



## Letter to the editor

# Future-proofing pharmacy education: Aligning the curriculum for the Zalpha Generation

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### Abstract

Health care is continually and rapidly evolving and it has become obvious that the pharmacy education system needs to be urgently reassessed.

In this editorial paper we express the belief, as the profession seeks to future-proof itself, that the pharmacy curricula need to turn away from traditional informative learning towards flexible, digital knowledge, and competency-based education, designed to accommodate the needs of the Zalpha Generation across the globe.

**Keywords:** pharmacy education, Zalpha Generation, curricula

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Dear Editor,

I am writing to draw attention to the changing technology, health care, and healthcare issues that require an immediate reassessment of pharmacy education for the pharmacy curriculum of the Zalpha Generation by researchers and policymakers worldwide.

To remain relevant, pharmacy education must produce graduates equipped with future-ready skills and the capacity for lifelong learning.<sup>1</sup> Generation Zalpha describes anyone born between 1995 and 2009, and Generation Alpha describes anyone born from 2010 to 2024. These groups possess distinct characteristics which influence learning preferences and competencies that challenge the traditional core curriculum.<sup>1-3</sup> Educators now face the challenge of designing curricula and teaching strategies for Gen Alpha, who were all born in the 21<sup>st</sup> century, and face challenges in designing higher education.<sup>4</sup> Both Generation groups have now reached our higher education institutions, and pharmacy education must adapt to the new learning outlines expressed in learning styles, digital literacy, and developing healthcare needs.

Worldwide, pharmaceutical care and pharmacy education have significantly improved through the integration of digital technologies into patient care and the teaching process.<sup>5</sup> Therefore, these learner groups must be engaged with an appealing, interactive, and

progressive curriculum; an interactive and progressive pharmacy curriculum is a reality that pharmacy educators cannot ignore.

Despite the speed of advancement in health care and education systems, most curricula in national and international pharmacy schools remain outdated, emphasising enlightening teaching and knowledge gathering at the cost of digital literacy, revolution, and competency-based education. Current teaching methods are misaligned with Generation Zalpha's need for interactive, tech-enabled, global learning. This curriculum gap risks undermining the preparedness of future pharmacists for sophisticated health care and societal expectations.<sup>1,6</sup>

Pharmacy curricula for Zalphas must balance science with clinical practice, integrating digital health, Artificial intelligent (AI), and pharmacogenomics.<sup>5</sup> There is a need to foster innovation, entrepreneurship, and sustainability while centring on ethics and social accountability for non-traditional employment.

Effective learning and engagement for this generation require active, student-directed teaching. Hybrid or blended learning models, gamification, virtual and augmented reality simulation, and problem and team-based learning offer the promise of greater engagement and retention. Interprofessional education, micro learning units, and adaptive digital platforms foster communication, collaboration, and

critical thinking skill attainment. Performance practice requirements to shift from high-stakes testing to competency-based testing, e-portfolios, digital badges, and AI-supported simulation, with the potential for ongoing, formative feedback pegged to professional competencies.<sup>5,7</sup>

Along with teaching and curriculum content, support systems are also a determining factor for Zalpha students. Ensuring mental health services, flexible pathways, and individualised career planning fosters well-being and academic success in the students.<sup>7-9</sup> Thus, pharmacy curricula must be adaptive and collaborative, developed efficiently through regular collaboration with industry, regulators, accreditors, and patients, emphasising innovation, equity, and sustainability.

Finally, the pharmacy curriculum must be rationalised to meet future medical and healthcare demands. It must be technology-based but human-oriented, harmonising science and worldview. We appeal to educators, accreditors, and policymakers to immediately revise curricula to prepare the next generation of pharmacists.

### **Conflicts of interest**

The authors have no conflicts of interest.

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