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# Designing Dental Student Portfolios to Assess Performance

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more about a career in dentistry. Four Native American students participated in this four-week program in summer 2009 at Creighton School of Dentistry. Upon completion of the program, all four students stated that they were more likely to apply to dental school as a result, and one of these students recently applied to dental school. The goal of the thirteen-month postbaccalaureate program at Creighton University is to strengthen the academic abilities of students who are disadvantaged and have previously been denied admission to dental school. The program enhances the students' competitiveness for reapplication to dental school. A unique feature of this program is that students who successfully complete this program are guaranteed a place in the freshman dental school class and a scholarship for each of the four years of dental school. Two students were admitted to the program, successfully completed it in 2009, and matriculated into the freshman dental school class at Creighton. Two additional students are currently in the program with expected enrollment in dental school in 2010. The final best practice is whole file review. This ensures that student applications are reviewed holistically, and admission is based on both objective criteria such as GPA, DAT scores, and science grades and subjective criteria such as personal background factors, economic and educational disadvantages, and being a first-generation college student. Both dental schools in the collaborative examine evidence of a predisposition to provide dental health care in underserved areas. These criteria have allowed for direct admission of four qualified Native American students in the 2009 freshman dental class. Since the inception of these best practices, a total of six Native American students have been admitted to either Creighton or Marquette dental schools in 2009. Two Native American students are in the postbaccalaureate program and in the pipeline to enter dental school in 2010. Four students have completed the summer enrichment program and are preparing to apply to dental school.

**Conclusion:** The Jesuit Dental School Recruitment Collaborative has demonstrated that the best practices identified in the Round 1 Dental Pipeline Program are effective in recruiting and enrolling Native American students with strong cultural and tribal affiliation into dental school. Through this program, the national enrollment of Native American dental students increased by over 10 percent in 2009. By continuing to work through well-established networks, the collaborative will increase the number of Native American dentists who contribute to reducing oral health disparities among Native peoples.

### 303. Predental Summer Enrichment Program for Undergraduate Native American Students

Frank J. Ayers, Creighton University; Kelly A. Gould, Creighton University; Mark A. Latta, Creighton University

Predental summer enrichment programs introduce undergraduate students to a career in dentistry. They have been used effectively to recruit and enroll underrepresented minority and low-income (URM/LI) students in dental school and were identified as a best practice in the Round 1 Dental Pipeline Program. However, there are few gains in enrollment of Native American dental students, and there are no predental summer enrichment programs specifically targeting Native American students. In order to reverse this trend, one of the projects of the Round 2 Dental Pipeline Program, the Jesuit Dental School Recruitment Collaborative for Native American Students, specifically focuses on Native American recruitment and enrollment. Three Jesuit universities, Creighton University (Omaha, NE), Marquette University (Milwaukee, WI), and Gonzaga University (Spokane, WA) have a robust enrollment of Native American undergraduate students. Both Creighton and Marquette have dental schools. Together they established a collaborative partnership to increase the number of Native American dental students with strong cultural and tribal

affiliation. As part of this effort, Creighton University offered a summer enrichment program to four Native American undergraduate students in the summer of 2009. This four-week program is held each day at the dental school and includes lectures, hands-on labs, community activities, and dental assisting in the school dental clinic. Week 1 includes an overview of dentistry, clinic observation, and computer and library skills. Week 2 focuses on operative dentistry, pedodontics, radiology, anatomy, histology, and dental assisting. Week 3 focuses on endodontics, prosthodontics, oral surgery, and visits to public health clinics. Week 4 includes a mock admissions interview, research project, and financial aid seminar. The program provides an opportunity for students to learn about a career in dentistry, participate in clinics, labs, and classes in a dental school environment, prepare for admission to dental school, and learn about financial aid. Eligibility criteria include enrollment in a Native American tribe including strong cultural and tribal affiliation. Participants can be undergraduate students or high school seniors with a cumulative grade point average of 2.75 or higher. Applicants are asked to write a personal statement about their background, career goals, and how active they are with their tribe. At the conclusion of the program, all four students completed a five-point Likert-scale questionnaire to assess interest in and understanding of a career in dentistry as well as intent to apply to dental school. With a range of 1 to 5 (5 being the highest), participants scored a 5.0 on items related to the summer enrichment program providing a better understanding of dentistry and the admission process, as well as their certainty of applying to Creighton dental school. Participants scored 4.8 on items related to the program providing an environment that was open, encouraging, and respectful of them and that they are more certain of applying to dental school as a result of participating in the program. Participants scored a 4.5 on items related to the program providing them with a better understanding of what dental school will be like and that the program was respectful of their Native American heritage. The collaborative will continue to track these participants and document whether they apply to any dental school and whether they are accepted. To date, one student has applied to dental school, and two others plan to take the DAT and apply to dental school in 2010.

