Using Competencies to Improve Dental Practice Management Education

David O. Willis, D.M.D., M.B.A., C.F.P.

Abstract: The ADEA Competencies for the New General Dentist contain a significant number of practice management-related competencies. To date, these have been taught primarily in a lecture format in the third and fourth years of the dental curriculum. Presenting information in this way only satisfies the lower level learning skills, not the skills needed to become a competent general dentist. This article presents a framework for applying the competency-based education model to dental practice management teaching, learning, and assessment.

Dr. Willis is Professor, Department of Diagnostic Sciences, Prosthodontics, and Restorative Dentistry, School of Dentistry, University of Louisville. Direct correspondence and request for reprints to him at the School of Dentistry, University of Louisville, 501 S. Preston Street, Louisville, KY 40292; 502-852-1227 phone; 502-852-1220 fax; david.willis@louisville.edu.

Keywords: competency, practice management, simulation, case study, dental education

Submitted for publication 4/30/09; accepted 6/13/09

The dental literature has described competency-based education as it relates to the preclinical and clinical dental settings.1-7 Dental educators have adopted these competencies as a framework for preparing and evaluating dental students’ technical and diagnostic knowledge, skills, and abilities. Practice management education, however, generally has not adapted to this same framework. According to Glassman and Chambers,4 competencies in practice management and professionalism are usually written as behavioral objectives, not true competencies. As dental education completes the move to competency-based education, it is important that we define, instruct, and evaluate competencies in the management domain so that we can properly prepare our graduates to act independently in dental practice.

The same competency-based paradigm used to teach clinical knowledge and psychomotor skills can be applied in practice management education. This system helps define levels of competence, appropriate methods of teaching, and the methods of evaluation that are appropriate for each level of evolving competence. This article describes a framework of competency-based education to use in the dental practice management area. The intent is twofold. The first is to encourage dental practice management educators to develop and use teaching methods, materials, and assessment strategies appropriate for the level of learning, thereby improving the quality of practice management education. The second intent is to make deans and others in positions of authority aware of the need for support of higher level teaching, outcomes, and assessment in the practice management domain.

Background

Business School Experience

There is a large body of management science that serves as the basis for business school education. Bachelor’s level business school degrees typically require from sixty to seventy semester hours (1,000 to 1,250 classroom hours) of business courses, covering both the breadth of business topics and the depth of a major area of study. The breadth of topics includes courses in economics, marketing, accounting, business finance, operations management, organizational behavior, personnel administration, and computer information systems. Depth may be gained in major areas of study such as entrepreneurship, banking, or any of the specific business topics. Master’s and doctoral level degrees obviously require many additional hours of study beyond the bachelor’s level.

Management education in business schools has followed a progression of education complexity for many years (although not in the exact steps of the present competency model). While showing large variation, business school curricula typically present information in lower level courses, apply it through middle tier “case report” courses, use externships for senior student experiences, and finish by integrating the knowledge gained through the curriculum in a capstone business policy course. A hypothetical Marketing 301 course, for example, presents basic marketing material; Marketing 400-level courses apply that information in specific cases, such as marketing research; students use the material under
the tutelage of a mentor in a field work, externship course; and, finally, the information is integrated into a capstone policy course.

Like dental schools, business schools have had varied success implementing higher level competency-based education. Many have adopted a case-based approach that examines business issues in a problem-based group format. These management education reports describe ways to incorporate case-based studies and exercises into courses and curricula, but do not assess the learning that takes place from using the method. In other words, they describe teaching methods well, but do not report learning outcomes. Using simulations in the management curriculum has been described, including financial, ethical, and roleplay types of simulation exercises. Computerized business simulations have been studied concerning their learning outcomes. Many studies have concentrated on student perceptions of using the simulations, although some have looked at learning outcomes and have generally found them to be valid teaching tools.

