

Blackboard Learning Management System - An Artificial Intelligence Approach: Challenges and Prospects in Nursing Education

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ABSTRACT

The Blackboard learning management system (Bb-LMS) is integrated into the nursing educational system to effectively respond to the increasing development of technology in society. The Bb-LMS as an artificial intelligence (AI) approach continuously improves the teaching-learning process of the nursing educational system. Nursing colleges and universities design programs with the assistance of AI tools. Positive perception and impact on the use of Bb-LMS are documented by several authors. Recent studies documented a few challenges of using Bb-LMS including the provision of appropriate training regarding e-learning and the Blackboard system, occasional time delay and audio issues, and the students do not prefer Blackboard in practical nursing subjects. Nonetheless, the predicted influence of the Bb-LMS as an artificial intelligence approach can transform nursing education across all domains of nursing education and practice. The Bb-LMS facilitates university teachers and nursing educators in managing their courses and communicating with their students effectively. Research on artificial intelligence and nursing stressed that the future of artificial intelligence in education envisions preceptors and robots cooperating to produce scholars with fashionable outcomes. Hands-on training and workshops should be conducted for both students and teachers to address the challenges of using the learning management system in nursing education. Future research should consider examining the integration of Bb-LMS in nursing curricular reforms to make nursing education more meaningful and effective.

KEYWORDS: Blackboard learning management system, artificial intelligence, nursing education, opportunities in nursing education, prospects in nursing education.

INTRODUCTION

The influence of artificial intelligence (AI) is tremendously embraced by every human being around the globe. The management systems in all areas of healthcare institutions, public and private firms and companies, and educational institutions were greatly influenced by the promising outcomes of artificial intelligence. In its simplest terms, Stuart Russel and Peter Norvig recognizes definitions of artificial intelligence in terms of four categories such as thinking and acting humanely, and thinking and acting rationally. ^[1] AI greatly affected the decision-making skills and day-to-day roles of every person. The positive outcomes of AI are seen as highly encouraging and proven effective.

In the advent of the digital era, many educational institutions integrate artificial intelligence in managing the teaching-learning process. Nursing colleges and universities design programs with the assistance of AI tools. The program included an AI approach such as the Blackboard (Bb) learning management system (LMS). It is a web-based online learning system with many built-in features to support end-to-end delivery of face-to-face, blended, and online courses. The homepage of Bb-LMS features teachers'

"my courses" for current and previous semesters, electronic training, and a digital library. In addition, the Bb's homepage shows "my announcements", and notification dashboards. The teacher can navigate different control panels such as announcements, virtual classrooms, assignment and test sections, discussions, course messages, and grades for each course. The lecture panel of the platform provides different options for building course content, assessment, tools, and partner content. The course management has a control panel for accessing files, course tools, evaluation, grade center, user and groups, customization, package/support, and helpline. The Bb-LMS also supports grading functions, class communication, and collaboration and makes work simpler, with less time spent preparing handouts and collecting papers, and more time spent in teaching and interacting with students. [2] The Bb-LMS provides teachers a place to manage their nursing educational course contents, make announcements, and give student assignments with the activation of a plagiarism tool checker, and online tests, and serves as an official mode for communication between the course teacher and students.

RELATED STUDIES

Few studies focused on the learning management platform. A study on the Blackboard learning management system revealed that Blackboard Inc. provides powerful and easy-to-use systems for educational instruction, communication, and assessment. [3] The results concluded that academic instruction is now more enhanced through the Blackboard learning system. Moreover, course teachers can implement various teaching and learning strategies and instill a more creative and motivational learning environment. In Egypt, Rehab et al., found out that the faculty members significantly enjoyed using the Blackboard learning management system and the challenges they encountered were the least significant factor. [4] A study supported by

Mona et al. discloses that nursing students perceived substantial knowledge and attitude towards their learning environment towards e-learning and blackboard. [5] A stratified random sampling of undergraduate students reported a positive attitude and neutral satisfaction toward the usage of the Blackboard learning management system. [6] Furthermore, a pilot study on the impact of using Blackboard (Bb) Collaborate Ultra to support nursing student's placement learning revealed that the Bb was a time-efficient, easy-to-use technology. Despite technical glitches, participants concluded that Bb Collaborate ultra was an efficient medium when placement needs were routine. [7] In Saudi Arabia, an assessment of medical staff members' experiences with Blackboard showed that most of the participants were satisfied with using the platform. [8] Rahmatullah (2021) scrutinizes the challenges and the prospects of Blackboard as an advanced online learning management system at King Khalid University and reports that the deployment of a digital learning mechanism is quite inaccessible for several students even though many find it one of the most convenient modes of learning and instructors are more contended in managing interactive activities. [9] Using a quasi-experimental approach, an investigation on the effectiveness of an artificial intelligence-based learning environment in developing academic achievement, decision-making skills, and attitudes towards technology among students at a government university showed the effectiveness of the teaching methods based on artificial intelligence and students who studied in the traditional way. [10] Moreover, Alkarani (2022) explored nursing students' challenges in using Blackboard, and identified four themes such as high student satisfaction with using backboard; the positive impact of using Blackboard; and learning obstacles through using Blackboard. Blackboard, through its current characteristics and features, makes education easy and available to all students. [11]