**Conclusion:** A summer enrichment program targeting undergraduate Native American students with strong cultural and tribal affiliation was effective in providing a better understanding of dentistry, knowledge of the dental school admissions process, and increased intention to apply to dental school among participants.

### 304. Designing Dental Student Portfolios to Assess Performance

Gary L. Stafford, Marquette University; Moawia Kassab, Marquette University; Sheila E. Stover, Marquette University; Frederick J. Sutkiewicz, Marquette University; Thomas S. Wirtz, Marquette University

The purpose of this poster is to share a project developed by Marquette University's liaisons to the American Dental Education Association's Commission on Change and Innovation in Dental Education with others interested in learning about the use of portfolios to assess the quality of student performance in dental school. Sample components from the pilot portfolios will be integrated into the poster to provide participants with a view from portfolio design to completion. Portfolios are becoming a more common method of assessing the quality of student performance in health professions education. Portfolios can assist in documenting evidence of specific competencies at the student level and also serve as a longitudinal measure of a student's development. Marquette University School of Dentistry's competency-linked student portfolio is formatted much like a promotion and tenure dossier and is designed to serve as a record

of the quality of a student's scholarly/clinical activity, research, and service histories. This poster outlines key design and implementation issues included in the project work plan such as communication with stakeholders, the selection of portfolio medium (electronic), and student and faculty orientation components. A matrix defining core components necessary for a basic portfolio, such as research activities, service-learning reflections, legislative activities, senior rounds presentations, basic skills exams, clinical progress, and clinical case reviews served as the template for the portfolio. A pilot electronic portfolio project was started with eight D3 and D4 students during the 2009–10 school year. An evaluation was designed to determine the reliability (consistency) and validity of these eight pilot portfolios as measures of student competence.

*Conclusion:* Portfolios can serve as an effective tool for documenting specific competencies at the student level, serve as a longitudinal measure of a student's development in dental school, and provide students with a professional dossier of their work suitable for residency application or employment.

### 305. A New Curriculum Calls for a New Fourth-Year Dental Student Exit Survey

Charlotte L. Briggs, University of Illinois at Chicago; G. William Knight, University of Illinois at Chicago; Frank W. Licari, Northwestern University; John M. Crawford, University of Illinois at Chicago; Philip A. Patston, University of Illinois at Chicago

