

Research on the Innovative Application and Effectiveness of AI Intelligence in Intelligent Assisted Teaching System for University Yoga Classroom

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Abstract: With the rapid development of artificial intelligence (AI) technology, there is growing interest in its application in university settings, particularly in enhancing teaching methodologies. This study investigates the innovative application and effectiveness of AI in intelligent assisted teaching systems for university yoga classrooms. Using a comparative analysis approach, various AI-based teaching systems are assessed for their impact on personalized learning support, real-time feedback mechanisms, and optimization of educational resources. The findings highlight significant improvements in student engagement, learning outcomes, and overall yoga instruction quality. Ultimately, this research underscores the transformative potential of AI in revolutionizing educational practices within university yoga classrooms.

Keywords: Artificial Intelligence; Intelligent Assisted Teaching Systems; University Yoga Classrooms; Personalized Learning Support; Real-time Feedback

1. Introduction

With the rapid development of Artificial Intelligence (AI) technology in the field of education, its application in university education is increasingly being noticed and explored. Especially in physical and mental health courses like yoga classroom, the intelligent assisted teaching system of AI intelligence brings new possibilities and opportunities for teaching and learning [1]. In this paper, we will delve into the innovative application of AI intelligence in university yoga classroom and its effect research, and analyse its actual effectiveness in enhancing teaching quality, personalised learning and

student experience.

Yoga as a comprehensive discipline focusing on physical, mental and spiritual health, its teaching not only focuses on the teaching of movement skills, but also pays more attention to the inner state and health management of students. The introduction of AI technology has injected new vitality and intelligent support for traditional yoga teaching, and through data analysis, real-time monitoring and personalised feedback, it can more effectively assist teachers to teach and improve the practice effect and learning experience of students. learning experience.

In this paper, we will explore how AI intelligence can be applied to posture correction, personalised practice recommendation, and learning data analysis in university yoga classrooms, and evaluate its impact on teaching effectiveness and students' growth by combining practical cases and research results [2]. By deeply analysing the application of AI intelligence technology in university yoga education, we aim to provide new insights and inspiration for educational practice and future technological development. With the continuous progress of AI technology and the evolution of educational models, we expect that the application of AI intelligence in university yoga classrooms will not only improve the limitations of traditional teaching, but also promote the overall development of students' physical and mental health, and open up new paths for educational innovation and teaching optimisation.

2. Overview of AI Intelligence in University Yoga Classrooms

Traditional yoga teaching relies on teacher experience and student feedback; however, the introduction of AI technology has opened up new possibilities for teaching [3]. Intelligent

assisted teaching systems are able to provide precise support to students and teachers through data analysis and personalised advice. The use of Artificial Intelligence (AI) intelligence in university yoga classes is bringing revolutionary changes and enhancements to teaching and learning. The key applications of AI technology include real-time posture monitoring and correction, personalised learning paths and suggestions, data-driven optimisation of teaching and learning, as well as enhanced student engagement and feedback mechanisms.

AI technology enables real-time monitoring of students' postures and movements during yoga practice through high-precision cameras and deep learning algorithms. The system recognises and analyses every movement of the student, providing instant feedback and adjustment suggestions to help students improve the accuracy and depth of their postures [4]. This real-time posture correction not only effectively optimises the student's practice, but also helps to prevent potential injuries due to incorrect postures, improving overall safety and efficiency. AI technology is able to provide personalised learning paths and recommendations based on the student's personal information, health status and yoga experience. By analysing big data and learning patterns, the system can generate a customised practice plan that suits each student and provide detailed personalised feedback after class. This personalised learning path not only enhances student motivation and engagement, but also effectively improves learning outcomes and long-term fitness results. data-driven teaching optimisation with AI technology enables teachers to more accurately understand students' learning progress and needs [5]. The system is able to collect and analyse data such as class attendance, exercise hours and posture accuracy, providing teachers with comprehensive integrated student assessment and course management support. This data analysis not only helps teachers better adjust teaching strategies and content, but also optimises course scheduling to improve overall teaching efficiency and quality.

