EDUCATION SESSIONS
MARCH 18, 2017

11:00 a.m. – 12:30 p.m.
TL-036 Innovative Collaborative Partnering to Teach Oral Health Care for Vulnerable Elders
90 Minute Seminar I LBCC-Room 102A

The number of older adults in the United States is growing rapidly, with close to 20% of the population projected to be older than 65 years by the year 2030. While the older adult population is medically and dentally heterogeneous, there is a subset known as "vulnerable elderly" who suffer from poor oral health and often lack access to conventional dental care. This session will provide participants with tools to build learning opportunities for dental students on how to work with the growing population of vulnerable elders outside of the traditional dental school clinic and conventional dental office.

Learning Objectives:

- Present a model program for collaborative-based practice in a long-term care facility.
- Describe lessons learned from dental research on nursing home patients and opportunities in learning in a geriatric mobile dental clinic.
- Define competencies achievable by teaching geriatrics in a collaborative geriatric home care dental practice.


11:00 a.m. – 12:30 p.m.
EI-005 Integrating Biomedical, Behavioral and Clinical Sciences Using Ethical Dilemma Scenarios
90 Minute Seminar I LBCC-Room 102B

CODA Standard 2-20 requires that graduates must be competent in the application of the principles of ethical decision-making and professional responsibility. Further, the intent statement for CODA Standard 1-3 (the dental education program must have a stated commitment to a humanistic culture and learning environment) implies that the program should also support and cultivate the development of professionalism and ethical behavior. Many schools struggle to identify best practices in meeting these accreditation standards. This session will lay the foundation on how well-constructed ethical dilemma scenarios could be a powerful means to integrate biomedical, behavioral and clinical issues in the dental curriculum.
Learning Objectives:

- Critically analyze current accreditation standards and licensure requirements as they relate to integration of biomedical, behavioral and clinical knowledge across the dental curriculum.
- Design well-constructed ethical dilemmas that can be used to integrate biomedical, behavioral and clinical knowledge across the dental curriculum.
- Implement well-constructed ethical dilemmas to integrate biomedical, behavioral and clinical knowledge across the dental curriculum at their institutions.

Presenter(s): Steven London, D.D.S., Ph.D. | Stony Brook University School of Dental Medicine; Anne Koerber, Ph.D., D.D.S. | University of Illinois at Chicago College of Dentistry; Phyllis L. Beemsterboer, M.S., Ed.D. | Oregon Health & Science University School of Dentistry; Lawrence P. Garetto, M.S., Ph.D. | Indiana University School of Dentistry

11:00 a.m. – 12:30 p.m.

EI-007 Strategic Planning that Really Works: Extending Traditional Strategic Planning with Ongoing Systemic Planning and Data Visualization
90 Minute Workshop | LBCC-Room 104A

Most strategic plans are written and then put aside until external forces prompt a revision. This diminishes the value of the investment of time and energy. The University of Washington and University of Michigan have adopted ongoing strategic planning reinforced by data analytics and visualization. This workshop will include: 1) an overview of each school’s current strategic planning process; 2) a demonstration of the business intelligence (data analysis) and visualization techniques used to track progress and update the school community; and 3) opportunity for participants to interactively consider effective solutions in developing and implementing ongoing strategic planning frameworks at their own institutions.

Learning Objectives:

- State strategies for ongoing versus static strategic planning in dental education.
- Recognize the value of new business intelligence analysis and visualization techniques in tracking progress and communicating progress with constituencies.
- List strategies for implementing an ongoing strategic planning process that promotes institutional effectiveness.

Presenter(s): Lynn A. Johnson, PhD. | University of Michigan School of Dentistry; Joel Berg, D.D.S., M.S.; John Wataha, D.M.D., Ph.D. | University of Washington School of Dentistry; Cassandra Callaghan, CISA, PMP | University of Michigan School of Dentistry

11:00 a.m. – 12:30 p.m.

CD-039 The Impact of Implementing a Competency-based Clinical Curriculum and Portfolios in a Dental Hygiene Program
90 Minute Workshop | LBCC-Room 104B

In the mid-1990s, the Institute of Medicine report on dental education began to emphasize the importance of implementing competency-based education into their curriculums. Competency-based programs are implemented as an authentic assessment of student progress and outcomes that is
performance based, realistic and set within real-world contexts. Self-assessment, instructor feedback, student reflections and electronic portfolios are utilized to demonstrate the competence level of students.

Learning Objectives:

- Explain the meaning of a competency-based program and electronic portfolios and how to incorporate competency-based principles in a dental hygiene program.
- Create a portfolio template based on program competencies.
- Analyze competency-based student reflections and portfolio submission.

Presenter(s): Claire S. Tucker, RDH, M.Ed.; Melissa Efurd, RDH, Ed.D. University of Arkansas for Medical Science

1:00 – 2:00 p.m.

TL-038 Is Virtual the New Reality in Interdisciplinary Anatomy Teaching?
60 Minute Seminar | LBCC-Room 102A

Human anatomy is a vital component of the dental curriculum, and schools traditionally used cadaveric dissection to teach anatomy. For a novice student, disadvantages of conventional dissection-lecture approaches include the lack of expertise in dissection, difficulty in comprehending overwhelming volumes of complex structures, conceptualization of spatial relationship and accessibility to the learning environment to reinforce learning. To overcome these constraints and simplify anatomical learning and reinforcement, innovative teaching methodologies using virtual models are currently in use. This program will present an interdisciplinary approach using virtual technology to teach human and radiographic anatomy in two different dental schools.

Learning Objectives:

- Plan how to integrate clinical sciences, specifically the discipline of radiology within the teaching of anatomical sciences.
- Incorporate assessments to evaluate students' critical thinking and knowledge application abilities.
- Engage in case scenarios to help understand the effectiveness of learning the anatomical sciences integrated with radiology.

Presenter(s): Sajitha Kalathingal, B.D.S., M.S. | The Dental College of Georgia, Augusta University; Aditya Tadinada, B.D.S., M.Dent.Sci. | University of Connecticut School of Dental Medicine; Anita R. Joy-Thomas, B.D.S., Ph.D. | Southern Illinois University School of Dental Medicine

1:00 – 2:00 p.m.

EI-013 OSCE: Three Schools Share Experiences in Evaluating Pediatric Dental Knowledge
60 Minute Seminar | LBCC-Room 102B

Assessment by Objective Structured Clinical Examination, OSCE, is gaining interest and acceptance as a method of evaluation in dental institutions and, in the state of Minnesota, licensure. Since the American Dental Association House of Delegates called for the elimination of human subjects during clinical licensure examinations, dental schools have been challenged with providing a well-rounded manner of
assessing student readiness to enter practice. OSCEs offer documentation/assessment of knowledge, skill, evidence-based decisions and critical thinking. Three dental schools will share their unique experiences of moving beyond the boundaries of traditional assessment into a comprehensive OSCE assessment model.

Learning Objectives:

- Discuss how faculty development has factored into the adoption of OSCE assessment and strategies that have been used.
- Describe how OSCE stations measure communication and patient management skills in addition to clinical performance.
- Analyze lessons learned by each institution and how these lessons might help participants avoid potential pitfalls back at their home institutions.

Presenter(s): Alton G. McWhorter, D.D.S. M.S. | Texas A&M University\Baylor College of Dentistry; Stephen C. Mitchell, D.M.D., M.S. | University of Alabama at Birmingham School of Dentistry; Kimberly K. Patterson, D.D.S., M.S. | Louisiana State University Health New Orleans School of Dentistry

1:00 – 2:00 p.m.

CD-011 Utilizing a Student Incentive Program to Reach Beyond Boundaries
60 Minute Seminar | LBCC-Room 204

With more dental schools shifting their clinical curriculum from a requirement based curriculum to a competency based curriculum, and with the rising costs of a dental education, it is imperative schools also focus on developing efficiency as well as competency in the delivery of clinical care. One method of motivating students to gain more clinical experience after completion of their clinical competencies is through the use of an incentive program. This presentation will explain the benefits of such a program, and the benefits from the students’ prospective.

Learning Objectives:

- Identify the benefits of implementing a student incentive program.
- Describe the mechanics of a successful incentive program to be able to implement it into their own clinical curriculum.
- Define the benefits of a student incentive program and it’s impact on the early years of a professional’s clinical practice.

Presenter(s): Steven R. Call, D.D.S., M.S.L.; Sheri Brownstein, D.M.D. | Midwestern University College of Dental Medicine-Arizona

1:00 – 2:30 p.m.

L-024 The Practice of SoTL and Implications on Faculty Advancement
90 Minute Seminar | LBCC-Room 101B

This session explores the current state of practice of the Scholarship of Teaching and Learning (SoTL) and its use for faculty advancement based on results from new 2016 survey of institutional leaders and faculty at dental schools in North America. Panelists will discuss survey outcomes, provide examples of engagement in SoTL and its impact on their institutions, professional development, and its use in all
teaching environments including didactic, clinical, small group, online, CE or others. Participants will explore ways to engage in SoTL in their home institution to reduce boundaries.

**Learning Objectives:**

- Describe the importance of SoTL to dental education.
- Evaluate the state of practice of SoTL and how it is used for promotions and tenure.
- Identify ways they can engage in SoTL in different educational settings.

