

Disruptive Technologies Affecting Education and Their Implications for Curricular Redesign

Author Commentary

CHAPTER ABSTRACT:

Disruptive technologies are impacting education, healthcare, and health professions education. Some digital advances have already begun to disrupt the model of current healthcare with an amazing array of technologies that will still need to be incorporated into medical and health professions education programs. In this provocative chapter, the authors review where they expect these disruptive technologies must be implemented and argue that the characteristics of curricula that are successful in the future will be based on business models that embrace customization and personalization of educational programs and that achieve balance between the constant connectivity afforded by digital devices and the need for offline reflection.

The pace of change is accelerating at a faster rate than many educators and administrators had expected. We are seeing the constant introduction of new software and new technologies that support instant access to information and massive amounts of data, and these applications are proliferating in the market with increasing rapidity.

Leaders of academic health centers are adapting and making changes, but the question remains: are they keeping up? For the past 20 years, students have enjoyed a different level of technological prowess than our faculty, demonstrating strong proficiencies in new technologies such as social media. The challenge is to ascertain which of these myriad new options can have real and lasting benefits to the profession. Email is a perfect example—in 2000, people were just beginning to use email. The use of that technology exploded over the next decade, but now has been supplanted by other technologies, such as texting or social media. Younger generations expect these applications to extend to the educational and clinical sphere, and our educators have been slow to learn how to respond, so building this responsiveness is a major faculty development challenge.

The need to evolve is permanent. In large organizations, there's a tendency (and it's quite understandable) to be wary of the bleeding edge because, historically, new technologies have taken years or decades to become commonly adopted. That timeframe has been accelerated, and emerging technologies are now widely adopted in months.

Successful professional practice begins with skills competency that is supported by an appropriately curated knowledge base. Professional practice prospers when it also includes competence in communication and teamwork and a willingness to incorporate new technologies that meet the quality standards required by science and by regulation. That, in a nutshell, is the overriding challenge that these emerging technologies pose to existing curricula—how can they educate initially competent professionals capable of maintaining their competence in a rapidly changing practice environment, and do so in a manner that is flexible, that fulfills universities' transcendent potential, and that is much more cost-effective and competency-based.

Among our leaders, we must cultivate a cadre of educators who address this challenge as their primary function, rather than something they do separate and apart from their administrative, clinical, and research duties. This is especially true when education is as expensive as it is today, and when students are shouldering increasing amounts of debt. We can't

C. Donald Combs, PhD
*Vice President and Dean,
School of Health Professions
Eastern Virginia
Medical School*

see the future as clearly as we would like, and we won't be mistake free, but we must be open to the idea that we must change continually.

There is something in human nature that loves a habit—it's comfortable to do the same thing tomorrow that we did today. Habit is becoming an increasingly harmful attitude in an era of rapid technological change.