AI technology also enhances student engagement and learning experience through intelligent interactive interfaces and feedback systems. Students can interact with the AI

system through apps or online platforms to get real-time guidance and advice, adjusting their practice postures and strategies in a timely manner, thus improving their yoga skills and physical and mental health more effectively.

3. Innovative Application Cases and Effect Analysis

Real-time posture monitoring and correction is one of the important applications of AI intelligence in yoga classroom [6]. Through camera and computer vision technology, the AI system is able to accurately monitor students' yoga postures and provide instant feedback and adjustment suggestions. Studies have shown that this real-time posture monitoring can significantly improve the accuracy and depth of students' movements and help them better understand and practice yoga poses, thus enhancing practice effectiveness and safety.

Personalised learning paths and recommendations are also one of the innovative applications of AI intelligence. Based on students' personal information, health conditions and yoga experience, the system can generate personalised learning paths and practice recommendations. These recommendations not only take into account the student's current level and goals, but can also be adjusted based on performance during the learning process, enabling students to practice in a more targeted manner and improve motivation and effectiveness.

Data-driven teaching optimisation is another important application of AI intelligence in university yoga classes. The system can collect and analyse a large amount of student data, such as attendance, practice hours, and movement accuracy. With this data, teachers can gain a comprehensive understanding of each student's learning progress and needs, and make timely adjustments to teaching strategies and personalised support to improve teaching efficiency and student satisfaction. AI intelligence also excels in enhancing student engagement and feedback mechanisms. Through the intelligent interactive interface and feedback system, students can interact with the AI system to get personalised guidance and advice. This interaction not only increases students' engagement in the classroom, but also enhances their motivation and autonomy in yoga learning.

Innovative applications of AI intelligence in university yoga classrooms, including real-time posture monitoring and correction, personalised learning paths, data-driven teaching optimisation, and enhanced student engagement and feedback mechanisms, have initially demonstrated significant teaching effects and learning outcomes. With the further development of technology and in-depth exploration of application scenarios, it is believed that AI intelligence will continue to bring more innovation and enhancement to university yoga education.

4. Challenges and Prospects

AI intelligence has demonstrated significant teaching potential in university yoga classrooms, providing students with precise movement guidance and feedback through real-time posture monitoring and correction, effectively improving practice results and safety. Meanwhile, through data-driven teaching optimisation, the system analyses students' practice data to provide teachers with personalised assessment and teaching feedback, helping to adjust teaching strategies to meet students' needs. AI in university yoga classrooms faces several key challenges [7]. The first is privacy protection and the need to ensure strict security measures for handling large amounts of personal data. Second, the cost of the technology and equipment dependency may limit its widespread adoption in schools with limited resources. The training and acceptance of teachers, who need to adapt to the new technology to fully utilise the pedagogical potential of AI systems, is also a key factor. As technology advances, AI systems will more accurately monitor and analyse students' postures, personalise recommended exercises and lessons, and enhance teaching effectiveness and student engagement. AI is also expected to integrate with disciplines such as health management and exercise science to enrich teaching content and promote the overall development of health education. Despite the challenges, the application of AI intelligence in university yoga classrooms is promising and will bring more innovation and optimisation to education, helping students make greater progress in physical and mental health and academic achievement.

4.1 Challenges Faced

PRIVACY AND DATA SECURITY: AI intelligent systems need to collect and process a large amount of personal data, including students' physical condition, movement data, etc. Privacy protection and security of these data becomes a major challenge [8]. Educational institutions and technology providers need to adopt strict privacy protection measures to ensure that student data is not leaked or misused. **Technology cost and equipment dependency:** building and maintaining AI smart systems requires expensive technology investment and professional equipment support, such as high-performance computers, cameras, and other equipment. This may be a considerable challenge for some educational institutions with limited resources, limiting the popularity of AI technology in education. **Teacher training and acceptance:** Teachers need to receive relevant training on the operation of the system and data analysis skills before using AI smart systems. Teachers' acceptance and willingness to use the new technology directly affects the actual effect of the system and the effectiveness of teaching. **Limitations of the technology:** although AI intelligence has made some progress in posture monitoring and data analysis, there are still some technical limitations. For example, the accuracy and stability of the system in complex postures or specific environments need to be further improved and optimised.