Presenter(s): Yun Saksena, B.D.Sc., M.M.Sc., D.M.D. | Tufts University School of Dental Medicine; Paula O’Neill, M.Ed., Ed.D.; Ryan L. Quock, D.D.S. | University of Texas School of Dentistry at Houston; Gary Pape, M.A., D.D.S. | Western University of Health Sciences College of Dental Medicine

1:00 – 2:30 p.m.
**EI-014 Oral Health: An Essential Component of Whole Person Care in the Primary Care Medical Home**
90 Minute Seminar | LBCC-Room 102C

This session offers a framework, tools and strategies for integrating oral health and primary care within the primary care medical home (PCMH). It offers a framework for how primary care and dental providers can partner to engage patients in a new health care paradigm that conceptualizes health care as whole person care based on interprofessional clinical education and practice. Clinical tools and strategies are presented for weaving oral health into primary care encounters to promote oral health self-care, coordinating referrals to dental colleagues and supporting patients during transitions of care.

**Learning Objectives:**

- Identify the Oral Health Delivery Framework as a model for integrating oral health as an essential component of the primary care medical home.
- Describe tools and strategies for weaving oral health into primary care encounters, workflow and EHR documentation.
- Discuss tools and strategies for integrating general health innovations into dental practice.

Presenter(s): Judith Haber, Ph.D., APRN, BC, FAAN | New York University Rory Meyers College of Nursing; Erin Hartnett, DNP, APRN-BC, CPNP; Mark Wolff, D.D.S, Ph.D. | New York University College of Dentistry

1:00 – 2:30 p.m.
**A-012 Building Meaningful Assessment**
90 Minute Workshop | LBCC-Room 104A

The management of medically complex patients is an ideal environment to evaluate critical thinking, a skill for which the impact of the Electronic Health Record remains unclear. We wanted to assess students on the crucial skills of asking appropriate questions, interpreting data, and deciding when additional information is needed. The workshop will explore available resources to assess critical thinking and explain our choice of an innovative use of a survey engine. Findings from more than 700 evaluations will be analyzed. Participants will practice building assessment items and share their experiences developing
tests for high cognitive levels.

Learning Objectives:

• Compare available strategies to evaluate critical thinking.
• Analyze what can be learned from using the survey engine for assessment.
• Build assessment items to evaluate critical thinking.

Presenter(s): Silvia Spivakovsky, D.D.S.; Cristian Opazo, Ph.D. | New York University College of Dentistry

1:00 – 2:30 p.m.
EI-041 "But I am in a lot of pain" or "I need surgery"—The Opioid Crisis and Our Responsibility as Clinical Educators
90 Minute Workshop | LBCC-Room 104B

The opioid crisis is upon us. Many opioid prescriptions are written by dentist. It is crucial that dental schools across the country focus on prescribing less opioids in dental school by leading students by example in our clinics and building curricula that addresses the underlying issues of abuse behavior in patients. This session will first discuss how and why this problem developed in the first place, then share experiences from some school that have been early adopters in addressing the crisis their state. The session is planned to have an extensive Q&A component to share experiences between all participants.

Learning Objectives:

• Develop an understanding of how we got the opioid problem in the first place.
• Understand how big a problem prescription opioid abuse is in health care with a focus on dentistry.
• Share ideas between institutions on how to address the opioid problem.

Presenter(s): Anders Nattestad, Ph.D., D.D.S. | University of the Pacific, Arthur A. Dugoni School of Dentistry; Richard D’Innocenzo, D.M.D., M.D. | Boston University Henry M. Goldman School of Dental Medicine
EDUCATION SESSIONS
MARCH 19, 2017

8:30 – 10:00 a.m.
I-129 Opening Plenary—Exploring the Frontiers of Science and Human Potential
Sponsored by the ADEA Corporate Council
90 Minute Seminar | LBCC-Exhibit Hall B

Mae C. Jemison, M.D., leads 100 Year Starship, an initiative seed-funded by DoD’s Defense Advanced Research Project Agency to make human travel beyond the solar system a reality within a century. She is founder of the technology consulting firm The Jemison Group, Inc., which integrates the critical impact of sociocultural issues into designing and implementing technologies, such as using satellite technology to deliver health care in West Africa and solar dish Stirling engines to generate electricity in developing countries. As the first woman of color to go into space, Dr. Jemison was a NASA astronaut for six years and flew aboard the Space Shuttle Endeavour, STS-47 Spacelab J(Japan) mission in September 1992. An environmental studies professor at Dartmouth College, she taught sustainable development and technology design and ran The Jemison Institute for Advancing Technologies in Developing Countries. She was an A.D. White Professor-at-Large at Cornell University. Dr. Jemison is a member of the National Academy of Medicine and has garnered many of the nation’s highest national, academic, and institutional honors for her public service as an astronaut, scientist, health care provider and educator. Dedicating her life’s work to scientific, technological, and medical advancements, Dr. Jemison explores the frontiers of science and the human potential.

Learning Objectives:

• Describe how actively pursuing innovations in science impacts human potential.
• Discuss how sociocultural issues have affected the design and implementation of technologies such as those used in space.

Presenter(s): Mae Jemison, M.D. | Cornell University

10:00 – 11:30 a.m.
CD-008 Treating the Transgender Dental Patient: A Personal Narrative
90 Minute Seminar | LBCC-Room 203B

Transgender patients have historically been stigmatized both in the medical and dental fields. The purpose of this presentation is to educate endodontists, residents and staff about the medical and psychological needs of transgender individuals. This presentation will teach dental personnel how to best interact with and serve this population of dental patients. Among topics discussed will be how to create a welcoming office environment, risks associated with prolonged hormone use, effects of cross hormone therapy and surgical options for both female-to-male and male-to-female patients. Dr. Koch will also provide a personal narrative concerning transition.
Learning Objectives:

- State established protocols and guidelines for treating transgender dental patients.
- Recognize the unique challenges presented to both the medical and dental communities by male-to-female and female-to-male transgender patients, as well as by gender fluid individuals.
- Better understand the emotional impact of transitioning, as it applies to both patients and colleagues.

Presenter(s): Anne L. Koch, D.M.D., Certificate in Endodontics | University of Pennsylvania School of Dental Medicine

10:30 – 11:15 a.m.
El-021 Dentistry and Diabetes: A Two-way Street (Limited Attendance of 10)
45 Minute Small Group Discussion | LBCC-Room S-3

Dentists are oral health experts and are integral in helping patients with diabetes strive for health. Patients with diabetes need to know how important it is to take care of their teeth and gums, as they are more likely to get gum disease, and periodontal disease makes it more difficult for them to control their diabetes. As people often have dental check-ups more frequently than medical check-ups, dentists are in a good position to identify patients who have or are at risk for diabetes. Training is important for dentists to be able to help physicians care for diabetic patients.

Learning Objectives:

- Describe the bidirectional relation between periodontal disease and diabetes and the oral-systemic link between these two conditions.
- Demonstrate the ability to identify dental patients at risk for diabetes or pre-diabetes.
- Demonstrate how to use a glucometer to test blood glucose levels of dental patients.

Presenter(s): Gary D. Hack, D.D.S. | University of Maryland School of Dentistry

10:30 – 11:30 a.m.
El-008 Integrating Cultural Diversity: Shaping a Student’s Professional Identity for Humanistic Health Care
60 Minute Seminar | LBCC-Room 102A

The rapidly increasing diversity of the U.S. population and multiple forces impacting our health care system demand that we train clinicians who are culturally competent and endorse a holistic approach to the doctor-patient relationship, with an appreciation of the numerous personal, family, community and cultural variables that affect health. This session will describe some of the innovative teaching approaches and assessment strategies that have been integrated into a new course for first-year dental students that addresses cultural competency, including the successes and challenges faced when teaching in a large classroom setting.
Learning Objectives:

- Defend the importance of teaching patient-centered health care to beginning students.
- Identify and discuss several innovative teaching approaches to promote cultural diversity.
- Engage students to think beyond what they know about cultural diversity on a deeper level.

Presenter(s): Y. Natalie Jeong, D.M.D., M.A.; Ellen Patterson, M.D., M.A. | Tufts University School of Dental Medicine

10:30 – 11:30 a.m.

**CD-070 Run a Practice Too? Practice Management Education Through Clinical Simulation**
60 Minute Seminar | LBCC-Room 203A

Simulation is widely accepted as the preferred method to develop clinical skills and is an effective method of learning behavioral skills. Surveys of dental students consistently reveal that their confidence to manage a dental practice after graduation remains low. One technique in place for simulating dental practice management is a web-based computer simulation program used by a number of schools (810 in 2012). This session will explore an innovative method of practice accounting simulation and practice management learning using real-life dental school clinic data and the development of a simulated business plan.

Learning Objectives:

- Integrate dental practice management training into the clinical and didactic education of predoctoral students.
- Develop a practice management simulation “game” using clinical experiences to help students understand the basics of accounting and financial reporting.
- Construct a practice management curriculum using the development of a business plan as the core instructional tool and template.

Presenter(s): Jay Beauchemin, D.D.S. | University of New England College of Dental Medicine

10:30 – 11:30 a.m.

**TI-010 Assessing Applied Learning Using the Electronic Dental Record**
60 Minute Seminar | LBCC-Room 204

The electronic health record in educational settings provides an opportunity to evaluate clinical outcomes and the relationship with patient risk factors, educational approaches and delivery of oral health services. We have created an EHR that integrates a searchable database with an electronic health record. Our Community Oral Health Outcomes and Risk Tracking (COHORT) clinical interface will be demonstrated in this session. Outcomes related to student learning and integration of knowledge in the clinical setting will be presented.
Learning Objectives:

- Observe how clinical problems were identified by students with faculty guidance, and how the clinical data were used to reinforce the didactic principles.
- Participate in a demonstration of the data-retrieving interface.
- Consider implications of the EHR for research related to oral health care delivery.


