

# Cultivating dental excellence: Advancing dental education in Malaysian higher institutions

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Dental education plays a crucial role in safeguarding a nation's oral health, and Malaysia is no exception (Komabayashi *et al.*, 2007). In this context, dental education refers to the academic and practical training provided to individuals pursuing careers in dentistry. It encompasses the curriculum content, teaching methods, assessments, faculty development, and infrastructure within higher educational institutions that prepare students for professional practice as a qualified dentist. Much like in other countries, there is a growing need to emphasise the significance of Malaysian dental education in advancing the healthcare system. For instance, a well-designed dental curriculum equips future dental practitioners with the skills and knowledge needed to address the diverse oral health needs of the population, thereby enhancing the effectiveness and treatment modalities of oral healthcare services (Mays, 2021).

In recent years, dental schools in Malaysia have transitioned towards adopting a competency-based curriculum model, marking a significant departure from traditional content-based approaches (Lin *et al.*, 2023a). This shift reflects a growing recognition of the need to align dental education with contemporary healthcare demands and evolving professional standards. The competency-based model

emphasises the acquisition of specific knowledge, skills, and attitudes requisite for dental practice, moving away from rote memorisation towards competency attainment and proficiency demonstration (Malaysian Dental Council, 2021). Under this framework, students are expected to actively engage in experiential learning, clinical simulations, and real-world patient care experiences, allowing for the integration of theory into practice and the development of critical thinking and problem-solving abilities. Therefore, the adoption of the competency-based curriculum model is essential in advancing dental education within Malaysian higher institutions, ensuring that graduates are equipped with the requisite competencies to excel in an ever-evolving healthcare landscape while upholding the highest standards of patient care and professionalism. Considering these developments, there is a growing imperative to advance dental education in Malaysian higher institutions. This emphasis on dental education reflects a broader commitment to enhancing the quality of healthcare delivery and promoting the well-being of the Malaysian populace.

Furthermore, the evolving relationship between dental education and the healthcare system is characterised by a shift towards interdisciplinary collaboration and

the integration of oral health into primary care (Johnsen, 2020). This trend reflects a growing recognition of the interconnectedness between oral health and general health, as well as the need for a more holistic approach to patient care. By fostering collaboration between dental and other health professionals, dental education can contribute to the development of comprehensive healthcare delivery models that prioritise holistic care and address the underlying determinants of health. Dentistry transcends being a mere profession; it constitutes a pivotal component of public health. The integral connection between dental health and overall well-being underpins the paramount need for maintaining good oral hygiene to avert various health concerns. Dental professionals serve as the vanguards in this endeavour, as they not only diagnose and treat but also educate patients on oral health. To ensure that the people of Malaysia receive optimal care, it is imperative to furnish dental students with a top-tier education. While the quality of dental education in Malaysia has made commendable progress, there remains room for enhancement.

A comprehensive dental education is essential for producing proficient and compassionate practitioners equipped to address the diverse oral health requirements of Malaysia's population. This call for excellence in dental education mirrors the achievements of the well-established medical education system in the country, which has thrived through dedicated faculty development, curriculum refinement, and innovative teaching methods (Mat Nor and Yusoff, 2021). Consequently, the time is ripe for dental education to follow this successful trajectory. It becomes imperative to underscore the importance of establishing a dedicated dental education unit or department to enrich existing curricula. This initiative is not merely about cultivating the professional development of faculty members within dental schools and improving the education of prospective dentists; it is a fundamental step towards ensuring the holistic health and well-being of the Malaysian populace.

Dental educators are entrusted with the task of shaping the future of dentistry, and as such, they must be equipped with the knowledge and skills required to do so effectively (Khehra *et al.*, 2022). This entails investing in training that encompasses innovative teaching methods, the latest technological advancements in dental practice, and pedagogical strategies that engage and inspire students (Lin *et al.*, 2023c). Such training includes not only technical proficiency but also ethical values, communication skills, and adaptability to the evolving landscape of dental education. Prior research has explored various novel teaching techniques among undergraduate dental students in Malaysia. For instance, one study introduced a hybrid approach combining team-based and case-based learning for teaching dental materials science, which was favourably received by students compared to traditional lectures (Lin *et al.*, 2023b). Additionally, another study implemented a student-generated video activity as part of a new teaching method, which students perceived as a positive experience that empowered them to take a more active role in their learning (Omar *et al.*, 2018). Furthermore, a separate study introduced virtual role-playing simulations in clinical settings among Malaysian undergraduate dental students, resulting in high satisfaction among students (Arunachalam *et al.*, 2020).

Digital dental education has also emerged as a transformative approach with the potential to drive lasting change in dental pedagogy. It encompasses a range of technologies and methodologies, including online learning platforms, virtual simulations, augmented reality tools, and tele-dentistry, among others. These modalities provide opportunities for interactive and immersive learning experiences that transcend traditional classroom settings, enabling students to engage with course materials, clinical scenarios, and expert instructors remotely (Moussa *et al.*, 2022). While digital dental education holds great promise, it is essential to recognise that its successful implementation requires careful planning, investment, and ongoing evaluation.

