

It's Not Necessarily Lonely Being Dean (of a Dental School)

Kermit the Frog was a lovable icon in one of last century's children's television programs. He recurrently complained that it was "lonely to be green" and provided a parallel mantra reflecting challenges confronting dental school deans. I spent more than four decades in a clinical academic career and enjoyed serving under several deans and getting to know many more around the world. Most were committed clinical or basic science scholars, and almost all ended up sacrificing their own academic trajectories as they juggled budgets, political realities, and staff who insisted on acting like legends in their own minds. However, most of these deans showed extraordinary resilience as they undertook innovative educational journeys in vessels made seaworthy by the synergistic efforts of their academic staff. They envisaged distant shores of better teaching and learning while weathering fair and heavy conditions as they replaced their vessels' educational planks while managing to stay afloat.

Very few of these colleagues succumbed to Kermit's loneliness predicament—their scholarly and humanistic vision precluded it. Hence, they were able to embrace with relative ease the two most compelling therapeutic breakthroughs in dealing with the sequelae of dental disease. Brånemark's osseointegration technique and digital technology have revolutionized dental practice, and a few dental deans have already joined the vanguard of launching and promoting this exciting era of better patient care. This issue's editorial is provided by one such exemplar, Howard Landesman, who spent his career balancing past and present educational narratives. He remains a flexible, witty, open-minded, and exceptional educator who has been a particular credit to our discipline.

—George Zarb, Editor-in-Chief

Change: The Forerunner of Progress

Howard M. Landesman, DDS, MEd

The specialty of prosthodontics will thrive in the 21st century on one condition: it must embrace the change facing the dental profession. It is counterproductive to maintain a romantic attachment to the good old days. Instead, clinical academics and practitioners must accept—even demand—change.

Dental Education

Dental education will survive only if it pursues new curricular directions and cost containment. If a school of dentistry fails to prove financial viability and professional influence to its academic health center and parent institution, it will inevitably suffer adverse consequences, including closure.

Dental education must constantly evolve to maintain its relevance. Recently, a major dental supply company awarded the American College of Prosthodontists \$1.25 million dollars to help develop a digital dentistry curriculum to teach students computer-aided design/computer-assisted manufacture (CAD/CAM) technology. New and emerging technology brings these opportunities and simultaneously challenges our higher learning institutions to envision innovative curricula and determine how to best deliver them.

As technology has advanced, barriers to communication and information dissemination have progressively eroded. It no longer matters whether information is transferred directly to an audience

sitting in the same room as the speaker, or in the next room, the next city, or the next continent. The speaker can be connected to the audience via videoconferencing. Physical boundaries are removed as the capacity for information transfer increases and the technology becomes more affordable and more efficient. With minimal hardware investment, we can now connect dental faculty and students throughout the world. Interactive seminars, case presentations, grand rounds, and clinical demonstrations can be delivered in real-time to any school connected to the Internet. Moreover, basic science courses can be readily standardized at the highest level and shared globally. The implications of this uber-efficient approach to teaching and learning can only enrich and streamline educational strategies.

Delivery of Care

Technological innovation means that a patient walking into a prosthodontist's office in 2025 will receive care from a different set of professionals

using a different range of instruments compared with a patient who sought care in 1985. While computers eliminate the need for secretaries, they can be employed with scanners, milling machines, and relevant software to transform the role of the dental laboratory technician.

Digital dentistry is the new norm. Digital radiography and photography and digital charting and patient records are already commonplace. In the past, CAD/CAM fabrication of dental restorations was too expensive, but this is no longer the case. Dentists can now enter this exciting new arena by purchasing a scanner and its related software for less than \$20,000. These scanners with stitching software are making conventional impressions obsolete. Sophisticated CAD software and accompanying CAM hardware are replacing traditional analog methods of fabricating restorations. Digitally fabricated restorations can be produced in record time and with 5- μ accuracy. Milling machines and 3D printers can use polymers to produce diagnostic casts that are more durable than gypsum stone and can be stored on a hard drive to be produced time and again as needed. How will these changes and others affect a typical dental practice?

- Conventional impression making and techniques will become obsolete and will be replaced with newer, more cost-effective scanning technology.
- Gold will be replaced by nonmetallic materials.
- A new generation of in-office CAD/CAM instrumentation will alter, if not eliminate, the current role of the dental laboratory technician.
- In-office CAD/CAM technology will continue to reduce costs for the prosthodontist and the patient.
- Prosthodontists will send scanner information to CAM stations located in major cities or have their own in-office mills to reproduce accurate restorations in record time.
- Stem cell research will continue to advance with the ultimate goal of reproducing a natural tooth, although dental implant therapy is likely to remain a viable option for some time to come.

We must address needed changes in our profession with vision and informed focus. Today, dental students

enter school with far greater knowledge of computers and related software than most dental faculty members possess. To remain relevant, dental schools need to forge new collaborative alliances with industry and ensure students are exposed to the most current instruments and latest technological advances. Schools also need to shift their resources from funding traditional dental laboratory support to in-school CAD/CAM instrumentation. Additionally, new partnerships should be formed with schools of engineering and computer sciences to create joint faculty appointments with the dental school. Such a hybrid faculty can provide in-service training to existing dental faculty and can ensure that students are armed with the necessary training and skills to meet the expanding demands of a 21st-century dental practice.

We are all in this together, both clinical educators and health service providers. Our success is mutual, and our professional fate will depend on our ability to recognize and address change as a positive experience. To paraphrase the venerable Chinese tome, the *I Ching*, change comes like a flash of lightning and a clap of thunder. The people shrink in fear, but after the storm, flowers bloom.

Each of us will also blossom if we commit to an unsurpassed standard of excellence. We will have an exceptional ability to weather the challenges of a changing specialty and profession. We will be recognized not only for the superiority of our techniques, but for our empathy and concern for our patients. I wish IJP readers wisdom, courage, and foresight as they endeavor to make their century even more productive and praiseworthy than the one to which my contemporaries contributed.



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