10:30 a.m. – noon

I-403 ADEA Chair of the Board of Directors Symposium—Transformation of the Healthcare System
90 Minute Workshop | LBCC-Grand Ballroom A

Over the past few years, the health care delivery system has seen considerable transformation, with large-scale consolidations, movement away from paying for services to paying for value, and approaching the actual work of providing care differently. In this complex environment, how we manage change and deliver reliable, high-quality dental care also changes. For dentists, knowing what’s in the crystal ball, and having a systems framework for understanding the new environment, will help with preparing for the future. Techniques and approaches to plan for that (near) future will be discussed, along with actionable strategies for leaders and practitioners. (This session will be recorded.)

Learning Objectives:

- Discuss how we manage change and deliver dental care.
- Discuss the techniques for an actionable plan for leaders.

Presenter(s): Nirav R. Shah, M.D., M.P.H., SVP and Chief Operating Officer, Kaiser Permanente Southern California

10:30 a.m. – noon

TL-400 Sizzle & Substance—Providing Stellar Presentations
90 Minute Workshop | LBCC-Grand Ballroom B

Discover how to transition your Annual Session presentation from expert-centered to a participant-centered model. When content is presented in brain-friendly ways, listeners become participants, increase their retention and achieve true learning transformation. Learn how to design presentations that align with how the brain naturally learns and hit a home run with your audience every time. Discover why telling doesn’t equal learning. Nor does covering content mean content is learned. Thinking, doing and participating reign! (This session will be recorded.)

Learning Objectives:

- Compare and contrast information, education and learning.
- Learn brain-friendly strategies to make content stick based on evidenced-based research
- Discuss effective audience engagement tactics for today’s participant-centered attendee.

Presenter(s): Sarah Michel, Velvet Chainsaw
10:30 a.m. – noon

**TL-032 CODA 5-2: Bridging the Gap Between Clinical and Behavioral Sciences**
90 Minute Workshop | LBCC-Room 203C

From a clinician’s perspective, the core of EBD is to integrate evidence and appropriate clinical implementation. There appear to be prima facie cases of dental students who have a tendency not to consider patient values when treatment planning. Essentially, students adopt a mechanistic way that relies primarily on the use of technical skills, knowledge and the best evidence available. Consequently, lip service is paid to shared decision-making; a gap exists between teaching clinical and behavioral sciences. This interactive workshop will explore effective strategies for teaching dental students how to develop sound shared decision-making skills.

**Learning Objectives:**

- Define "value" and "value-based practice" (VBP).
- Describe the importance of value in shared decision-making.
- Explain the partnership between value-based practice and evidence-based dentistry.

**Presenter(s):** June Sadowsky, D.D.S., M.P.H.; Maria D. Gonzalez, D.D.S., M.S. | University of Texas School of Dentistry at Houston

10:30 a.m. – noon

**TL-009 Beyond Addiction Boundaries: Substance Use Screening, Intervention and Referral (SBIRT)**
90 Minute Seminar | LBCC-Room 101A

Health professionals can screen for substance use and motivate patients to reduce or terminate use and seek treatment. In planning and providing treatment, dental practitioners should consider patients’ substance use, behaviors and mental health. SBIRT is a brief survey that is effective for the early identification, intervention and treatment of alcohol, tobacco and substance use. This session will inform ADEA members about SBIRT who can conduct SBIRT and where SBIRT is currently being implemented. Best practices for implementing SBIRT training into dental and allied dental curricula, its use in meeting Commission on Dental Accreditation (CODA) standards and how to access useful materials and resources will be presented.

**Learning Objectives:**

- Describe why SBIRT is important to dental and allied dental education and clinical dentistry and the role of dental professionals in addressing behavioral/mental health risks in planning and providing dental treatment.
- Evaluate best practices for incorporating SBIRT into dental and allied dental curricula and lessons learned from dental and allied dental programs that have successfully implemented SBIRT education into their curricula.
- Discuss components of the SBIRT model, including who conducts SBIRT and where SBIRT is implemented, as well as how to access useful dental SBIRT materials and resources.

**Presenter(s):** Tracy McPherson, Ph.D. | NORC at the University of Chicago; Donna W. Morris, RDH, M.Ed. | University of Texas School of Dentistry at Houston; Jill Loewen, RDA, M.S. | University of Detroit Mercy School of Dentistry
10:30 a.m. – noon

**TL-001 Teaching Innovations in the Biomedical Sciences: Short Talks**
90 Minute Seminar I LBCC-Room 101B

The biomedical sciences constitute foundational knowledge within dental education. Student mastery of this material is essential for passing board examinations and for progression to clinical training. As more institutions move toward integrated curricula, initiatives to integrate this knowledge with clinical training have become increasingly important. There has been a corresponding push to incorporate new technologies into the classroom. This seminar, consisting of a series of five-minute short talks, will highlight teaching innovations in the biomedical sciences. These presentations and the subsequent discussions will provide a valuable source of support, mentorship and creative inspiration to colleagues at institutions undergoing similar changes.

**Learning Objectives:**

- Describe innovative teaching methods being used by their colleagues at other institutions, as well as share their own ideas and innovations.
- Identify teaching methods and activities that can be incorporated into their own classrooms.
- Describe the challenges, benefits and concerns of implementing specific teaching methods and activities into the classroom.

**Presenter(s):** Alison F. Doubleday, Ph.D.; University of Illinois at Chicago College of Dentistry; Robert Spears, Ph.D., M.S. | University of Texas School of Dentistry at Houston; Sandra Stramoski; Anna Matthews, RDH, M.S. | New York City College of Technology; Josh Polanski | University of Nevada, Las Vegas, School of Dental Medicine; Blase P. Brown, D.D.S., M.S. | University of Illinois at Chicago College of Dentistry; Marie Paulis; Meaghan Strotman

10:30 a.m. – noon

**TL-055 Teaching and Learning with Emerging Technologies and Informatics: Short Talks**
90 Minute Seminar I LBCC-Room 102B

Short Talks, an innovative approach for the Annual Session, will succinctly update members of the dental community with exciting developments and emerging issues, and will foster collaboration as we explore teaching and learning with emerging technology and informatics. Join us for this exciting exploration into the future of health care education.

**Learning Objectives:**

- Describe the status of emerging technology and informatics related programs and projects occurring at different dental schools and organizations.
- Identify innovations that may be useful to implement locally.
- Recognize best practices in teaching, assessing, and delivering ideas and knowledge with emerging technologies.

**Presenter(s):** Jeff Gutkin, Ph.D. | Rutgers, The State University of New Jersey, School of Dental Medicine; Pauletta Baughman, D.M.D. | University of Louisville School of Dentistry; Rosanna Graham, D.D.S. | Columbia University College of Dental Medicine
10:30 a.m. – noon
CD-001 Beyond Tobacco’s Boundaries: E-cigarettes... Just Smoke and Mirrors?
90 Minute Seminar I LBCC-Room 102C

With the recent increase in electronic cigarette use among adults and adolescents, dental educators will need to rapidly integrate related content and approaches into existing tobacco cessation curriculum. Dental professionals will need to be knowledgeable regarding the composition, epidemiological trends, regulation and health risks related to e-cigarettes. Research that suggests embracing e-cigarettes as a harm reduction and tobacco cessation product deserves a critical eye. Regulation and marketing forces will shape the future fate of e-cigarettes. This session will address the aforementioned topics and allow small group breakouts among participants to discuss the implications of e-cigarettes upon curriculum.

Learning Objectives:

- Describe and compare the composition and the local and systemic effects of electronic cigarettes and traditional smoked tobacco products.
- Discuss the current industry trends in promoting and marketing electronic cigarette products and the response in government policy and regulation.
- Recall available data on efficacy of electronic cigarettes to help smokers quit or smoke less and develop a nuanced position on the utility of electronic cigarettes in harm reduction strategies.

Presenter(s): Harlan J. Shiau, D.D.S., D.M.Sc.; Jacquelyn L. Fried, R.D.H., M.S. | University of Maryland School of Dentistry; Victoria Patrounova, RDH, M.H.A. | University of Texas School of Dentistry at Houston

10:30 a.m. – noon
CD-010 What Patients Are Teaching Us About Effective Clinical Communication
90 Minute Workshop I LBCC-Room 104A

Patient-centered care requires effective clinical communication, which is critical for positive oral health outcomes. Patients can provide critical feedback about practitioners’ communication skills. However, existing surveys for patients to evaluate their clinicians’ clinical communication do not address the scope of patient interactions with an oral health care practitioner. In response, an empirically derived model of effective clinical communication specific for oral health care was developed and tested on over 6000 patients and their 1000+ clinicians over a period of nine years. Study findings support improvements in oral health care communications curricula, thereby addressing current gaps between patient needs and expectations and their experience of health care.

Learning Objectives:

- Identify the four main factors in effective clinical communication based on a nine-year study with 6000+ clinical cases.
- Define a list of guiding principles based on theory and models from the literature for creating effective clinical communication course material for dental and dental hygiene courses.
- Create an effective clinical communication assessment tool that can be used to assess students in terms of the guiding principles.

Presenter(s): Dieter J. Schonwetter, M.A., Ph.D. | University of Manitoba Faculty of Dentistry
As dental educators, we are to model healthy boundaries for our colleagues and students. Yet, faculty can find themselves inappropriately going "beyond boundaries," and we may acquiesce to doing the duties of a colleague. Students continually test boundaries. In cases like these, not travelling beyond boundaries is critical to retaining our mental, physical and emotional energy. This workshop will define types of interpersonal boundaries, demonstrate why healthy boundaries are important and equip you with practical ways to set and maintain boundaries with your boss, colleagues and students. You will leave confident, knowing when to say yes and how to say no.

Learning Objectives:

- Define the four categories of people with interpersonal boundary problems.
- Discuss the personal and educational importance of setting and maintaining healthy boundaries.
- Construct effective responses to personal and external challenges to go beyond one's boundaries.

