Unique Challenges for This Generation of Dental Graduates

Drs. Harald Heymann and Richard Stevenson III have written timely articles in the two previous "Perspectives" sections of the *JERD*, establishing that new dental graduates are not assimilating into organized dentistry and are not attending continuing dental education activities in the same numbers as older dentists, and that they are, indeed, very different from baby boomers and even Generation X dentists.[1,2] Dr. Stevenson described how current dental students learn and process information much differently than students from previous generations. Those of us in full-time dental education are discovering this on a daily basis. It is critical that we develop alternative styles of teaching so that we produce competent, enthusiastic graduates who readily assimilate into the profession.

I have had the honor to present several graduation addresses over the past 45 years since my own graduation from the University of Alberta in 1967. The first of these addresses was given at the University of Saskatchewan in the mid-1970s. In that address, I gave the customary congratulations to the graduates and their families, and then proceeded to tell the graduates, "I don't want to take the wind out of your sails, but the best that can be said for most of you at this point is that you are barely not dangerous." I then informed them that this was similar to trying out for and making a National Hockey League team (remember, we were in Canada). Whether you become a journeyman or superstar depends on what you learn after you make the team or graduate from dental school. Then I gave them the customary line that you have the absolute obligation to become a continuous student and learner over the entire course of your professional life.

I certainly believe this to be true, and the other graduation addresses I have been privileged to deliver followed the same basic theme. This is why Dr. Heymann's admonitions are so terribly troubling. I also believe that Dr. Stevenson's suggestions are critical to impressing this concept on the current generation of dental students.

However, there are other issues that may also play a role in preventing current graduates from stepping up to the plate. These include the relative lack of clinical experience of current graduates, curricular deficiencies in many programs, the huge level of debt upon graduation for the majority of new dentists, the commercialization of the profession, the proliferation of "for-profit" dental schools, and the rise of unaccredited institutes.

Although this statement may make me extremely unpopular with many of my academic colleagues, I do not believe the majority of current dental graduates in the United States and Canada are adequately prepared for "independent practice." The reasons for this are complex and multifactorial and a thorough discussion is beyond the scope of this article. However, one of the issues is clearly the curriculum of most dental schools. The curriculum of any dental school should be developed with a clear vision of what a graduate of that school should know and what skills that graduates should possess. Few current curricula have been developed in this manner and major curriculum revisions tend to be combative, painful, and difficult. As a consequence, meaningful curriculum change rarely occurs in most institutions.

When I graduated from dental school in 1967, most of us were ready for independent practice. And that was not because our curriculum was superior to current curricula; it was simply because we did not have to know that much. We spent considerably more time on basic sciences than necessary, but that was OK because we only had to develop the skills to place amalgams, cast gold, direct gold and silicate restorations, do "simple" endodontics, and make dentures and removable partial dentures. We knew relatively little

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about periodontics and virtually nothing about orthodontics. Thus, because we had relatively few weapons in our arsenal, we could do these procedures over and over and develop a reasonable level of competency. Although we did not have sufficient experience to be sophisticated treatment planners, treatment plans in those days were relatively simple, and most practitioners were able to attain proficiency relatively quickly after entering full-time practice.

Contrast that situation with our current graduates. First, as new procedures, techniques, and materials are introduced to the profession, new courses and rotations are inserted into the curriculum. The list of restorative materials alone that has been introduced since I graduated includes porcelain fused-to-metal (PFM) crowns, all-ceramic crowns, porcelain veneers, adhesion and composite resins, glass ionomers and resin-modified glass ionomers, implants, and restorative components. We used zinc phosphate cement; now there is a myriad of different cements. Knowledge in periodontics and endodontics has grown immensely. There is no question that computer-aided design and computer-aided manufacturing technology will soon revolutionize dentistry. The point is that our current dental students are required to be proficient in all of this new technology plus all of the old things that I learned.

The one discipline that has been removed from almost all curricula is direct gold, or gold foil. This makes sense because it is used so rarely in most practices. In the meantime, students are required to learn the old, the new, and additionally attend a bewildering number of clinical rotations, all of which have benefit on paper, but many of which are a great waste of time. These rotations often result in significant disruptions of routine patient care and usually are supervised with well-meaning but totally uncalibrated faculty.