### Dental School Experience

The study and teaching of the discipline of dental practice management are becoming more important as the dental practice business environment becomes increasingly complex. Changes in the external environment of dental practice require that practice owners have more of a business orientation in managing their practices than ever before. Present-day examples of these changes include increases in reduced fee and managed care plans, the increasing number of franchise and network practices, the recent economic downturn that is changing consumer buying patterns, changing banking regulations and requirements that affect the ability to secure loans for practice purchase or start-ups, and changing demographics that call for different marketing efforts to generate patients for the practice. Present-day examples of these changes include increases in reduced fee and managed care plans, the increasing number of franchise and network practices, the recent economic downturn that is changing consumer buying patterns, changing banking regulations and requirements that affect the ability to secure loans for practice purchase or start-ups, and changing demographics that call for different marketing efforts to generate patients for the practice. Preparing graduates to operate a practice using sound business principles becomes as important to their success as teaching them the scientific and technical bases of proper patient care. This is evidenced by graduates continually asking for more instruction in the management-related fields.

The majority of graduates plan eventually to operate a private practice, either in solo or group settings. However, their career path often involves stops in military practice, public health practice, associateships, or positions in network or franchise operations. Fewer than one-third of the graduates are in practice ownership positions one year after graduation. Dental economic conditions vary tremendously across the country based on local demographic and economic conditions. Rural and urban, west coast and heartland practices all respond to the same business principles, but implement them differently. Given the mobility of our population generally, and our graduates specifically, we must prepare them to understand the underlying business principles of dental practice so that they can apply them in their specific practical instance, wherever that might be. Teaching business principles that can be applied to different situations avoids the “one size fits all” solution that satisfies no one.

Because of the continued globalization of education and mobility of incoming students and opportunities for graduates, we must also teach management processes that apply across divergent social, cultural, and geographic groups. This is especially important given the emphasis policymakers are placing on solving problems of access to dental care. Populations that have been underserved by the profession are often an economic challenge for practitioners when compared with a more affluent population. Proper management technique becomes even more important to success in these settings, whether they are private practice, franchise, or public provision of care delivery systems.

Teaching business management principles and how they apply to dental practices is especially difficult given the background of our typical dental student—a background that is strong in science but weak or lacking in basic business knowledge. Few dental schools have any entrance requirements related to business or economics. Most dental students have not previously taken any business-related courses, and many have not had any significant job experience. There is an obvious and tremendous gap to be covered if we expect these people to be able to competently (much less proficiently or expertly) manage a small business that grosses a half million dollars a year the day they graduate. Nevertheless, that is the charge of competency-based dental education.

Traditionally, practice management has gotten short shrift in dental curricula as the “more pressing” needs of clinically based subjects were satisfied. National Boards have very few management questions. Funding for innovative demonstrations and approaches to traditional private practice models ended years ago as the emphasis turned to access of underserved populations. The most recent survey
of practice management teaching in U.S. dental schools found that they average .54 FTE faculty members dedicated to teaching practice management. Classroom hours dedicated to practice management ranged from 11.5 to 244 with a mean of 70, a decrease from the previous survey. (This amounts to about 6 percent of the classroom hours of a typical bachelor’s level management degree.) Most teaching was found to be in a lecture format in the third and fourth years. While this study is now dated, it is evident, anecdotally, from American Dental Education Association (ADEA) section meetings and conversations that the general trend toward fewer faculty members assigned to this area and the lack of curricular commitment remain. Many practice management educators continue normal clinical teaching loads beyond developing and presenting information for management courses. At other times, they may be part-time faculty members who are successful practitioners. They may be excellent role models, but generally lack a formal background or education in business. Other schools may abrogate their responsibility by bringing in outside vendors to present management curricula. While certainly an inexpensive way to present information, this practice begs ethical and educational policy issues of fairness, imprimatur, and completeness. Developing educational methods and strategies that provide basic business principles is obviously very difficult for people in these positions. It is even more difficult to develop advanced business information and techniques that can be applied by graduates to different practice settings.