Presenter(s): Cameron B. Jeter, Ph.D.; Ryan L. Qucock, D.D.S. | University of Texas School of Dentistry at Houston; Mariah Peltier, M.Ed., LPC | Peltier Family Counseling, PLLC

All U.S. dental schools are required to have a quality assurance (QA) program that measures the quality of patient care. The primary goal of this workshop is to help participants explore the various QA measures available and decide on which will be the most successful at their own institutions. With the use of cases and discussion of best practices, the presenters and participants will share their individual experiences. Upon completion of this workshop, each participant will have created an improved framework for a QA program specific to their school's needs, meeting standards of care and satisfying CODA guidelines.

Learning Objectives:

- List potential new quality assurance measures that could be used at their institution.
- Describe possible barriers and strategies to successfully incorporate new quality assurance measures.
- Develop a quality assurance action plan to take home and share with others at their institution.

10:30 a.m. – noon

I-019A Office Emergency Simulation Lab—Teaching Medical Emergency Management—Incorporating the Use of Simulation in a Comprehensive Training Program (Ticketed Event)
90 Minute Workshop | LBCC-Room S-4

In many of our dental schools, clinical faculty are ill-prepared and uncomfortable managing common medical emergencies. This is potentially problematic, as these faculty are the first-line of defense in creating a culture of safety during patient care activities. The recent advancements in simulation technology now make it possible to provide a realistic environment for individuals to be trained in this domain. This session not only will provide education and hands-on practice in managing medical emergencies, but will also provide the learners with educational models to enable them to develop emergency training programs in their respective institutions.

Learning Objectives:

- Describe the components of an effective curriculum for teaching the recognition and treatment of medical emergencies in dental schools.
- Demonstrate the basic and advanced skill in the management of medical emergencies in the dental setting.
- Describe how to integrate the use of simulation technology in to the teaching of the management of medical emergencies.


10:30 a.m. – noon

A-007 Double-looped Feedback: A Strategy for Improving Effectiveness of Peer Review
90 Minute Workshop | LBCC-Seaside Ballroom A

Assessment in higher education has historically been faculty-driven, which is more one-directional and doesn't provide students with opportunities to engage in critical thinking or reflection, both needed in the 21st century workplace. Peer review is an active technique that provides students opportunities to build these skills, but challenges exist in the quality of the feedback given by students and the perceived benefits to the receiver. We will introduce a unique method of peer-review assessment that employs a technology tool supporting double-looped feedback, which improves the quality of perceived benefits and fosters a culture of lifelong learning and reflective practice.

Learning Objectives:

- Differentiate between interactive assessment techniques and provide constructive feedback.
- Recognize an interactive peer-assessment technology-based tool.
- Defend the value of peer-assessment.

Presenter(s): Tofool Alghanem, B.D.S., M.S., D.M.D., M.P.H.; Jennipher Murphy, M.S. | Tufts University School of Dental Medicine
10:30 a.m. – noon
I-007 Sex and Gender/Women’s Health Curriculum Development
90 Minute Workshop | LBCC-Seaside Ballroom B

Women’s Dental Curriculum Reports were released (ADEA: 1999 and 2011). Both Reports identified gaps in content with regards to women’s health. Interprofessional Education (IPE) provides an opportunity and stimulus for curriculum changes that will improve women’s health. The science base for women’s health contributes to these changes. This Symposium will continue the series (2012, 2013, 2015, 2016) and address women’s health across three dimensions: Oral Systemic Health, Bone and Skeletal Health, and Global Health Issues.

Learning Objectives:

• Explain how the emerging science base for women’s health contributes to interprofessional treatment philosophies.
• Link bone and skeletal factors affecting the health of women across a life span.
• Identify global health issues that impact the health of women and families.

Presenter(s): Lois Cohen, Ph.D. | U.S. Public Health Service; Marja Hurley, M.D. | University of Connecticut School of Dental Medicine; Linda Kaste, D.D.S., M.S., Ph.D. | University of Illinois at Chicago College of Dentistry

11:25 a.m. – 12:10 p.m.
TI-004 What Makes Your E-lecture Effective?-Limited Attendance of 10
45 Minute Small Group Discussion | LBCC-Room S-3

The average age of faculty at the University of Maryland School of Dentistry is of a generation considered to be digital immigrants. Are they able to turn their lectures around to keep up with technology and the digital native student? The purpose of this session is to help faculty understand how to integrate digital technologies into their lectures to develop an engaged classroom meeting the needs of Generation X and Generation Y learning styles.

Learning Objectives:

• Explain the rationale for faculty to incorporate digital technology into lectures.
• Describe various interactive technologies.
• Critically analyze current lectures and determine ways to secure knowledge transfer to the digital native student.

Presenter(s): Leila Liberman, RDH, MDE | University of Maryland School of Dentistry

12:30 – 12:50 p.m.
El-020 Beyond Electronic Prescribing: Teaching the Value of Medication Reconciliation
New Ideas Session | LBCC-Exhibit Hall A

This session will take participants through the process of incorporating medication reconciliation into the curriculum and review this process utilizing electronic prescribing modules in the dental school clinical setting. Faculty training and calibration protocol will be discussed. Electronic prescribing is being mandated with greater frequency; therefore it is essential that students graduate with the ability to incorporate medication reconciliation into their practice.
Learning Objectives:

- Describe how to incorporate Medication Reconciliation and Electronic Prescribing into daily patient care.
- Outline the value of Medication Reconciliation as a best practice for patient care.
- Develop a plan to educate both students and faculty in Medication Reconciliation and Electronic Prescribing protocol.

Presenter(s): Jessica Hilburg, D.D.S. | Touro College of Dental Medicine at New York Medical College

12:55 – 1:15 p.m.

**TL-033 Improvisational Theater: Techniques for Improving Communication, Confidence and Empathy**

New Ideas Session | LBCC-Exhibit Hall A

Principles of improvisation are surprisingly applicable in clinical settings. Using the core philosophy of "Yes, and," improvisers learn to listen, accept and empathize. Skills are developed through exercises that teach how to build on what your partner has established (collaboration). Exercises focus on establishing eye contact, listening and communicating non-verbally. In this workshop, you will learn how this innovative approach has been implemented in clinical settings to improve clinician/patient interactions. You will learn how to adapt these programs to teaching to support the development and improvement of communication skills, cultural competence and confidence in dental and dental hygiene students.

Learning Objectives:

- Explain how exercises from improvisational theater can improve students' communication and interpersonal skills.
- Describe how improvisational programs have been adapted and implemented in dental and medical schools.
- Develop programs designed to improve communication, confidence and cultural competency in dental and dental hygiene students.

Presenter(s): Nilesh Shah | University of Pittsburgh School of Dental Medicine

1:00 – 2:30 p.m.

**I-309 ADEA CCI 2.0: Change is Here (By Invitation Only)**

90 Minute Seminar | LBCC-Seaside Ballroom B

The ADEA Commission on Change and Innovation (CCI) in Dental Education was convened in 1995 to enact curricular change. During the subsequent five years the Commission published groundbreaking white papers as well as the highly influential Competencies for the New General Dentist, effectively bringing dental education across the threshold of the 21st century. Today multiple forces external to dental education are impacting the global community bringing change and innovation to all aspects of society. But how will these changes impact dental education and practice? ADEA has reconvened the ADEA CCI with the purpose of engaging with our communities to wrestle with these new impacts and together pave a path forward for our students, patients and profession. Join us as we share our preliminary paper and you share your voice by reacting to a pre-published version of the paper in an effort to help the ADEA CCI best serve our community.
2:00 – 2:45 p.m.
**CD-002 All Hazards Training: Incorporating a Certificate of Disaster Preparedness into the Dental School Curriculum (Limited attendance of 10)**

45 Minute Small Group Discussion | LBCC-Room S-3

Shortly after September 11, 2001, the New York University College of Dentistry (NYUCD) expanded the school curriculum to infuse bioterrorism studies and preparedness training across the four years of dental education, concluding with a capstone course in the senior year. The overall goal, in keeping with the official policy of the American Dental Association, ADEA, and the U.S. Department of Homeland Security concept of an all-hazards approach, is to prepare dentists to plan, prepare for, mitigate, respond to and recover from natural and man-made disasters. Upon satisfactory course completion, students receive a Certificate of Disaster Preparedness.

**Learning Objectives:**

- Introduce disaster preparedness studies into the dental school curriculum.
- Create a certificate-worthy course in disaster studies.
- Motivate students to understand the importance of disaster studies in the curriculum.

**Presenter(s):** David L. Glotzer, D.D.S. | New York University College of Dentistry

2:00 – 3:00 p.m.
**TL-007 Performance-based Learning vs. Traditional Instruction: Is There Really a Difference?**

60 Minute Seminar | LBCC-Room 101B

Today’s non-traditional millennial and minority students expect and demand their educational content to be both effective and demonstrably flexible, offering differing modes of technology and delivery. Most U.S. dental schools, including the majority of those opened in the past ten years, have incorporated the PBL model of education into their curriculums. Many older U.S. dental institutions have firmly resisted the PBL model in favor of the historically traditional instructional models. This session will examine the humanistic and tangible differences empirically shown to exist between PBL and traditional instructional models offered today in dental schools and the student outcomes of each.

**Learning Objectives:**

- Define Performance-based Learning (PBL).
- Discuss the differences between PBL and Traditional Learning methods.
- Discuss PBL assessments as opposed to traditional paper and pencil assessments.

