The Application of Smart Courses in Nursing Education

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Abstract: The application of smart courses in nursing education has garnered widespread attention from university faculty with the rapid development of artificial intelligence.Not only has it enhanced the quality of nursing education, but also promoted students' self-learning, critical thinking, and clinical nursing abilities. This paper reviews the application of intelligent courses in nursing education both domestically and internationally, aiming to provide references for the reform and innovation of intelligent teaching in nursing education.

Keywords: Smart Courses, Nursing Education, Artificial Intelligence

1. Introduction

Nursing education is characterized by its strong practicality and high applicability, requiring university faculty to continuously innovate educational models and keep pace with the times. Smart nursing courses integrate nursing information technology, nursing education theory, and clinical nursing practice methods to reconfigure teaching processes, provide new models for nursing education and enhancing students' learning outcomes and clinical nursing competencies[1,2]. This paper aims to analyze the current status, challenges, and future trends of smart courses in nursing education both nationally and internationally, providing theoretical foundations and practical references for nursing education innovation.

2. From the student's perspective: the current application status of the "user" in smart courses

2.1 Personalized Learning

Personalized learning paths are customized based on students' progress, interests, and learning styles,adjusted learning plans in real-time dynamically. Artificial Intelligent (AI) large models analyze students' skill gaps to generate dynamic learning paths, which are adjusted in real-time based on learning progress[1]. Knowledge graphs facilitate personalized learning for nursing students and enhance memory retention[3]. Models based on large language models and adaptive learning can achieve personalized"teacher-student-machine-enviroment" interaction [4].

2.2 Enhancing Teacher-Student-Machine-Environment Interaction

Smart courses help students to adjust their learning strategies by utilizing AI-powered assessment tools to provide timely feedback on students' learning progress and outcomes. This promotes the transformation from passive learning to active learning and higher-order learning, while creating multimodal teaching resources and equipping various intelligent entities and virtual teaching models[5]. Blended teaching approaches are implemented through smart teaching platforms. Combined teaching methods such as MiniQuest enhanced students' critical thinking ability and learning satisfaction, improved theoretical and practical assessment scores significantly[6].

2.3 Application in Nurses' Continuing Professional Development

A blended learning model together with project-based learning and media resources can effectively enhance nursing students' learning outcomes, play a crucial role in nurses' continuing professional development[7].

2.4 Application of Artificial Intelligence Technology

AI health technologies (AIHTs) has been predicted to have a profound impact on nursing education in terms of improving learning outcomes and promoting technological innovation[8]. VR and AR technologies provide a safe enviroment of skill training for nursing students. Virtual simulation technology effectively enhance skill training efficiency, reduce operational errors in clinical practice, and increase classroom engagement[5,9-11].

2.5 Mobile Phone Learning Applications

Mobile applications allow student to access learning resources from various platforms at anytime and anywhere, and to engage in online discussions and exchanges, which effectively enhanced their learning motivation and participation[12].

3. From the teacher's perspective: the current application status of the "designer" in smart courses

3.1 Application of Smart Education Platforms

Nursing institutions provide abundant learning resources through smart education platforms such as massive open online courses (MOOCs) and small-scale private online courses (SPOCs) like SuperStar, Wisdom Tree, and Xuetang Cloud. Students can learn using knowledge graphs, problem graphs, and capability graphs, and engage in interactive learning through platform tools like AI assistants or AI study companions[13,14].

3.2 Application of Large Language

Models Large models such as Deepseek, ChatGPT, Wenxin Yiyuan, Doubao, and Kimi can analyze nursing cases, help students better understand relevant knowledge and develop personalized learning plans. Teachers can use these large models to optimize teaching materials, improve the stimulation of clinical nursing teaching design, generate personalized case scripts, and provide continuous process-based simulation teaching feedback [15,16].

3.3 Data Analysis and Feedback

Appropriate learning content can be recommended to students based on their level and interests by analyzing their learning data through online AI platforms such as SuperStar, Yu Classroom, and Wisdom Tree, thus help students learn more effectively. An analysis of the blended teaching quality evaluation system from a multi-evaluator perspective indicates that smart courses possess strong scientific rigor and reliability, providing a basis for assessing teaching effectiveness. Students' learning status and needs can be analyzed accurately through real-time feedback and targeted learning support from smart classroom systems, consequently optimize teaching content and methods, thereby comprehensively enhance the quality of nursing classroom instruction[17,18].

4. Conclusion

Smart courses significantly enhance nursing students' theoretical learning outcomes and clinical operational capabilities through personalized learning, real-time feedback, and virtual practice. Nursing educators should actively explore the application of smart courses before, during, and after classes, and collaborate with hospitals and communities to drive reforms and innovations in nursing education, building a more intelligent, personalized, and lifelong nursing education system to meet the rapidly evolving demands of nursing education.More precise learning analysis and enhancement of nursing students' learning abilities can be achieved throuth smart courses. Nursing teachers need to continuously update their knowledge of smart courses and information technology. Future research directions should be focused on in-depth exploration of the specific application effects of artificial intelligence and virtual reality technology in different nursing courses, how to overcome technical application barriers, and further exploring the adaptability and effectiveness of smart courses in different cultural and educational systems.

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