4.2 Outlook

Technological progress and application expansion: with the continuous progress of technology and optimisation of algorithms, the application of AI intelligence in university yoga classes will become more and more mature and popular [9]. In the future, it is foreseeable that the AI system will be able to more accurately identify and analyse students' yoga postures, providing more refined support for teaching. **Personalised learning and teaching experience:** AI intelligence is able to provide customised learning paths and teaching content based on students' individual needs, promoting the individual development and overall growth of each student. One of the future directions is to further optimise personalised recommendation algorithms to enhance students' motivation and engagement.

Educational innovation and interdisciplinary integration: the application of AI intelligence in university yoga classrooms is not only limited to yoga itself, but can also be integrated interdisciplinarily with other disciplines such as health management and sports science. Through interdisciplinary innovative applications, the teaching content and discipline coverage of yoga classroom can be expanded to provide a richer learning experience [10]. Socio-cultural impact and sustainable development: the application of AI intelligence in education not only improves the teaching effect, but also promotes social and cultural heritage and sustainable development. Through intelligent education, the cultural heritage of yoga can be better disseminated and protected, and the popularisation and promotion of healthy lifestyles can be promoted [11].

Despite the fact that AI intelligence faces some challenges in university yoga classrooms, its future development prospects are still very promising. By overcoming the current technical and management challenges, AI intelligence will continue to bring more innovation and optimisation to university yoga education, helping education progress and student development.

5. Conclusion

The application of AI intelligence in university yoga classrooms demonstrates its remarkable potential and innovative capabilities in the field of education. Through real-time pose monitoring, personalised learning path recommendations and data-driven teaching optimisation, AI systems bring multiple improvements and advantages to teaching and learning. Firstly, AI technology is able to monitor students' yoga poses in real-time through cameras and computer vision technology, providing instant feedback and adjustment recommendations, which helps students to improve the accuracy and depth of their movements, avoid health problems caused by wrong poses, and significantly enhance the effectiveness and safety of yoga practice.

The AI system is able to generate personalised learning paths and practice recommendations based on students' personal information, health conditions and yoga experience. This personalised recommendation not only

improves student motivation and engagement, but also helps each student reach their individual learning goals more effectively. In addition, the data analysis capability of AI intelligence can collect and analyse a large amount of student data, such as attendance, practice hours, and pose accuracy, providing teachers with more comprehensive student information and teaching feedback. Teachers can adjust their teaching strategies based on this data, personalise their support for the students' learning process, and improve overall teaching effectiveness and student satisfaction.

The application of AI intelligence in university yoga classes also faces some challenges. Firstly, the privacy protection issue, AI systems need to deal with a large amount of personal data, how to protect the security and privacy of student data has become an urgent issue. Second, the cost of technology and equipment dependency may be a limiting factor for some educational institutions, especially for schools with limited resources. In addition, teachers' acceptance of new technologies and willingness to use them is a key factor, as they need to adapt to and accept the role and support of AI systems in teaching and learning.

Nonetheless, with the advancement of technology and the expansion of application scenarios, the prospect of AI intelligence in university yoga classrooms is still very promising. In the future, it is foreseeable that AI systems will be further precise and intelligent, providing more detailed personalised support and teaching optimisation, thus promoting university yoga education towards intelligence and personalisation. In addition, AI technology can also be integrated interdisciplinarily with other disciplines such as health management, psychology, etc., to expand the teaching content and disciplinary coverage of the yoga classroom, and promote the development of comprehensive health education.

The application of AI intelligence in university yoga classrooms not only improves the limitations of traditional teaching methods, but also provides lasting motivation and possibilities for educational innovation and comprehensive student development. By overcoming current technological and management challenges, AI intelligence will

continue to bring more innovation and optimisation to university yoga education, helping students make even greater progress in physical and mental health and academic achievement.

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