**Presenter(s):** Frank Jones, D.D.S., M.B.A.; Mildred McClain, Ph.D. | University of Nevada, Las Vegas, School of Dental Medicine; Francis Curd, D.D.S., D.M.D. | Lake Erie College of Osteopathic Medicine School of Dental Medicine; Cliff McClain, Ph.D. | University of Nevada Las Vegas, College of Education
2:00 – 3:00 p.m.
**EI-032 Developing Successful IPE Using the Smiles for Life Online Curriculum**
90 Minute Seminar | LBCC-Room 102A

Oral disease is seen across all generations, disproportionately affecting vulnerable populations including children, the elderly, the disabled, and those distanced from dental services by geographic, economic and cultural divides. Interprofessional collaboration between dental and primary care practitioners increases the likelihood that the disparities faced by these individuals will be reduced and even removed. This presentation will demonstrate the features of Smiles for Life (SFL), a nationally recognized online curriculum for primary care (non-dental) health professionals, and how this curriculum may be used to build a range of interprofessional education (IPE) programs that promote collaboration between dental and primary care providers.

**Learning Objectives:**

- Describe the Smiles for Life online curriculum and ways it is being used to implement IPE programs, demonstrating how oral health competencies are successfully integrated into primary care professions training.
- Recognize the benefits and potential barriers to developing interprofessional oral health training opportunities, particularly as they relates to effective collaboration between dental and primary care providers.
- Identify practical strategies to design and implement an interprofessional oral health curriculum, including resources and tools for program development, interprofessional clinical experiences, student assessment and program evaluation.

**Presenter(s):** Alan S. Wrightson, M.D. | Bluegrass Community Health Center; Ellen Patterson, M.D., M.A.; John Morgan, D.D.S. | Tufts University School of Dental Medicine; Rocio Quinonez, D.M.D. | University of North Carolina at Chapel Hill School of Dentistry

2:00 – 3:00 p.m.
**TL-021 Using the Electronic Health Record for Active Student Learning**
60 Minute Seminar | LBCC-Room 104A

This session will challenge you to utilize the electronic health record (EHR) for novel teaching and active learning within dental curricula. As a case study, you will hear one school’s approach to teach applied epidemiology using the EHR along with faculty and student perspectives. You will observe how students identified a problem, posed a focused question, retrieved and analyzed EHR data (de-identified) and reported results of their findings. You will participate in a live demonstration of the clinical platform and data-retrieving interface. You will brainstorm on how the EHR can be used for novel student learning within your dental program.
Learning Objectives:

- Appraise the value of an EHR system to enhance the learning of population oral health and epidemiologic research methods.
- Contrast faculty and student perspectives on the use of a clinical query system and user interface tool for experiential learning.
- Consider other novel uses of the EHR in student learning.

Presenter(s): Colleen Davis, B.Sc.; David Paquette, D.M.D., M.P.H., D.M.Sc.; Sharon Gordon, D.D.S., M.P.H., Ph.D. | East Carolina University School of Dental Medicine

2:00 – 3:00 p.m.
**TI-011 Beyond Boundaries: Introducing an Interactive, Fun Game Show to Facilitate Student Learning**
60 Minute Workshop | LBCC-Room 104C

Our goal in this session is to present to educators the value of using an interactive educational game show to help facilitate student learning in a competitive team environment. Data collected from surveys sent to faculty and students will be presented. In addition, attendees will be able to learn how to use an educational software program such as Articulate Storyline to help customize and create their own game show at their respective institutions. An open forum will be held to discuss other teaching tools to enhance student learning such as the use of interactive video games, etc.

Learning Objectives:

- Discuss the value of an interactive, educational game show to enhance the learning process.
- Develop an interactive, educational game show to facilitate student learning.
- Identify current educational technology resources at various institutions.

Presenter(s): Gargi Mukherji, D.D.S.; Ralph Cooley, D.D.S.; Richard Halpin, M.Ed., Ed.D. | University of Texas School of Dentistry at Houston

2:00 – 3:30 p.m.
**EI-025 Beyond the Boundaries of a Uni-professional Identity: Interprofessional Experiences That Foster an Interprofessional Identity OR Beyond IPE 101**
90 Minute Seminar | LBCC-102C

Dental institutions have overcome initial barriers having implemented an introductory-level interprofessional course or activities. Yet, students need to be provided with more opportunities to develop skills for interprofessional collaboration and the experiences to practice. Implementation of experiential programming is met with barriers of logistics, culture and timing related to student readiness for them. Success depends on student readiness. Panelists will highlight examples of innovative approaches to implementation of experiential interprofessional education activities, their timing and outcomes of student performance. Provided will be opportunities to interactively consider approaches to incorporating interprofessional experiential activities into existing curricula at the right time.

Learning Objectives:

- Differentiate between the progressive levels of interprofessional education and the optimal stages of professional development for each level.
• Consider challenges at different institutions and identify opportunities within existing curricula for enhancing interprofessional opportunities.
• Incorporate varying levels of engagement in interprofessional experiences appropriate to student readiness.

Presenter(s): Lorinda Coan, RDH, M.S. | University of Southern Indiana; Cynthia Stull, B.S.D.H., M.D.H.; Grishondra Branch-Mays, D.D.S., M.S. | University of Minnesota School of Dentistry; Susan Seibert, DNP, RN | University of Southern Indiana

2:00 – 3:30 p.m.
I-015 Submitting to ADEA weTeach® Through MedEdPORTAL®
90 Minute Seminar | LBCC-203B

Whether enhancing your skills to deliver educational content to millennials or enriching your portfolio for promotion and tenure, being familiar with tools like ADEA weTeach® and MedEdPORTAL® is valuable. Through ADEA weTeach, dental educators can access resources from MEP Publications or iCollaborative collections to enhance their professional development, obtain innovative teaching ideas from many health professions or achieve peer-reviewed publication of an academic product. This hands-on session is designed to encourage the use of existing ADEA weTeach) resources and to provide valuable information to support the successful submission of resources that meet both ADEA weTeach and MedEdPORTAL criteria.

Learning Objectives:
• Navigate the ADEA weTeach and MedEdPORTAL sites to find detailed information regarding submission and usage.
• Explain copyright and permissions requirements of MedEdPORTAL and the purpose of the Educational Summary Report.
• Use the MedEdPORTAL checklist and ADEA weTeach criteria to determine whether a resource is ready for submission to MedEdPORTAL.

Presenter(s): Wendy Woodall, D.D.S. | University of Nevada, Las Vegas, School of Dental Medicine; Eileen R. Hoskin, D.M.D. | Rutgers, The State University of New Jersey, School of Dental Medicine; Michelle Wheater, Ph.D. | University of Detroit Mercy School of Dentistry

2:00 – 3:30 p.m.
L-007 Peer Review Essentials
90 Minute Workshop | LBCC-Grand Ballroom B

This session explores the peer review process and provides a hands-on opportunity to practice the skills necessary for peer-review. Participants will be introduced to (1) the basics of peer review, (2) ideas on how to utilize peer review as a tool for professional development, and (3) promoting the scholarship of teaching and learning (SoTL) as part of the peer review process. After an introductory presentation, editors from the Journal of Dental Education and MedEdPORTAL will share best practices specific to their venues. Participants will have the opportunity to practice how to conduct a peer review on recently submitted publication examples. (This session will be recorded.)
Learning Objectives:

• Apply basic skills to review Journal of Dental Education and MedEdPORTAL submissions.
• Identify ways to utilize the peer review process as a tool for professional development.
• Apply the peer review to improve one’s own writing skills.

Presenter(s): Zsuzsa Horvath, Ph.D. | University of Pittsburgh School of Dental Medicine; Janet M. Guthmiller, D.D.S., Ph.D. | University of Nebraska Medical Center College of Dentistry; Nadeem Karim, D.M.D., M.M.Sc. | Tufts University School of Dental Medicine

2:00 – 3:30 p.m.

TL-031 Edutainment: Give The Students What They Want
90 Minute Seminar | LBCC-Room 101A

According to The New York Times, edutainment combines aspects of education and entertainment into products and experiences that seek to improve learning by making it not just painless but also pleasurable. This discussion sparks much debate among educators, with many believing entertainment and education are incompatible, and when combined, bring about neither. In this seminar, participants will learn the theory behind edutainment as well as gain simple low-stakes and more advanced ways to incorporate edutainment principles into their courses. A student representative will also be present to share their perspective on the topic.

Learning Objectives:

• Summarize the education vs. edutainment debate.
• Utilize already developed and tested learning games, activities and demonstrations into existing curriculum.
• Collaborate with other experienced faculty to gain ideas for bringing edutainment into the classroom.

Presenter(s): Amy E. Coplen, B.S.D.H., M.S.; Brie Taylor; Monica Sarmiento | Pacific University

2:00 – 3:30 p.m.

EL-300 Faculty Development Marketplace: A Forum for Collaboration (Short Talks)
90 Minute Seminar | LBCC-Room 103A

This exploration of faculty development provides each speaker with five minutes to summarize the role and purpose of faculty development at their institution, what programs are offered and how they are assessed. While there are various faculty development efforts across North American dental schools, the work of faculty developers is poorly understood and best practices have not yet emerged. These short presentations will enable participants to explore connections beyond boundaries, spread ideas, provide updates about exciting developments, establish and foster collaboration and trigger joined projects among institutions.
Learning Objectives:

- Identify the role and the purpose of faculty development.
- Find collaboration partners among other faculty developers.
- Differentiate how institutions evaluate effectiveness of faculty development initiatives.


2:00 – 3:30 p.m.

I-018 ADEA and the Dental Educator: Excellence and Beyond

90 Minute Seminar I LBCC-Room 204

What does it mean to be a dental educator? How does one excel in dental education? What is ADEA and what does it have to do with me? This session will address these questions, with a special emphasis on how to tap into ADEA’s resources to expand the breadth and depth of participant teaching and leadership. Specific teaching resources such as weTeach and MedEdPORTAL, as well as ADEA faculty development programs, will be featured. This session is recommended for new faculty and/or first-time ADEA Annual Session attendees.

