
Research on Innovation of Health Education Mode for College Students under The Background of New Quality Productivity

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Abstract: This study examines innovative approaches to health education for college students within the context of new productive forces, where technological innovation drives societal transformation. The emerging productive forces impose new demands on student health, requiring the integration of digital health literacy alongside traditional physical and mental health education. These demands necessitate personalized, scenario-based, and collaborative approaches. However, current health education in universities faces challenges including outdated content that fails to keep pace with digital environments, underutilized technological tools in delivery methods, mismatched supply-demand structures lacking personalization, and insufficient collaborative mechanisms without closed-loop implementation. The paper proposes four innovative pathways to expand theoretical dimensions of health education, providing actionable optimization strategies for universities to enhance students' digital-age health literacy.

Keywords: new quality productivity; health education; model innovation

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1. Introduction

The new quality of productive forces, driven by technological innovation, is reshaping production methods and lifestyles while raising new health requirements for college students. These students now need not only physical and mental well-being but also digital-age health literacy, including information discernment and digital addiction prevention^[1]. Traditional health education models, which primarily rely on classroom lectures and manual-based promotion, suffer from monotonous formats, mismatched supply-demand, and lack of personalization. These shortcomings make it difficult to meet the health needs of students in the new productive forces era, making innovative educational models urgently needed. By integrating the theory of new quality productivity with college health education, this approach expands the theoretical framework of health education and provides fresh perspectives for academic research. Developing a health education model tailored to new quality productivity can enhance students' health literacy, help them adapt to the digital era, and simultaneously offer actionable solutions for universities to optimize their health education programs.

2. The core requirements of new quality productivity for college students' health education

2.1. Digital literacy integration

Health education should comprehensively cover digital health knowledge, including but not limited to: how to identify false health information online, effectively prevent issues like smartphone addiction and cervical spine problems caused by device dependency, and how to protect personal online privacy and mental boundaries in digital environments. This ensures students can use various digital tools and information resources in a healthy and safe manner in the digital age.

2.2. Personalization and precision

Leveraging big data analytics and AI technologies in the new productive forces era, we implement a “tailored health management” strategy. By continuously monitoring individual health metrics—including exercise levels, sleep quality, and emotional well-being—we deliver customized health interventions. This ensures every student receives personalized guidance and recommendations for optimal health management.

2.3. Practicality and contextualization

By closely aligning with emerging lifestyle and work scenarios driven by new productive forces (such as remote learning and flexible employment), we design health education content with strong practicality and contextual relevance. For instance, we provide scientific sleep schedule planning recommendations for managing daily routines in remote learning, while offering effective psychological counseling and coping strategies to help students adapt to workplace transitions, enabling them to better adjust to new environments^[2].

2.4. Collaboration and intelligence

Breaking the limitations of traditional universities as the sole educational entities, we actively collaborate with families, enterprises, and medical institutions. By leveraging advanced intelligent platforms such as health management apps and AI consultation robots, we achieve real-time integration and efficient coordination of health services. Through multi-party cooperation and smart solutions, we comprehensively enhance the coverage and effectiveness of health education, providing students with all-round, multi-level health support.

3. Existing problems of current health education mode for college students

3.1. Content is outdated and disconnected from new scenarios

Current health education content has become outdated, failing to keep pace with evolving societal needs. While extensively addressing traditional health concerns like infectious disease prevention, it shows significant gaps in tackling emerging challenges such as digital addiction, online social psychological issues, and occupational health adaptation – critical health issues arising from new productivity models. This inadequate coverage leaves students' health needs in the new environment unmet and unaddressed.

3.2. Single form and lack of technical empowerment

Current health education formats remain overly simplistic, primarily relying on traditional offline classroom instruction and lecture-based models. These approaches fail to fully leverage cutting-edge technologies like big data, virtual reality (VR), and augmented reality (AR) – innovative tools that could significantly enhance educational outcomes. The lack of technological empowerment results in weak interactivity and experiential engagement during learning processes, leading to generally low student participation and interest, ultimately making it difficult to achieve the desired educational impact.