ADEA Competencies for the New General Dentist

In 2008, the ADEA House of Delegates approved the Competencies for the New General Dentist, which will become a template for individual institutions to use in developing their own competencies. The ADEA competencies are divided into six domains; behaviors and abilities are identified within each domain. These may include knowledge, technical and procedural skills, experience, critical thinking and problem-solving skills, professionalism, and ethical values. These competencies will affect curricula as we apply them to specific competencies in our schools, the learning experiences that we use to teach them, and the ways we assess attainment of the competency.

ADEA’s Competencies for the New General Dentist can be a guide to help develop competency-based education in the practice management realm since they identify seven competencies in the Practice Management and Informatics domain. These are “direct management” competencies. Different schools define practice management differently. Many ask their management faculty to teach related areas. If we include the domains of Professionalism as well as Communication and Interpersonal Skills (which many schools include in the management faculty’s responsibility), then there are an additional five competencies often taught by these faculty members. Additional single competencies (such as “6.7 Utilize universal infection control guidelines for all clinical procedures”) may fall into their area of responsibility as well. Therefore, of the thirty-nine individual competencies, seven (18 percent) are direct Practice Management and Informatics competencies. If we add these “indirect management” competencies, a minimum of twelve (31 percent) fall into the management realm. ADEA obviously endorses the importance of practice management education since the association has placed such an emphasis on defining its competency statements.

Competency-based education focuses on the skills and thinking process of an independent practitioner. To develop programs that prepare students for that result, competency-based education must display several characteristics. These include the following:

1. A definition of trainee outcomes (job responsibilities).
2. A curriculum focused on what students need to learn to do them.
3. Learning modules linked to competencies.
4. Competency assessment that measures unassisted learner performance in approximately real-world settings.

The ADEA set of competencies and individual institutional competencies define the first item. Each school must then develop its own curriculum and teaching modules and determine how to assess student learning, abilities, skills, and attitudes that are the performance outcomes of the curriculum. Practice management educators, through the ADEA Section on Practice Administration and its community of interest, are looking for ways to share and leverage educational methods that reinforce those higher level learning outcomes.

This competency paradigm has been applied to clinical knowledge and skill training throughout dental education. This is so although it is neither applied consistently nor carried out the same at all
apply a “competent” dentist or a “safe beginner,” not necessarily a proficient or expert practitioner. Students must prove they possess skills and abilities at the level of “competence” to graduate and become a new practitioner. They then continue learning to reach the higher levels.

This competency-based education system can be applied equally to clinical skills, such as composite restorations and periodontal procedures, or for the “softer” dental skills such as business management, ethics, or interpersonal communication skills. Defining competence when the outcome is knowledge or a physical product (such as a restoration or clinical procedure) is relatively easy. Defining competence when the expected outcome involves attitudes, the ability to analyze or synthesize information, or the application of personal values to a set of decisions is more difficult. Since these are the issues we want to assess in the “softer” skills such as practice management, we need a fresh look at competence assessment.

Table 1 summarizes how levels of competence can be applied to dental practice management education. The instructional methods, experiences, and evaluations should be appropriate for the level of learning as students progress through a management program. The table below outlines the levels of competence, their characteristics, and the appropriate methods for each level.