Addressing issues such as digital literacy, technological infrastructure, and student engagement will be critical to maximising the potential of digital platforms and ensuring equitable access to quality dental education for all learners.

In nurturing well-trained educators, not only does one facilitate the dissemination of knowledge, but they also foster the mentorship and inspiration of the next generation of dentists. Therefore, setting up dedicated dental education units or departments will allow for a concentrated effort to enhance the quality of dental education. By centralising resources and expertise, such a dental education department or unit can facilitate structured mentorship programmes between experienced faculty members and aspiring dental students. Mentors within this department or unit can provide invaluable guidance, sharing their wealth of knowledge and practical insights gained from years of experience in clinical practice (Nathwani and Rahman, 2022). Through regular interactions, mentorship relationships can foster personal and professional development, instilling a sense of confidence and enthusiasm in students as they navigate their dental education journey.

Moreover, the evolution of dental education extends to curriculum enhancement. The dynamic nature of the dental field necessitates a continuous process of curriculum refinement (Kassebaum and Tedesco, 2017). Dental institutions must remain responsive to the ever-advancing frontiers of dental science by regularly updating their curricula. Introducing interdisciplinary learning opportunities is crucial, allowing dental students to collaborate with other healthcare or allied dental professionals (Jackson *et al.*, 2018). This collaborative approach grants them a more comprehensive and holistic perspective on healthcare, a skillset that is increasingly essential in the modern healthcare society. Such an objective can only be achieved through comprehensive and well-structured education, emphasising the importance of interdisciplinary collaboration in delivering effective patient

care. Furthermore, the inclusion of courses on cultural competency and ethics serves to prepare future dentists to serve diverse communities with sensitivity and competence (Smith *et al.*, 2022). In the quest for excellence, dental education must establish rigorous and transparent assessment methods as part of quality assurance. Dental schools should define clear criteria for student assessment and continually evaluate their teaching and assessment strategies (Tonni *et al.*, 2020). This practice ensures that graduates consistently meet national and international standards, guaranteeing the delivery of the highest quality dental care to the public.

In adapting to emerging educational delivery models, dental educators must indeed heed the voices of various stakeholders, including policy makers/regulators, employers, alumni, students, and patients. Incorporating these perspectives ensures that educational reforms align with regulatory standards, meet industry demands, address student needs, and ultimately, improve patient outcomes. This multi-stakeholder approach fosters a more holistic understanding of the challenges and opportunities facing dental education, facilitating the development of innovative and responsive teaching methodologies. Looking ahead, the future of dental education and oral healthcare systems will be characterised by dynamic integration, leveraging advancements in technology and interdisciplinary collaboration (Raponi *et al.*, 2023). Dental educators would also need to embrace flexible learning modalities, such as online platforms and virtual reality-based training, to accommodate diverse learning styles and promote lifelong learning (Thurzo *et al.*, 2023). Embracing a culture of continuous improvement and innovation, these educational systems will empower dental professionals to adapt and thrive in an ever-evolving landscape, ensuring the delivery of high-quality, patient-centred care for generations to come.

In parallel, there is an imperative to foster research and innovation in dental education. Collaborative efforts between dental schools, research institutions, and the dental

industry can yield groundbreaking discoveries and advancements in oral healthcare. Such progress not only benefits the nation but also contributes to the global dental community, reinforcing the importance of research and innovation in shaping the future of dentistry. Interdisciplinary research holds paramount importance in developing a robust educational framework to bolster the sustainability of change in higher education delivery models (Newman, 2023). By fostering collaboration between experts in dentistry, education, policy-making, and other relevant fields, interdisciplinary research can offer holistic insights into the complex dynamics influencing educational reforms. Such research endeavours can delve into the multifaceted aspects of implementing new curriculum delivery models, considering factors like curriculum design, pedagogical approaches, resource allocation, stakeholder engagement, and long-term impact assessment. By integrating diverse perspectives and methodologies, interdisciplinary research facilitates a deeper understanding of the challenges and opportunities inherent in educational change, thus enabling the development of evidence-based strategies tailored to the specific needs and contexts of the current dental education.

Furthermore, as the field of dentistry continues to evolve with the emergence of new technologies and treatment modalities, dental schools must remain adaptable. It is essential that institutions incorporate these advancements into their curricula, ensuring that their graduates are well-prepared to embrace the latest tools and techniques in their practice (Thurzo *et al.*, 2023). This adaptability, in turn, positions graduates to be competitive on a global scale, equipping them with the skills and knowledge to excel in an ever-changing dental landscape. Finally, it is highly encouraged to implement quality assurance measures (Sadler, 2017). This is to ensure that dental education programs meet established standards and produce competent graduates who can address the diverse oral health needs of the population.

In conclusion, dental education in Malaysia is at a crucial juncture. It is time to invest in the growth of dental education by focusing on faculty development, innovative curriculum design, and the implementation of contemporary teaching and learning strategies. This will not only produce exceptional dental professionals but also position Malaysia's dental education on par with global standards. The advancement of dental education is not just a matter of academic prestige; it is about ensuring the oral health and overall well-being of the nation's population.

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