

Culture of Science and Clinical Excellence

The culture of science in dentistry encompasses the integration of scientific principles, research-based education, and evidence-based clinical practices within dental education and professional environments. It reflects how the dental profession values critical thinking, technological advancements, and multidisciplinary approaches to improve both education and patient care¹. Though this understanding is a widely accepted premise today, there was a well-recognized absence of a culture of science in dental education three decades ago².

There has been an exponential growth of scientific innovations and technological advances over the past years in dental field. Within the sphere of contribution of biological and digital revolutions have greatly affected dental education and daily clinical practice, biomimetics, personalized dental medicine regenerative dentistry, nanotechnology to name a few. Moreover, high-end simulations creating a unique virtual reality, acquiring of detailed genomic information, and further stem cell studies are moving dentistry to a different dimension¹.

Oral health professionals (teachers, scientists, clinicians) are living and functioning within the nexus of three dominant fields of inquiry: a digital revolution, a biological revolution, and a nanotechnology revolution. Scientific discovery is the fuel for technological advancements and the foundation for growth in health professions education³.

Introduction of a revered culture of science, rapid integration of technological advances and innovations in teaching and learning philosophies that are incorporated into educational curricula will elevate the dental profession to meet the forthcoming challenges and opportunities of artificial intelligence and automation. Our profession may strive for the digital detoxification of unwarranted information in the foreseeable future. Sharpened critical thinking and evaluation skills will help us to make learned choices in clinical decision-making. We should plan for sustainable incorporations of advances into viable curriculum and evidence-based clinical excellence to improve oral health and the quality of life of our populations.

As Heymann has emphasized that there is no substitute for clinical excellence in the ethical, dutiful, and successful practice of dentistry. It should indeed be the enduring goal of dentistry that remains the hallmark of our profession⁴. We should aim high and envisage a nationally sustainable curriculum that leads to international awareness, globally acceptable standards of competence and clinical excellence.

References:

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