Learning Objectives:

- Understand the structure of ADEA and how dental educators fit into the framework.
- Identify what types of teaching resources are available and how the access them.
- Describe what types of leadership development opportunities are available within dental education.

Presenter(s): Ryan L. Quock, D.D.S. I University of Texas School of Dentistry at Houston; Wendy Woodall, D.D.S. I University of Nevada, Las Vegas, School of Dental Medicine; James R. Lott, D.M.D. I University of Mississippi Medical Center School of Dentistry I Nahid Kashani, D.D.S., M.S.D. I University of Detroit Mercy School of Dentistry

2:00 – 3:30 p.m.

TL-029 KA-POW! BANG! SPLOINK! Using Comic Books Format as an Innovative and Alternative Way to Teach Dental Topics

90 Minute Workshop I LBCC-Room S-1

This workshop builds on the success of last year’s New Idea presentation, Drawn into Teaching. Comic books have evolved far beyond the superheroes in tight spandex stereotype into a legitimate form of literature. Comic books tackle weighty issues ranging from personal health issues to political unrest and genocide. Comic books have also been used to teach scientific topics, including philosophy, biochemistry and calculus. This sequential visual storytelling is a powerful way to communicate information succinctly. This may be a solution to reach learners who are besieged by technology that espouses communication with emoticons instead of full sentences.
Learning Objectives:

- List examples of five serious topics that have been communicated through the comic book format.
- Describe how comics can convey information through sequential visual art.
- Demonstrate the ability to present an idea using comic book format.

Presenter(s): Rafat Amer, D.D.S., M.S. | The Ohio State University College of Dentistry

2:00 – 3:30 p.m.
I-019B Office Emergency Simulation Lab—Teaching Medical Emergency Management—Incorporating the Use of Simulation in a Comprehensive Training Program (Ticketed Event)
90 Minute Workshop | LBCC-Room S-4

In many of our dental schools, clinical faculty are ill-prepared and uncomfortable managing common medical emergencies. This is potentially problematic, as these faculty are the first-line of defense in creating a culture of safety during patient care activities. The recent advancements in simulation technology now make it possible to provide a realistic environment for individuals to be trained in this domain. This session not only will provide education and hands-on practice in managing medical emergencies, but will also provide the learners with educational models to enable them to develop emergency training programs in their respective institutions.

Learning Objectives:

- Describe the components of an effective curriculum for teaching the recognition and treatment of medical emergencies in dental schools.
- Demonstrate the basic and advanced skill in the management of medical emergencies in the dental setting.
- Describe how to integrate the use of simulation technology in to the teaching of the management of medical emergencies.


3:00 – 3:20 p.m.
TI-007 Implementation of a Web-based Dental Emergency Triaging Protocol to Enhance Access to Care
New Ideas Session | LBCC-Exhibit Hall A

As the use of web-based applications become more ubiquitous across U.S. demographics, dental professionals will need to explore new technologies to enhance access to care and support clinical practice. This session will detail the design of a web-based protocol that facilitates meaningful communication between patients and oral health providers in order to better triage dental emergencies and ascertain chief complaints before a patient makes an appointment. By utilizing self-reported, qualitative metrics exchanged through a secure network of oral health care professionals, this protocol expedites treatment, increases positive patient outcomes and reduces costs.
Learning Objectives:

- Describe the benefits of receiving diagnostic patient-reported information to support clinical decisions in dental practice.
- Explain many of the obstacles preventing communities from optimal dental care and the associated costs that are accrued by both patients and taxpayers.
- Link information technology interventions with the impact on access to care barriers, expedited treatment and fostering patient–provider relationships.

Presenter(s): Corey D. Stein, M.S. | Western University of Health Sciences College of Dental Medicine

3:00 – 4:30 p.m.
C-002 The Science of Smoking and Motivational Interviewing
90 Minute Workshop | LBCC-Seaside Ballroom B

- The consequences of smoking
- The forms of tobacco available
- The difficulties of quitting
- Physiological aspects of quitting
- Why use Motivational Interviewing?
- What is Motivational Interviewing?
- Guiding principles
- Communications strategies

Learning Objectives:

- Understand Motivational Interviewing and how to apply to dentistry.
- Recognize change talk.
- Identify this resource available at their schools.

Presenter(s): Stacey Franks; Monica Bronowicki | GlaxoSmithKline Consumer Healthcare

3:45 – 4:05 p.m.
EI-043 Engineering a Successful IPE Collaboration for Dental Research
New Ideas Session | LBCC-Exhibit Hall A

Interprofessional Education (IPE) is a dynamic process with many potential applications. Research in the Endodontic department at the University of Detroit Mercy (UDM) School of dentistry was done in conjunction with the UDM College of Engineering. Immature teeth treated endodontically are at risk of fracture with questionable long-term prognosis. Engineering principles can be used to determine how to strengthen the restoration of immature endodontically treated teeth. Improving fracture resistance with the use of various restorative materials, obturation materials and post placement was evaluated using an innovative collaboration with engineering resources. This approach represents an interprofessional research design.

Learning Objectives:

- Discuss the importance of interprofessional education in developing a curriculum that promotes team based learning.
• Analyze collaborative research project involving the School of Dentistry and the College of Engineering at the University of Detroit Mercy that utilized elements of interprofessional education.

• Brainstorm a potential research project that would facilitate a collaborative approach of interprofessional education.

Presenter(s): Susan Paurazas, D.D.S., M.S., M.H.S.A. | University of Detroit Mercy School of Dentistry

4:00 – 4:45 p.m.

L-009 Student Evaluations: The Good, the Bad and the Downright Ugly (Limited Attendance of 10)
45 Minute Small Group Discussion | LBCC-Room S-3

Student evaluations of faculty have become common criteria for assessing teaching effectiveness. Evaluations often play a major role in decisions regarding merit salary increases, promotions and granting of teaching awards and tenure. The value of a good student evaluation cannot be overemphasized. Every teacher dreads those unsavory comments and wonders how administrators weigh those comments and what role they play in decisions. Yet recent research has cast doubt on the validity of these student evaluations. This session is intended to stimulate an interactive discussion by participants on the subject of student evaluations and their various consequences.

Learning Objectives:

• Explain the value and drawbacks of student evaluations.
• Learn ways to improve evaluations without compromising quality.
• Describe what students would want in a good educator.

Presenter(s): Ezinne I. Ogbureke, B.D.S., D.M.D. | University of Texas School of Dentistry at Houston;
Scott DeRossi, D.M.D. | Dental College of Georgia at Augusta University

4:00 – 5:00 p.m.

EI-038 Collaborative Boundaries in Dental Education and Practice: The Nurse Practitioner–Dentist Model for Primary Care
60 Minute Seminar | LBCC-101B

Improving patient and population health outcomes warrants the development and testing of new collaborative models of care. The purpose of this session is to describe the Nurse Practitioner-Dentist Model for Primary Care (NPD Model) an innovative, interprofessional collaborative practice (IPCP) model that integrates primary care services within an academic primary dental care practice. In this session, participants will learn how to implement and evaluate the NPD Model. This innovative model holds promise for ensuring dental students graduate with the IPCP competencies to collaborate with other health care professionals and mitigate the progression of chronic diseases for patients and populations.
Learning Objectives:

• Identify opportunities for the integration of primary care and chronic disease management in dental education and practice.
• Describe strategies for effectively implementing and evaluating the NPD Model in an academic dental practice setting.
• Discuss the challenges and barriers of integrating primary care and oral health services.

Presenter(s): John Da Silva, D.M.D., M.P.H. | Harvard School of Dental Medicine; Chantelle Marshall, M.S.N., ANP-BC | Boston University Henry M. Goldman School of Dental Medicine

4:00 – 5:00 p.m.

**TL-045 Creating Structures for Learning and Understanding: Schemata and Mental Models**
60 Minute Seminar | LBCC-Room 101A

Have you ever overheard a conversation where the topic wasn’t mentioned, but you understood what was being talked about immediately? This is because the conversation fit a mental model you had for that topic. When presented with new information, your brain attempts to slot that information into existing structures to make meaning. In this session, schemata and mental models will be explained in more detail and you will learn how to help students develop schemata and mental models to enhance their learning and understanding of unfamiliar content. Specific strategies will be shared and demonstrated in this session.

Learning Objectives:

• Explain the role that schema and mental models play for students in making meaning of new content.
• Match specific strategies for constructing or activating schema at the start of a lecture, lesson or unit.
• Support a student in utilizing a Vee diagram, concept map or other tool to support their individual schema activation or construction.

Presenter(s): Eric Bernstein, J.D., Ed.D. | University of Connecticut School of Dental Medicine

4:00 – 5:00 p.m.

**E1-004 Think Beyond Boundaries: Recruiting STAR (Seasoned, Talented, Able, Resourceful) Faculty from Private Dental Practice to Academia**
60 Minute Seminar | LBCC-Room 102A

Dental and dental hygiene schools are experiencing critical faculty shortages. This shortage affects student experience by squelching creative learning occurrences and provides an unattractive glimpse into the world of teaching. The workload, along with the wage gap, has led faculty to leave their academic careers for other opportunities and has impeded the transition of younger yet experienced clinicians to academia. Perhaps it is time to look beyond the traditional path to becoming an educator and consider mid- or senior-career private practitioners who might find teaching a tremendous career enhancement while meeting the essential need of educating students.
Learning Objectives:

• Identify the advantages of having private practitioners transition into faculty teaching positions.
• Identify challenges private practitioners might face in transitioning into faculty teaching positions and describe how these might be addressed by schools.
• Recall what activities dental and dental hygiene schools might implement to recruit private practitioners to teaching positions.

