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Embracing competency-based education for modern dental practice

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Abstract

Introduction: Dental education is undergoing a major transformation due to evolving healthcare needs, technological advancements, and the demand for dental practitioners to meet the diverse needs of a global patient community. Competency-based education (CBE) is at the forefront of this change, focusing on what students are competent in upon graduation. Unlike traditional models, CBE emphasises practical skills, critical thinking, and problem-solving. Methods: This article explores the shift towards CBE in dental education, examining frameworks that support CBE like Miller's Pyramid and guidelines from organisations such as the Accreditation Council for Graduate Medical Education (ACGME) and the American Dental Education Association (ADEA). It also involves a detailed analysis of these frameworks and their application in designing competency-based curricula. Results: The findings reveal that CBE facilitates a student-centric approach, enhancing critical thinking, problem-solving, and autonomous self-assessment. These frameworks guide the design of curricula including identifying core competencies, defining competency levels, mapping competencies to learning outcomes, selecting effective teaching methods and utilising various assessment strategies. However, implementing CBE faces challenges, including measuring soft skills and resistance from educators and students. Conclusion: CBE represents a paradigm shift in dental education, ensuring graduates are not only knowledgeable but proficient in practical skills. Future recommendations include incorporating technology-enhanced learning, global health competencies, and sustainability practices into the curriculum. Continuous professional development for educators and robust feedback mechanisms are needed to maintain the curriculum's relevance and effectiveness, ensuring dental graduates are well-equipped to meet the demands of modern dental practice. © 2025 National University of Singapore (CC BY-NC 4.0).

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