### Table 1. Levels of competence in management education

<table>
<thead>
<tr>
<th>Level</th>
<th>Method</th>
<th>Appropriateness</th>
<th>Cognitive Outcome</th>
<th>Characteristics</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novice</td>
<td>Lecture</td>
<td>Factual knowledge</td>
<td>Knowledge</td>
<td>Externally directed</td>
<td>Fact exam</td>
</tr>
<tr>
<td></td>
<td>Text</td>
<td>Methodical skills</td>
<td>Recite</td>
<td>Passive learning</td>
<td>Skill demonstration</td>
</tr>
<tr>
<td></td>
<td>Podcast</td>
<td>Reflective listening</td>
<td>Describe</td>
<td>Short-term</td>
<td>Reciting rules</td>
</tr>
<tr>
<td></td>
<td>DVD</td>
<td></td>
<td>Discuss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 2:</td>
<td>Case study</td>
<td>Structure unstructured data</td>
<td>Analysis</td>
<td>Operational</td>
<td>Case review</td>
</tr>
<tr>
<td>Beginner</td>
<td>Written case</td>
<td>Learn a process of analysis</td>
<td>Evaluate</td>
<td>Technique-driven</td>
<td>Self-critique</td>
</tr>
<tr>
<td></td>
<td>Video case</td>
<td>Conceptualize</td>
<td>Compare</td>
<td>Active learning</td>
<td>Peer review</td>
</tr>
<tr>
<td></td>
<td>Observation/journal</td>
<td></td>
<td>Estimate</td>
<td>Present-focused</td>
<td></td>
</tr>
<tr>
<td>Stage 3:</td>
<td>Simulation</td>
<td>Solve problems</td>
<td>Synthesis</td>
<td>Strategic</td>
<td>Portfolios</td>
</tr>
<tr>
<td>Competence</td>
<td>Computer models</td>
<td>Integrate information</td>
<td>Plan</td>
<td>Participative</td>
<td>Comprehensive</td>
</tr>
<tr>
<td></td>
<td>Mock interviews</td>
<td>Respond to environment</td>
<td>Propose</td>
<td>Future-focused</td>
<td>performance review</td>
</tr>
<tr>
<td></td>
<td>Clinical care systems</td>
<td>Decide in the face of ambiguity</td>
<td>Construct</td>
<td></td>
<td>Summative reports</td>
</tr>
<tr>
<td>Stage 4:</td>
<td>Mentorship</td>
<td>Manage</td>
<td>Evaluation</td>
<td>Experiential</td>
<td>Mentor feedback</td>
</tr>
<tr>
<td>Proficiency</td>
<td>Externship</td>
<td>Monitor processes</td>
<td>Appraise</td>
<td>Mentored</td>
<td>Externally defined</td>
</tr>
<tr>
<td></td>
<td>Associateship</td>
<td>Initiate responses</td>
<td>Assess</td>
<td>Performance measure</td>
<td>Performance measure</td>
</tr>
<tr>
<td></td>
<td>Advanced education</td>
<td>Distinguish among futures</td>
<td>Judge</td>
<td>Objectives</td>
<td>Goals</td>
</tr>
<tr>
<td>Stage 5:</td>
<td>Practice</td>
<td>Values-driven decisions</td>
<td>Evaluation</td>
<td>Self-directed</td>
<td>Self-critique</td>
</tr>
<tr>
<td>Expert</td>
<td>Experience</td>
<td>Apply intuition</td>
<td>Understand</td>
<td>learning</td>
<td>Expert dialog</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anticipate problems</td>
<td>Counsel</td>
<td></td>
<td>Strategy satisfaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Achieve possible futures</td>
<td>Assess</td>
<td></td>
<td>Self-defined goals/</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Distinguish</td>
<td></td>
<td>objectives</td>
</tr>
</tbody>
</table>
curriculum. As their knowledge, skills, abilities, and values progress, the materials that educators present should use higher level instructional methods that require higher order cognitive abilities and lead to higher level cognitive outcomes and assessments. For example, the traditional lecture format may be appropriate early in the educational process because the lower competency levels are more concerned with information (knowing about something). Higher levels are more concerned with processes (knowing how to do something) and require a different learning approach. Each particular educational method is most suited for a particular stage, and each method is appropriate for teaching and learning certain types of skills. These in turn lead to behavioral objectives and cognitive outcomes that progress to higher levels as students progress through the stages.

Novice Level: Lectures

Lectures are any form of simple information presentation, including the classic lecture hall, reading a text, listening to audiotapes, and watching DVDs, podcasts, or vodcasts. The lecture format is characterized by passive, non-involved learning by the student. It is appropriate where the purpose is to transfer factual knowledge, teach methodical skills, or present information that requires reflective listening by the student. Lectures can be used to advantage best when teaching the novice management student facts regarding dental practices. At this stage, we try to present data and the foundational rules that students apply in higher stage learning.