Presenter(s): Canise Y. Bean, D.M.D., M.P.H.; James Cottle, D.D.S.; Rebecca Henderson, RDH, M.S. | The Ohio State University College of Dentistry

4:00 – 5:00 p.m.
A-010 Evaluating the Impact of Computer-based Assessment with ExamSoft
60 Minute Seminar | LBCC-Room 1028

Computer-based assessment has been adopted by an increasing number of health sciences institutions. However, its impact on student learning is under-researched. In 2015, we transitioned to computer-based assessment with ExamSoft. The purpose of this presentation is to extend literature on computer-based assessment by: (1) reporting findings on students' acceptance of ExamSoft as a computer-based assessment tool and changes in acceptance over time; (2) analyzing factors impacting students' acceptance; and (3) examining the impact of ExamSoft on students' exam performance and learning. The findings will inform other institutions exploring the possibilities of computer-based assessment.

Learning Objectives:

• Describe how computer-based assessment and ExamSoft is used and accepted by dental students.
• Identify the factors impacting students' uses and acceptance of computer-based assessment with ExamSoft.
• Evaluate the impact of computer-based assessment on student test performance and learning.

Presenter(s): Daniel Bender, Ed.D.; Meixun Sinky Zheng, M.A., Ph.D.; Teresa Kulman | University of the Pacific, Arthur A. Dugoni School of Dentistry

4:00 – 5:00 p.m.
El-024 Dentistry and the Opioid Epidemic
60 Minute Seminar | LBCC-Room 102C

Proper implementation of prescription writing skills are a critical aspect of patient care in today’s climate of opioid abuse and prescribing regulations. The attendee will learn about the history of pain management and dentistry’s responsibility in combating the prescription drug epidemic. The basics of choosing proper analgesics are reviewed so that the attendee will understand the standards of care as they pertain to opioid prescribing. Attendees will obtain a better understanding of addiction and substance abuse problems and be better prepared to manage and counsel high-risk patients.
Learning Objectives:

- Recall prescribing regulations and standards of care as they pertain to pain management in dentistry.
- Train predoctoral dental students in recognizing aberrant behavior in the drug seeking patient.
- Discuss prescribing basics to be included in dental school curriculum.

Presenter(s): Richard S. Harold, D.M.D., J.D. I Tufts University School of Dental Medicine

4:00 – 5:00 p.m.
SA-003 Multiple Mini Interviews in Dental School Admissions: Challenges and Opportunities
60 Minute Seminar I LBCC-Room 103A

The multiple mini interview (MMI) format has not yet been widely used in dental school admissions despite its benefits. In the MMI, candidates respond to standardized prompts (e.g., ethical scenarios) at a series of timed interview stations. This format requires candidates to think on their feet and enables interviewers to evaluate important attributes, such as critical thinking skills, empathy, professionalism, ethical reasoning and communication skills in a dynamic and authentic manner. In this seminar, we will discuss the challenges and opportunities associated with the MMI and provide tips for implementing it at your school.

Learning Objectives:

- Describe the methodology and logistics of using the multiple mini interview (MMI) format.
- Apply best practices in developing question prompts and scoring mechanisms appropriate to an institution’s mission and values.
- Analyze potential advantages and disadvantages of implementing the MMI format.

Presenter(s): Isaac Stickney, M.Ed. ; Stacey Dubois, M.S., M.F.A. I University of New England College of Dental Medicine

4:00 – 5:00 p.m.
TL-401 We Want You! Reviewing Annual Session Program Submissions
60 Minute Workshop I LBCC-Room 104A

Calling all ADEA Annual Session program reviewers and anyone considering submitting a program for the 2018 Annual Session. Join us to learn the ADEA program submission review process, participate in a fun standardization activity, practice applying selection criteria and gain insight on future directions for the Annual Session. Members of the Annual Session Program Committee and ADEA staff will work with participants during this active learning session. Both reviewers and prospective submitters will leave with a better understanding of Annual Session program expectations and the review process.

Learning Objectives:

- Identify key steps of the ADEA the program review process.
- Explain the importance of standardization among reviewers.
- Apply selection criteria to review a submission.

Presenter(s): Dieter J. Schonwetter, M.A., Ph.D. I University of Manitoba Faculty of Dentistry; Judy Skelton, Ph.D. I University of Nevada, Las Vegas, School of Dental Medicine
A-011 Integrating Formative Feedback Into Student Assessment: ifF there is a problem, you can fix it!
60 Minute Workshop I LBCC-Room 104B

Assessment of student competence through snapshot capstone or patient-based clinical examinations can be difficult since longitudinal performance and other unforeseen circumstances are not factored in its evaluation. Standardized formative feedback collected during simulated or patient-based encounters over the entire period of a dental student curriculum has the potential of increasing the accuracy of student competence assessments. Through this session, you will learn how to implement your own simple evaluation tools to maximize the collection and analytics of valuable data that can be used to completely and precisely assess student performance at your dental education institution.

Learning Objectives:

- Describe institutional benefits of formative feedback.
- Create a customized list of criteria for successful formative feedback implementation.
- Evaluate available technological solutions for deployment of a formative feedback system.

Presenter(s): Hubert K. Chan, D.D.S.; Brent Fung, D.D.S. I Western University of Health Sciences College of Dental Medicine

L-006 The New Faculty Preparedness Kit: How to Survive and Thrive in Your New Academic Environment
60 Minute Workshop I LBCC-104C

New faculty members have an overwhelming amount of information to process when they enter the expanses of dental education. To help them not only survive but also thrive in this daunting environment, this session will seek to equip new faculty with a mental academic preparedness kit in the social, personal and organizational aspects of dental education. By the end of this session, new faculty should be able to better maneuver themselves into advantageous professional positions, increase work-life balance and recognize common pitfalls in academia.

Learning Objectives:

- Better position themselves for early academic success.
- Recognize and avoid common pitfalls in academia.
- Recognize work-life imbalances and correct them.

Presenter(s): Alexander Lee, D.M.D.; Keith Boyer, D.D.S.; James Borke, Ph.D. I Western University of Health Sciences College of Dental Medicine

I-130 "In the Mix” Series: Inclusion, Excellence and Dental Education
LBCC-Grand Ballroom A

Honoring a rich history of more than 20 years of Discourse & Dessert events at the ADEA Annual Session & Exhibition, the “In the Mix” series continues the legacy of important conversations around issues of diversity, inclusion and gender. This new program considers inclusion in all its forms and facets. The events will be structured to provide ample opportunities for discussion and networking, allowing participants to truly be “in the mix” as they move from table to table engaging with each other. Anne L.
Koch, D.M.D., will set the stage by highlighting the barriers transgender individuals face to receiving quality medical care. The consequences of inadequate medical treatment are staggering, and Dr. Koch will present facts illustrating the gravity of this public health issue. Following her keynote, participants will join each other at high top tables with a refreshing beverage and unique questions designed to promote discussion.

Dr. Koch received both her D.M.D. and Certificate in Endodontics from the University of Pennsylvania School of Dental Medicine (Penn Dental). She is also a past Director of the Postdoctoral Program in Endodontics at the Harvard School of Dental Medicine. Following her clinical and academic career, Dr. Koch formed her own successful technology and development company, Real World Endo, of which she was CEO and President. The author of more than 150 articles in her prior specialty field, Dr. Koch has presented more than 1,000 lectures worldwide. Dr. Koch maintains a faculty position at Penn Dental in the Department of Endodontics and serves as a Senior Fellow with Penn Medicine. She also is a member of the Board of Overseers for Penn Dental.

Learning Objectives:

- Describe barriers transgender individuals face when seeking health care.
- Identify ways dental educators can increase awareness of the needs of transgender patients.

Presenter(s): Anne L. Koch, D.M.D., Certificate in Endodontics I University of Pennsylvania School of Dental Medicine
EDUCATION SESSIONS  
MARCH 20, 2017

8:30 – 9:45 a.m.  
I-124 Political Spotlight—Double Perspective: Ana Navarro, J.D. and Hilary Rosen  
90 Minute Seminar | LBCC-Exhibit | Hall B

It’s a new year with a new President, and this year’s Political Spotlight will provide commentary, insight and political analysis on the new Trump Administration in a point-counterpoint format with Republican Strategist Ana Navarro and Democratic Consultant Hilary Rosen.

Ana Navarro, J.D., is a Republican strategist and a political analyst for CNN and CNN en Español. Respected on both sides of the aisle for her straight shooting and candor, she frequently appears in the media, including Meet the Press, Bill Maher’s Real Time, Anderson Cooper 360, and The View. Previously she was the national Hispanic co-chair for Governor Jon Huntsman’s 2012 campaign, the national co-chair of John McCain’s Hispanic Advisory Council in 2008, and the national surrogate for the McCain 2008 campaign. She served on Governor Jeb Bush’s transition team in 1998 and was his first Director of Immigration Policy in the Executive Office of the Governor. In 2001, she served as ambassador to the United Nation’s Human Rights Commission, devoting much energy to condemning human rights abuses in Cuba. In 1999, she worked in the private sector, representing private and public clients on federal issues, particularly related to immigration, trade and policy affecting Central America. In 1997, she was a special advisor to the government of Nicaragua and one of the primary advocates for NACARA (Nicaraguan Adjustment and Central American Relief Act).

