evaluate the effectiveness of the Golden Course construction, including learning effectiveness, teaching effectiveness, student feedback, and other aspects. Collect feedback from teachers, students, and administrators, and promptly adjust and improve the gold course construction plan.

The second is data-driven optimization strategies. Using artificial intelligence technology to analyze student and teaching data, identify problems, and improve space. Based on the data analysis results, adjust the content, teaching methods, and teaching resources of the gold course to improve teaching effectiveness and learning experience.

The third is continuous learning and teacher training. Provide continuous learning opportunities and teacher training courses to help teachers master the application methods of artificial intelligence technology in teaching, improve their teaching ability and technical level. Establish a teacher sharing and communication platform to promote experience sharing and cooperation among teachers, and jointly explore the best practices of gold course construction driven by artificial intelligence.

The fourth is technological updates and platform upgrades. Continuously monitor the development trend of artificial intelligence technology, timely update and upgrade the Jinke construction platform and tools to adapt to new technologies and demands. Search for and introduce new artificial intelligence technologies, such as natural language processing, machine learning, etc., to enhance the intelligence level of Jinke construction.

4 Conclusions

The research on the construction of golden courses based on artificial intelligence is a cutting-edge topic in the field of education, and its application is gradually changing the traditional teaching mode, promoting the development of education towards intelligence, personalization, and efficiency. This article deeply explores the application of artificial intelligence technology in the construction of golden courses. Through analyzing data, optimizing algorithms, and personalized recommendations, intelligent management and personalized services of the teaching process have been achieved,

bringing new development opportunities for education and teaching. Through research, it has been found that artificial intelligence technology has great potential in the construction of golden courses, which can improve teaching efficiency, optimize learning experience, provide personalized teaching services, and provide more flexibility and selectivity for teachers and students. However, artificial intelligence still faces some challenges in practical applications, such as data security, privacy protection, algorithm fairness, and other issues that require further research and resolution. In future research and practice, we will continue to explore the application of artificial intelligence in the construction of golden courses, continuously innovate teaching modes and technological means, actively promote the process of educational informatization, and promote the integration and development of artificial intelligence and education.

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