The cognitive outcome we hope to achieve is knowledge. It can be proved through the student being able to recite, describe, or discuss information presented. Assessment (testing) generally involves simple questions that determine if the student has a basic store of information through written exams, skill demonstration, or reciting rules and rubrics (not necessarily applying them). For example, at this stage of learning, we may teach accounting methods and techniques, the laws of tax management, or rules and techniques for hiring or dismissing staff in the office.

Beginner Level: Case Studies

Case studies set a scenario and ask students to respond to specific questions or tasks related to a particular aspect of the scenario. These scenarios may be written, real-world experiences (observation or journals), or video vignettes. We ask students to respond by applying specific analytical techniques or to distill data presented according to a previously set method, rule, or criteria. Cases are present-focused, since the analysis is carried out in a static environment. Case studies are appropriate when students are to learn analysis of situations or how to structure information. We may ask them to evaluate, compare, or assess a given situation.

Case studies begin to actively engage the student in the learning process, but depend on the student having a certain amount of background information and a set of analytic techniques. Students at this level are beginning to integrate information and learn how to apply rules to different situations, so cases give context to information. Because students need individual guidance in analyzing a case, small group class formats are more effective than lecture halls at this level of learning. For example, we may present a case consisting of an income statement and balance sheet. We then ask the student to do a certain ratio analysis to assess the financial health of the example practice. They must have previously learned what financial statements are, the information they contain, and the rules of a basic analytic technique to apply the ratio analysis to those financial statements. As they do the analysis, they may seek help to understand the application for a specific instance. Group projects or instructor-assisted exercises help students by offering possible solutions and sharing learned experiences that can be applied to a specific case. We may ask students to complete a tax form, to respond to an ethical or management scenario, or to choose among possible practice opportunities based upon a set of decision factors, rules, or rubrics. This stage requires that we test the student’s ability to master techniques for evaluation or assessment of the information, not the information itself. We may evaluate them on the proper completion of an analysis, a journal resulting from observation of a practice, or their response to a video vignette. Assessment of the outcome in this level consists of the expert instructor’s evaluation of how well the student applied the techniques or methods in the given instance.

Competence Level: Simulation

Simulations are representations of reality. They are dynamic case studies in which the parameters of the case change as the student works with the simulation. These changes may be caused by changes in the external environment or may result from the
effect of the student on the simulation environment or characters. Simulations may be computerized financial models of business decisions, mock interviews or staff meetings, or clinical models of patient care delivery systems (such as the former TEAM programs). Since the students affect the outcome of the simulation through their own actions, simulations actively engage the learner and become strategic and future-focused as students try options and assess the results. Simulations are appropriate where students learn to solve problems, integrate information, and respond to changes in the environment. They allow trial, practice, and evaluation without the risks associated with real-world failure.

We certify students who can work independently in a simulated environment as competent, or ready to begin independent practice. As an example of showing management competence, students might keep production and expense information during a clinical rotation, and use that information to analyze their simulated practice. Depending on the emerging results, they might make changes in the simulated practice by changing numbers of staff or scheduling priorities, then evaluate the effects of their changes on the simulated practice's productivity. Students might participate in mock employment interviews in which staff members give different responses to different interviewing students. Each student must then adapt to the unique evolving relationship between interviewer and potential employee by asking appropriate follow-up questions to gain adequate information for the hiring decision. Demonstration of competence at this stage may take the form of student portfolios, comprehensive reviews of performance, oral reports, summative reports, or bottom-line markers such as simulated profits, number of patient visits, or checkbook balance.