Established dental schools have a problem dealing with revision of long-standing curricula. By contrast, there are a number of newly established "for profit" dental schools that have recently "opened for business." These schools have the unique opportunity to draft a completely new curriculum. My information may be imperfect, but the business model seems to require a student body of at least 100 per class, and may depend on a relatively small number of full-time faculty that rely heavily on part-time faculty and remote clinics to help treat under-serviced populations. Calibration of clinical faculty is critical to successful clinical teaching and is difficult, if not impossible, with remote facilities. I had the unique opportunity to chair the Department of Restorative Dentistry at the University of Southern California for over 20 years. The biggest problem I had to deal with over those years was calibration of faculty, and, in spite of committing a significant amount of time and resources to improve calibration, we were spectacularly unsuccessful. Decentralizing the clinical experience of students only exacerbates that problem.

The bottom line is, there is too much knowledge to acquire and too many skills to be learned to do it in the context of current dental curricula. Thus, the students are exposed to a lot of information, but become masters of only a small amount of that information. The solution is NOT to go to a 5-year curriculum. That would only result in one more year of the same ineffective teaching. Significant curriculum revision is part of the answer, but increasing the number of available general practice residency (GPR) and advanced education in general dentistry (AEGD) experiences for new dental graduates is a critical long-term strategy.

Assuming the majority of current graduates do not have the opportunity to enter a GPR or AEGD residency, a perfect storm of colliding situations occurs. The first is, the current graduating dental student has accrued a horrendous amount of debt. A random survey of "expenses to graduate" from the websites of a number of dental schools is instructive. Some schools are very forthright about what it will cost a student to graduate, but with many schools, a prospective student will have to be extremely astute to find out what the "investment" in dental education will be. Shame on those schools!! Forgetting that, it is clear that with a majority of private schools, students will graduate with $300,000 to $400,000+ in debt from dental school alone. The amount of accrued debt is less for resident students in state schools, but is still significant.

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Let us now consider a new graduate of dental school X. He or she is $350,000 in debt, even before establishing a practice. The family has two children. Any available associate opportunities are clearly organized to optimize profits for the boss. Thus, the new graduate is often forced to buy an existing practice which significantly increases the indebtedness, or start a practice from scratch, which also is expensive and start-up may be slow. Deep in debt, the new dentist views advertisements for continuing education (CE) opportunities from a number of dental institutes that claim graduates from their courses will gross $1,000,000 per year or more. In my opinion, much of this income will result from overtreatment. It is troubling to hear practice management gurus tell their clients that they need to be doing more crowns or endodontic procedures. Dentists should provide treatment that their patients need, not treatments that fit some predetermined number of procedures to maximize income.

One of the areas of abuse that I have seen is in the provision of porcelain veneers when orthodontics or bleaching would solve the problem more conservatively. In addition, I have seen many patients who have received 10 or 12 veneers on the maxillary arch when veneers on the six incisors would have provided a sufficiently esthetic result. Another is the provision of 28 units of bonded ceramics, because the patient's "bite" is off. Usually, the patient's theoretical optimum maxillo–mandibular relation is recorded with an electronic device, and it is determined that the optimum position is anterior to maximum intercuspal position and at an open occlusal vertical dimension. Research has failed to document the validity of such devices and usually much more conservative, often reversible procedures can be used to address the patient's problems. Adequate teaching of occlusion is a deficiency of most dental schools, and most recent graduates are not in a good position to scientifically analyze the information presented to them regarding neuromuscular occlusion.

One further issue confronts the new dental graduate: the current generations' tendency to expect almost instantaneous gratification. When we graduated, we understood that it would take several years before we would reap the rewards of a really successful practice. We bought modest homes and automobiles, lived relatively frugally and eventually got to a point where we were earning more than we were spending and made appropriate adjustments to our lifestyle (and often made poor investment decisions)! Many of today's graduates tend to want it all now, and this desire is certainly not limited to dental graduates. Thus, new graduates may be reluctant to attend CE opportunities, or when they do choose to attend, they make poor choices of CE providers.

Clearly, when writing this editorial, I fell into the trap of viewing my generation through rose-colored glasses and have been quite critical of later generations. Every dentist I have ever met feels that his or her class was the last great class of whatever school they attended, and everything had gone downhill since they graduated. Today's graduates are bright, talented, and skilled. However, they are facing some significant challenges that we did not have to face, including increasing government regulations and the commercialization of the profession. It is my opinion that they can best meet these challenges by integrating into organized dentistry, joining the American Dental Association, and progressing through a significant program of quality continuing dental education given by proven, qualified providers.

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