

Beyond Technology: The Application of the Guiding questions Framework in Medical Education

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Abstract

In recent years, virtual reality, artificial intelligence, and other digital technologies have been widely adopted in medical education and have been proven to effectively enhance learning outcomes. However, the associated equipment and technologies are often expensive and difficult to obtain, and some teaching scenarios are constrained by a shortage of professional instructors, posing challenges for equipment operation and implementation. Such limitations make it more difficult for rural areas and underserved populations to access relevant learning resources, leading to an uneven distribution of educational resources. Therefore, this study designed a medical education curriculum based on the guiding questions teaching framework to explore its impact on learners. A total of 28 learners participated in the course, and their critical thinking tendencies, learning satisfaction, and cognitive load were assessed via questionnaires. The results indicated that after undergoing guiding questions teaching framework, learners demonstrated significant positive improvements in critical thinking tendencies, learning satisfaction, and cognitive load. These findings suggest that the guiding questions teaching framework effectively promotes active thinking, enhances learning engagement, and improves the overall learning experience. More importantly, this study further demonstrates that high-quality learning outcomes do not necessarily depend entirely on expensive equipment or advanced technology. Through appropriate instructional design and guiding questions strategies, it is equally possible to effectively improve learning quality and achieve positive educational outcomes. Therefore, this study provides a teaching model that is cost-effective, accessible, and scalable for educational practice in resource-limited environments, while also offering new perspectives on issues related to educational innovation and educational equity.

Keywords: critical thinking; learning satisfaction; cognitive load; educational innovation; educational equity