**Proficiency Level: Mentorship**

Mentorships involve the learner as a participant in a real-world practice setting. Mentorships allow the competent student to act relatively independently, but still under the control and with the backing of a senior mentor or expert. Dental management examples include formal externship programs in which students are placed in extramural offices, associateships, and advanced education programs. During this phase of learning, new practitioners gain proficiency. This is shown by the ability to evaluate themselves and their environment. They assess real-life situations in a dynamic environment, develop options, and initiate responses to the options. Learners begin to gain true experience. They also begin to suffer the benefits or consequences of their own actions. As an example, during an associateship, learners may work with the practice owner and accountant to develop and analyze real practice results, changing the practice to meet goals and objectives better. They may jointly participate in the staff hiring or interview process or assume increasing management functions in the office as their management experience increases.

**Expert Level: Experience**

The expert stage is characterized by knowing what to do based on a mature and practiced understanding, gained through experience. This level includes a fluid and intuitive response to solving problems. Practitioners learn to anticipate and avoid problems, not just respond to them. They propose possible futures, develop strategies to achieve those futures, monitor progress, and initiate corrective action to ensure satisfaction of strategy. Learning is active and self-directed. The practitioner has developed such a deep understanding of the management function that he or she can effectively counsel learners at all other phases of their development. As a dental management example, practitioners at this point can view accounting information and quickly and easily interpret changes in practice performance. They can use that information to develop strategies that require new goals and objectives. They can easily anticipate problems and formulate solutions that integrate with current strategy.

As an example of using this framework, consider how we might teach office accounting. At the Novice level, we would lecture on accounting principles and income statements, testing students on the elements of the income statements and rules for constructing them. At the Beginner level, we ask students to apply that information by calculating financial ratios for a sample income statement, applying rules for analysis to the given case. Their evaluation may be through peer or instructor review of their analyzed cases. To prove Competence in accounting principles, we might ask students to manage the accounting needs in a simulated practice (either computer or clinical simulation). When they have shown this competence, we declare that they have the knowledge, skills, and abilities to be a safe beginning practitioner. In a Mentorship, they may participate in an associateship in which they have responsibility for office accounting under the tutelage of the
practice owner-mentor. The final Expert stage comes after the new practitioner has a deep understanding of accounting issues and can critique his or her own performance.

Discussion

Based on the previous description, several observations can be made concerning applying competency-based education to practice management instruction.

Curricular Changes

We need to rethink our practice management curricula, moving from a purely lecture-based format to one that recognizes levels of student thought, preparation, and learning. Our colleagues in the more technical and diagnostic disciplines are well on their way to completing this task. However, practice management education still clings heavily to a presentation-style format—largely, I believe, because of the more efficient use of the scarce resources, faculty members’ and curricular time. To encourage learning of higher level skills, we need to provide our students with higher level learning experiences, such as case-based seminars, computer simulations, management externships, and clinical operational simulations. These are less efficient (i.e., more expensive) methods than presenting material in the classic lecture format. But, while they may be less efficient, they are almost universally more effective at generating the higher level cognitive outcomes required of more advanced learners. Without these non-lecture formats, we cannot assess the students’ higher level skills and abilities or truly assess their attainment of competence. Faculty members in operative dentistry, for example, do not simply lecture on Class II preparations, verify that the students know the information, then graduate them and hope they succeed. Instead, they use the higher level learning environments of manikin exercises (case studies) and clinical exercises (simulations) to teach and verify learning at each step of the process. We in the practice management area need to do similarly.

There have been several instances of using higher level learning methods in teaching practice management concepts. Management cases have been developed and shared through the ADEA Section on Practice Management community of interest. Various simulations have been used. These methods have generally been in clinical settings or computerized financial or business management simulations. None of the articles reporting these activities has described the learning that took place because of using the method or placed them within the context of an overall practice management curriculum or learning hierarchy.