The purpose of this poster is to demonstrate how a fourth-year dental student (D4) exit survey for graduating dental students can be revised using principles of learning theory and good assessment practice to become a genuinely useful tool for monitoring progress in curriculum improvement efforts. By sharing our new D4 survey instrument and the rationale behind its design, we hope to engage others in reconceptualizing the D4 survey as a tool for gathering data relevant to underlying factors that influence learning, and hope to spur interest in interinstitutional data sharing to monitor the effectiveness of curriculum improvement efforts in dental education. Like many dental schools, the University of Illinois at Chicago (UIC) College of Dentistry administers an annual exit survey to our graduating students in the spring of the D4 year. In the past, this survey has consisted primarily of questions about satisfaction with various aspects of the curriculum and dental school experience and self-reports of student learning. While the satisfaction questions have sometimes yielded useful information, they tend to highlight problems that the faculty is already aware of and in many cases has already addressed. The most useful aspect of the satisfaction questions is that they help us track general trends in student morale and verify that morale is improved, or at least not diminished, by curricular changes. Self-reports of student learning are more problematic, as assessment research tends to show a poor correspondence between student reports of achievement and other measures of learning. As the college has developed its understanding and skill in assessment, we have found more valid ways to assess learning outcomes, including more defensible uses of student self-assessments. At the same time, we have come to see a need for process measures to monitor the effects of curricular innovations on student engagement in their own learning process and on their perceptions of the dental school environment as a learning community. Thus, we have significantly revised the D4 survey to eliminate self-reports of learning and to focus instead on frequency of behaviors that education research has shown to be beneficial to learning and development and student perceptions about the value of these activities to their learning. These might serve as a rough proxy for the quality of student engagement that is achieved by curriculum changes aimed at increasing student involvement in their own and others' learning. At UIC, we spent several years planning a curriculum restructuring based on the best

available evidence about adult learning in the health sciences. As we have weighed curricular options implemented at other schools, we have frequently been frustrated by the conflicting outcomes reported for particular approaches and suspect that variations in key details may account for some of the differences in effectiveness. We believe that great variation in instructional processes, integration of experiences across a curriculum, instructor skills, and assessment formats may underlie common labels for instructional approaches, such as problem-based learning (PBL), comprehensive care courses, and community-based experiences, and may account for why they are more successful at some schools than others. As we implement a new curriculum intended to foster deep rather than surface learning, we need to monitor whether those structural and pedagogical changes truly encourage more active rather than passive learning behaviors in our students. In essence, we need to open the curriculum package and see what is really happening inside. Our new D4 survey is one tool to investigate and monitor factors that really matter in the dental school learning experience.

*Conclusion:* As dental education embarks on significant curriculum reform, every opportunity must be grasped to measure and understand the relationships between the experiences we provide for students and the learning behaviors and culture that shape program outcomes at graduation and beyond. If we wish to measure what we value, dental educators must get beyond black-box comparisons of whole curricula, and begin to measure finer grained learning process variables that truly matter to student outcomes, regardless of how they are achieved. At UIC, our new D4 survey is designed to aid in that critically important endeavor.

### 306. Teaching Motivational Interviewing Skills to Dental Hygiene Students: Using Objective Self-Awareness as a Teaching Tool

Christine P. Klausner, University of Michigan; Janet S. Kinney, University of Michigan; Anne E. Gwozdek, University of Michigan; Marita R. Inglehart, University of Michigan

Caries and periodontal disease are preventable diseases. Engaging dental patients in oral health education is therefore of utmost importance in patient-provider interactions. This new educational program was designed to educate second-year dental hygiene students about motivational interviewing techniques that can be used when educating patients about proper oral health promotion efforts. The purpose of this study was to explore how students evaluated prevention efforts before and after the program and how the taping of interactions and thus the creation of opportunities for objective self-awareness affected the students' engagement with this technique. This new program was developed and implemented in the winter term 2009. Key features were that the students were informed about the technique and then were videotaped twice with a patient while using the technique. Step 1 of the program was that the thirty students (twenty-nine female, one male) in the sophomore dental hygiene class were asked to read some background information about the motivational interviewing (MI) technique. Step 2 was a two-hour seminar in which the students discussed the reading, were informed about the process of MI, and watched a tape of an MI interaction between a dental hygienist and a patient. The students had to evaluate the tape according to the four basic aspects of MI (showing empathy, creating a discrepancy, rolling with resistance, and increasing self-efficacy). Step 3 consisted of an interaction between the students and a peer in which they used MI and were videotaped while doing so. After immediate and later self- and peer/patient evaluations as well as evaluations from two instructors were provided, the students used MI to educate a regularly scheduled patient at the dental clinic (Step 4). Immediate and later self- and peer evaluations as well as instructor evaluations were used to challenge