

Academic Landscapes: One Futuristic Perspective

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Submitted for publication 6/12/06; accepted 6/19/06

After having read the recent viewpoints on the deconstruction of the basic sciences in dental school curricula versus how to bolster the basic science support of medical/dental issues, I was brought back to considering once again where the basic sciences in dental schools appear to be and where they are headed. What I find mildly interesting is the talk among my colleagues at various meetings, which inevitably gravitates to the deconstruction of the basic sciences, most often beginning with the demise of human body dissection (and always at another school than theirs). I've heard these scenarios described for more than the twenty years I've been associated with a dental school, and I have yet to see any serious changes in the curricula. This is not to say that there haven't been schools that have tried different approaches to teaching the basic sciences, not the least of which has been to delete the dissection laboratory associated with gross anatomy (e.g., the dental schools at the University of Missouri-Kansas City and University of Nevada, Las Vegas). There have been some notable attempts to incorporate the basic sciences with the clinical sciences by using problem/case-based, small group initiatives (e.g., Harvard School of Dental Medicine, University of California, San Francisco, and Indiana University) as well as other various mixtures, but nothing to suggest deleting the basic sciences and leaving a dental school to graduate the infamous competent technician.

What I am beginning to see around the country, however, is an aging basic science faculty along with serious challenges to National Institutes of Health (NIH) funding. These two factors along with other academic pressures may herald a paradigm shift in the teaching of basic sciences that I find distressing. Consider that teaching many of these courses is very time-intensive and often requires several years

of teaching experience to better understand how to tailor the material for a dental school setting. With the emphasis on research, basic science departments have adapted by team-teaching these courses to lessen the work load on the researcher; but again, without some experience in a dental school setting, these courses have a difficult time presenting the foundational knowledge for today's student. This lack of dental teaching experience is typically offset by maintaining a few "old codgers" who predominantly teach, thereby maintaining an appropriate level of continuity. The general policy of increasing dental school basic science faculty to attract more NIH funding has often been accomplished at the expense of hard money positions; this strategy has worked for a number of years. The reality of economic pressures, however, is now beginning to rear its ugly head. A downturn in the number of NIH grants appears very likely in the next few years and, with it, a significant loss of soft money-supported faculty. Along with the loss of these grants will be the loss of indirect costs that many universities have relied on as part of (not supplements to) their annual budgets. The net result will be the need for universities to downsize their budgetary needs by supporting fewer faculty and deleting expensive curricular needs, e.g., gross anatomy dissection. This conclusion is not meant to elicit an alarmist reaction, as many universities have typically been able to balance budgetary constraints with inventive measures to maintain their programs. However, it does reflect an economic reality that will present a very challenging future to academia.

This challenging future academic environment presents another possible basic science curricular outcome that I do not personally subscribe to, but a future that I feel is likely given the current pattern of events. That is an online, virtual basic

science curriculum. Given the advances made in presenting online courses, I predict that one or more universities will see the advantages of putting some of the better basic science faculty together into one virtual department. The faculty and the university will provide the necessary accreditation, and other professional schools (dental schools being only one of the customers) will see the economic advantages to contracting or outsourcing their basic sciences. Such an evolution (or is that devolution?) would be lacking the personal contact with the content experts and I'm afraid would not allow for the synthesis of material that I believe is the value we basic science faculty currently add. The success of such a program, I suppose, would be determined economically and by

whether the students pass the National Board Dental Examination, Part I. Given that such an online basic science curriculum and the National Boards are didactically based, it's hard to see how such a system could fail. Dental school curricula would then be left to reconstruct themselves to include combined basic/clinical sciences in the D3/D4 years to emphasize the material they feel most important to graduate a competent dentist.

Having presented this potential academic landscape to my colleagues, I'm told by some that this hypothesis is very depressing. That may reflect their bias, but certainly I believe the academic landscape will be different and I think we need to consider how best to shape it now.