

How to Scale-up High-Quality Medical Education with Recent Technological Advancements?

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Background: Due to a substantial shortage of medical doctors in many countries, instructors face the question of how to scale up high-quality medical training opportunities regarding clinical reasoning and social skills. Moreover, medical students also need to learn tools to strengthen their resilience to proactively cope with stressors in real-world clinical practice. Recent technological advancements offer novel opportunities for instructors and students alike. We are, therefore, interested to learn from these stakeholders how technology can be used to improve competency-based medical education.

Method: In the first step, we employ the Nominal Group Technique to gather ideas from faculty members (medical educators and instructors) on how to use technology to improve their curriculum and teaching activities. In the second step, we will ask medical students how technological advancements can meet their learning needs. Thematic maps will be derived for each step and qualitatively compared.

Preliminary results: Initial findings informed by 27 faculty members highlight three key areas of improvement: (1) developing a learning platform with features like progress testing, dynamic adaptations to learning status, and individual mentoring controlled by artificial intelligence; (2) utilizing spatial computing and gamification to digitize case studies for enhanced knowledge transfer; and (3) fostering automated generation of examination questions to increase question variability and push self-testing as the most efficient learning strategy.

Conclusion: Three ideas have been tentatively identified. Preliminary results will be further enriched by the perspective of medical students. The findings will inform the revision of how medical education curricula will be implemented in the future.