CHALLENGES OF Bb-LMS IN THE NURSING EDUCATION

Despite the growing positive perception and impact of the use of the Blackboard learning management system (Bb-LMS), several authors pointed out some challenges of the platform. Most previous studies have documented several concerns about Bb-LMS application. There is a need for the provision of appropriate training at different levels with experts regarding e-learning and the Blackboard system^[5], occasional time delay and audio echo^[7], the need for improvement from the leaders and scholars at the university^[8], and the students do not prefer Blackboard in practical nursing subjects.^[11]

An observational study included the learners' low participation in virtual classroom activities, incorrect use of assessment tools, committing unfair means during assessments, and students' dissatisfaction with their learning progress.^[9] In analyzing the use of the blackboard system (Bbs) Alharbi et.al, (2022) explored the reality of using e-learning systems and found that students utilize the Bbs functionalities to study their courses, resulting in a low degree of benefit from the Bbs. Seminars and training courses for course teachers and students and utilization of evaluation tools offered by the Bbs were recommended for effective use of the Bb-LMS.^[10]

PROSPECTS OF Bb-LMS IN THE NURSING EDUCATION

The Blackboard learning management system uses the artificial intelligence (AI) domains. The integration of artificial intelligence in the educational system both in the healthcare setting and medical academic institutions has markedly increased. Recent studies revealed that Bb-LMS showed a remarkable change in the teaching-learning environment for medical and non-medical programs. Woolf and Arroyo (2015) describe computational instruction as engaging material for learners, personalizing instruction, assessing

individual effort, and measuring students' needs for assistance that makes learning available accessible, and therefore actionable.^[12]

Many studies recognize the significant influence of integrating the artificial intelligence approach in the learning process. A scoping review conducted by Buchanan et.al, (2021) on predicted influences of artificial intelligence on nursing education concluded that curricular reform is urgently needed within nursing education programs in academic institutions and clinical practice settings to prepare nurses and nursing students to practice safely and efficiently in the age of artificial intelligence.^[13] Ahmad and Jenkins (2022) pointed out that AI has a relationship to deep learning which uses artificial neural networks that are used to solve real-world problems.^[14] Research-based evidence by Hwang et. al, (2022) showed that AI has a primary role in profiling and prediction in nursing research, and the most used AI system in nursing was intelligent agents. Research on artificial intelligence and nursing stressed that the future of artificial intelligence in education envisions preceptors and robots.^[15] Furthermore, a systematic review explored by Sourani (2018) concludes that AI could play an instrumental role by developing a digital curriculum, automating basic educational activities, and adopting Chat-bot-related Apps. Also, a study predicted that AI will transform nursing across all domains of nursing practice, including administration, clinical care, education, policy, and research, and concluded curricular reform is urgently needed within nursing education programs in academic institutions and clinical practice settings to prepare nurses and nursing students to practice safely and efficiently.^[16] In the Arab world, Alzahrani (2022) concluded that many scholars considered AI a new technology that is helpful in the learning process.^[17]

Current work studies emphasized the remarkable contribution of the Bb-LMS platform. Hence, the opportunities of the

Blackboard learning management system can elevate the standards of nursing education by responding effectively to the changing technological forces that affect the healthcare system. Moreover, the integration of Bb-LMS can lead to a meaningful and better engagement in the learning environment of the students.

CONCLUSION

The Blackboard learning management system (Bb-LMS) is a remarkable tool for advancing nursing educational programs. As an artificial intelligence approach, the Bb-LMS platform can virtually address the clinical learning needs of nursing students as they navigate into different computer-generated nursing practices. Similarly, the Bb-LMS provides smooth, easy, and convenient for university teachers and nursing educators. The vast sharing of knowledge makes the platform one of the highly recommended learning management systems in nursing education and other programs. Training and workshops should be conducted for both students and teachers to address the challenges of using the learning management system in nursing education. Future research should consider examining the integration of Bb-LMS in nursing curricular reforms to make nursing education more meaningful and effective.

Declaration by Authors

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