3.3. Supply and demand mismatch, lack of personalization

In health education delivery, a one-size-fits-all approach is commonly adopted, failing to adequately address individual differences among students. For instance, health issues caused by prolonged sitting among STEM students and health risks stemming from irregular schedules among arts students have not received targeted attention or guidance. This mismatch between supply and demand creates a significant gap between health education content and students' actual needs, making it difficult to meet personalized health management requirements.

3.4. Lack of coordination and closed loop

In the implementation of health education programs, insufficient collaboration exists between university departments. The lack of coordinated mechanisms among academic affairs offices, student services, and campus medical facilities results in poor communication and inefficient resource integration^[3]. Additionally, low participation from external stakeholders including families and community organizations has hindered the sharing of health data. This dual deficiency in internal coordination and external collaboration makes it challenging to establish an effective closed-loop health management system encompassing "education-monitoring-intervention", ultimately compromising the overall effectiveness of health education initiatives.

4. Innovation path of health education mode for college students under the background of new quality productivity

4.1. Build a "digital + content" system to fully meet the new demands of health education in the new era

New Digital Health Modules: To better meet the demands of the digital age, we have specially launched a series of innovative courses including "Online Health Information Verification", "Digital Addiction Prevention", and "Remote Learning Health Management". These courses will be incorporated into students' compulsory or elective credit systems, aiming to comprehensively enhance their digital health literacy. **Digital Resource Library Development:** We are actively integrating diverse digital health education resources, such as VR health scenarios (covering practical applications like simulated first aid and cervical rehabilitation training) and AI-powered health micro-lectures (delivering bite-sized health knowledge on sleep and diet). This provides students with rich, varied self-directed learning resources to help them better manage their health in daily life.

4.2. Leveraging cutting-edge "Big Data + AI" technologies to achieve precision and personalized health management

Building a Student Health Data Platform: By integrating multidimensional health data including school hospital check-up records, exercise app usage, and psychological assessment results, the platform utilizes AI technology for in-depth analysis to generate personalized health reports^[4]. These reports provide timely alerts such as "sitting risk" warnings and "emotional fluctuation alerts," helping students gain a comprehensive understanding of their health status. **Delivering Targeted Interventions:** Customized solutions are provided for different student groups, such as stress management plans for postgraduate entrance exam candidates and sports injury prevention programs for athletes. Through channels like mobile apps and official accounts, relevant content is delivered in real-time to ensure precise and effective interventions, ultimately enhancing students' health levels.

4.3. Build a "scenario-based + practice" platform to further enhance students' health experience and practical skills

Creating immersive practice scenarios: By fully utilizing VR technology to simulate real-life scenarios such as "emergency health incident response" and "workplace health situations", students can conduct hands-on drills in virtual environments,

effectively enhancing their practical operational skills. Conducting online-offline integrated activities: Actively organizing diverse events like “Digital Health Challenge” and “Health AI Assistant Design Competition”, combining online and offline approaches to stimulate student participation. This practice-driven approach facilitates the internalization and application of health knowledge, comprehensively improving students’ health literacy.

4.4. Establish a “multi-dimensional collaboration” mechanism to form a closed loop

Campus Collaboration: Establish a “Health Education Center” to coordinate academic affairs (curriculum design), student affairs (daily management), campus medical services (health monitoring), and IT support, ensuring data interoperability.

External Collaboration: Partner with community hospitals to conduct “Health Clinics on Campus” and collaborate with enterprises to develop “Occupational Health Programs”. Parents can access student health management through smart platforms, including viewing health reports and receiving school-home health alerts.

5. Conclusions and perspectives

The new quality productivity model provides technological support and demand-driven guidance for innovating health education approaches for college students. By integrating “digitalized content, precision technologies, scenario-based practices, and collaborative mechanisms,” it addresses the limitations of traditional models and enhances the effectiveness of health education. Future efforts should focus on exploring ethical boundaries in technology applications, such as protecting health data privacy, while continuously optimizing the model through developments in new quality productivity (e.g., AI supermodels and metaverse technologies). This will ultimately achieve synchronized resonance between college students’ health literacy and the digital era’s development.

Disclosure statement

The author declares no conflict of interest.

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