Assessing Competence

We can and should use simulation to assess competence. Simulation is used for teaching and assessment in many venues, from deadly serious military war games and airline pilot proficiency testing to trivial desktop computer golf games. An inherent risk exists any time a procedure is done in the real world. Without expert intervention, that risk may develop into a bad (or catastrophic) outcome. Simulation avoids the risk, allowing practice or skill demonstration without the danger involved in poor performance, whether flying an airplane, performing a technical dental procedure, or managing a simulated dental practice. The risks associated with poor performance in the management area are primarily financial, although there are personal psychological and health care systems risks as well. By determining the specific management competency to be tested and developing an exercise to accurately simulate the important decisions involved in managing that competency, we should be able assess higher level management ability without the risks of real-world failure.

Clinical licensing boards have discovered the risks associated with using patients as subjects of qualifying exams and are moving in this direction as well, accepting simulation on manikins (rather than actual patient procedure) as an indicator of clinical competence. Many regional board exams now contain a significant portion of manikin exercise, OSCEs, other methods of case study, or simulation to verify competence. We need to continue to develop and refine different management simulations not only as teaching aids, but as assessment tools as well. We then need to assess the learning outcomes (not just student reports) that result.

Need for Support

Practice management educators need to encourage deans and others in positions of financial authority to more fully support educational initiatives in the management arena. The set of ADEA competencies requires that to happen. Most schools devote very few faculty positions and little curricular time to the
management area, although graduates continually clamor for more and better teaching in the discipline. The admonition of Lange et al. from 1999 is even more true today: “It is arguable that students can achieve ‘competence’ in eight specific practice management-related accreditation standards with, on average, seventy hours of instruction.”

While it may be unrealistic to expect a share of faculty lines and curricular time that are proportionate to the number of ADEA competencies, actual and meaningful support through faculty assignment and time to develop higher level management activities are prerequisite to developing meaningful higher level management outcomes and assessment methods. Dental practice management education does not have the long history that disciplines such as operative dentistry, periodontics, and prosthodontics have. We cannot borrow easily on established methods and systems, adapting them to the new framework. Instead, we must generate them anew, a time-intensive process.

**Evidence-Based Decision Making**

We need to apply the management literature to the dental discipline as evidence-based management. There is a huge body of business and management information as evidenced by the size of most business schools’ libraries. A substantial portion of this information can be applied directly to the operation of a dental practice, whether a private solo practitioner or in an organizational practice setting, such as the military or public health venues. To do this, we need to develop and recruit faculty members who have an academic background in both business and dental practice. Faculty members who are familiar with the business literature can apply this knowledge as evidence-based management. The practice of having a successful practitioner give testimonial of “Here’s how I did it for thirty years, and I was successful” runs counter to the requirement of evidence-based knowledge. As we are moving away from anecdotal clinical teaching, we must similarly move away from anecdotal management application and teaching.

**Applying Critical Thinking Skills**

We need to include critical thinking skills as an element of all of our higher level management learning expectations. It is a natural fit. Higher level learning strategies naturally use elements of critical thinking. We should help students understand that they are thinking critically when they use these higher level skills. Schools may use different schemas for teaching critical thinking. However, they share the common element of using higher level skills to look at how we think, and then using that to reflexively develop those higher level skills. For example, when we work with students to develop a business plan, they are using critical elements of thought. It is a small step to use this activity to examine how the students are putting together these elements in a critical thinking exercise. They can then apply what they learned about critical thinking to other management and clinical problems that they encounter.

**Conclusion**

As dental education completes the move to competency-based education, practice management educators must ensure that the discipline is included in the competency basis. Most schools have management competencies built into their overall competency definition, but probably do not accurately assess attainment of true (higher level) competency in this domain. We need to be sure that we teach management at a level higher than simple knowledge, one that involves teaching higher level skills, abilities, and values, critically thinking about the information, and using the evidence of the management literature. We then must assess students’ progress in these higher level outcomes. That is to say, we can best assess competence as more than factual knowledge, but rather the ability to synthesize and integrate information, using it to solve management problems. This will help us to prepare our graduates for the complex and dynamic economic world that they will soon face.

**REFERENCES**