Hilary Rosen is a strategist who navigates the intersection of communications, media and politics. She brings a wealth of experience to clients needing high-octane assistance in a variety of public affairs challenges, such as creating and executing large-scale campaigns, publicity and reputation management and crisis communications. She was Chairman and CEO of the Recording Industry Association of America from 1987 to 2003. She then became the Political Director and Editor-at-Large of HuffPost.com and on-air contributor first at CNBC and MSNBC, and now at CNN. Earlier in her career she worked on Capitol Hill for Sen. Dianne Feinstein, D-Calif., and New Jersey Gov. Brendan Byrne. Ms. Rosen is a behind-the-scenes go-to media consultant on progressive and LGBT issues. When the Defense of Marriage Act and Proposition 8 headed to the Supreme Court, the Respect for Marriage Coalition turned to Ms. Rosen for assistance. She led the Coalition’s communication efforts ahead of the Court’s favorable decisions and was recognized by Out Magazine, which placed her on their 2013 Out100 list, and the SKDKnickerbocker team won several awards for their work.

Learning Objectives:
• Discuss how the new Trump administration may affect health care in the US.
• Compare and contrast Republican and Democratic viewpoints on important issues.

Presenter(s): Ana Navarro, J.D. and Hilary Rosen
In the increasingly competitive environment of dental school admissions, early exposure to the dental profession provides a definitive advantage to the applicant. Unfortunately, students from underprivileged backgrounds typically lack such exposure. This program aims to increase awareness of the dental profession by means of two components: (a) by making available online resources and a video detailing the daily routine of a dental student to high school students and health science teachers across Alabama; and (b) giving the opportunity to all students interested in learning more about dentistry to participate in a day-long activity at the University of Alabama at Birmingham School of Dentistry.

Learning Objectives:
- List obstacles students face in dental school preparation.
- Describe some current and proposed resources available to break these barriers.
- Demonstrate how to access these resources.

Presenter(s): Maureen L. Pezzementi, D.M.D., M.P.H., FAGD; Octavio Oliva; Laura Aristizabal; Cassandra Wells | University of Alabama at Birmingham School of Dentistry

Faculty calibration is one of the biggest complaints from students. What if you could test your students and calibrate faculty at the same time? The CDAR Competency was designed to help dental hygiene students in preparation for their clinical board exam and calibrate faculty. During this competency, three clinical instructors separately evaluate the student without communication among one another or the student. In addition to the student’s score, the faculty member is also scored to determine a calibration percentage. This session will allow for discussion of what has worked and not worked in evaluation calibration among faculty.

Learning Objectives:
- Define clinical calibration and its importance in clinical dental hygiene education.
- Use the ideas presented to discuss one clinical calibration technique they could potentially implement in their dental hygiene program.
- Identify one impediment that can result with clinical calibration.

Presenter(s): Betsy Beard, RDH, M.S.D.H.; Amanda Richardson, RDH, M.S.D.H. | University of Louisiana at Monroe

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Presenter(s): Betsy Beard, RDH, M.S.D.H.; Amanda Richardson, RDH, M.S.D.H. | University of Louisiana at Monroe

10:30 – 11:30 a.m.
TL-026 Beyond Boundaries: Legal Landmines in Dental Education
60 Minute Seminar | LBCC-Room 101A
Dental educators must be prepared to function within boundaries of the legal complexities often encountered in dental education. Increasingly, legal issues enter into the classroom and educational environment. This program will give educators a glimpse into the legal issues and complexities dental educators may face. Participants will review legal obligations in the educational environment and work with case-based scenarios involving legal dental and health professions education legal issues. Participants will be given foundation knowledge, and guided through several situations to sharpen session attendees abilities to spot issues and understand concepts, while improving their understanding of the increasingly complex legal arena.

**Learning Objectives:**

- Identify the complexities of legal issues and take a broad look at the legal issues that define the boundaries of our professional lives as educators.
- Identify the issues that trigger potential legal liability and will be better able to spot issues before boundaries are broken.
- Improve their understanding of the legal arena.

**Presenter(s):** Mert N. Aksu, D.D.S., J.D., M.H.S.A.; Pamela Zarkowski, J.D., M.P.H. | University of Detroit Mercy School of Dentistry

**10:30 – 11:30 a.m.**

**TL-002 Student Fear Toward Infant Oral Health: A Community Collaboration**

60 Minute Seminar | LBCC-Room 102C

To address the unmet dental needs of children, the establishment of a dental home by age one is a priority. Predoctoral experiences with children 6 months to 2 years of age is very limited. Performing exams on uncooperative and crying one-year-olds increases the student’s fear and concern of harming or not providing the proper dental care to the child. Learn how to diminish the student’s uncertainties, create a positive, informative learning environment during a stressful experience and develop a fun community rotation that every student completes. Curriculum development, implementation of community partnership, student assessments and outcomes will be presented.

**Learning Objectives:**

- Utilize small group teaching to provide a positive learning environment that reduces student anxiety and fosters student learning.
- Address student fears, transform stresses into advantages and build student confidence.
- Create community partnerships that provide oral health assessments and outcomes.

**Presenter(s):** Carolynn A. Zeitz, RDH, RDA, M.A.; Salwa Atwan, D.D.S., M.S. | University of Detroit Mercy School of Dentistry

**10:30 – 11:30 a.m.**

**TL-022 A Hard Look at Interdisciplinary Education—Do Residents Really Collaborate?**

60 Minute Workshop | LBCC-Room 104A

We assume that collaborative learning during residency leads to dentists who work more efficiently to provide continuous and reliable patient care. However, the traditional didactic models for postdoctoral
dental education are focused on individual disciplines with few opportunities, if any, for truly collaborative patient care. This session will focus on interdisciplinary education (IDE) in postdoctoral training programs and: (1) will provide an overview of the current status IDE, highlighted by the findings of a national survey; (2) will describe IDE implemented at Tufts University School of Dental Medicine; and (3) will include group assignments and discussion on best practices for introducing and assessing IDE programs.

Learning Objectives:
• Apply best practices for introducing and assessing IDE experiences for postdoctoral dental programs at their institutions.
• Identify strengths, barriers and possible solutions to the implementation of IDE programs.
• Compile current practices of IDE at different institutions.


10:30 – 11:30 a.m.
CD-071 Method for Faculty Standardization During Competencies Grading
60 Minute Seminar | LBCC-Room 203A

The session will provide dental educators with a new methodology for preclinical competency grading in large classes of students. Before the presentation starts, attendees will participate in a survey session. The survey responses will help separate the participants into different groups, based on different competency grading methods that their schools use, in order to facilitate discussions. The goal is to provide preclinical course faculty with a strategy for a more effective, productive and standardized competency grading technique. In addition, this presentation will be beneficial in solving one of the biggest complaints among students: teaching and grading discrepancies among dental educators.

Learning Objectives:
• Identify various teaching and grading issues in the preclinical courses.
• Describe the protocols needed to address student complaints.
• Apply critical thinking in order to combine teaching and grading experiences.


10:30 – 11:30 a.m.
BA-003 A New Paradigm for Team-based Clinical Education in Dental Schools
60 Minute Seminar | LBCC-Room 204

More graduates are being employed in large group or corporate practices that utilize team-based care. However, dental schools generally teach students to work in non-team based environments resulting in graduates with limited experience working in teams. To address this issue, a Team Care Clinic was created in 2015 to emulate contemporary employment environments by placing dental, dental hygiene and dental therapy students in a team-based patient-centered care practice. Dental school faculty, staff
dental assistants and a pharmacist complete the inter-professional team. This session will describe how this clinic functions and present initial data to support improved student and patient experience.

**Learning Objectives:**

- Recognize the benefits of both an intra- and interprofessional team-based care delivery model in a dental school setting.
- Identify strategies to educate dental professionals on how to optimize each team member’s skills in the provision of patient-centered care.
- List necessary components, which optimize, as well as barriers, which impede, the successful implementation of team-based care in a student clinic environment.

**Presenter(s):** Hiwet Ephrem, M.S.D.H., RDH, RF; Karl Self, D.D.S., M.B.A.; Todd Thierer, D.D.S. | University of Minnesota School of Dentistry

10:30 – 11:30 a.m.

**CD-072 Predoctoral and Postdoctoral Dental Public Health Competencies for the 21st Century**

60 Minute Seminar | LBCC-Seaside Ballroom A

Dental diseases are still a neglected epidemic for Americans especially vulnerable population groups. Dentists can respond to these unmet needs if trained in population-based approaches to preventing and treating oral diseases. Currently, the largest growth in dentistry is the public sector because of the Affordable Care Act that includes dentistry for children. Thus there is an enormous need for dentists competent in public health to work in underserved communities and health departments. This session presents two projects that develop competencies in dental public health at the predoctoral level and at postdoctoral level. Use of these competencies and accompanying curriculum is discussed.

**Learning Objectives:**

- Identify the need for developing dental public health competencies and curriculum for postdoctoral and pre-doctoral dental and dental hygiene programs.
- Describe the process used to develop competencies and curriculum.
- Create DPH course material using the new competencies and curriculum presented.

**Presenter(s):**

10:30 a.m. – noon

**TL-005 Short Talks: Beyond Boundaries of Dental Schools—Effective/Innovative Clinical Teaching Strategies**

90 Minute Seminar | LBCC- Room 101B

From teaching how to hold a dental hand-piece on day one of dental school in the pre-clinic to instructing in the preparation of a perfect Class II cavity preparation on a patient in the clinic, clinical
dental faculty are always searching for a better strategy for teaching and therefore effective learning. This short talks session promotes collaboration among dental schools to provide effective methods for teaching and learning clinical instructional techniques unique to dental schools.

**Learning Objectives:**

- Refine their clinical or pre-clinical educational practices for more effective student learning.
- Familiarize themselves with other dental schools and their best practices thereby removing boundaries between the schools.
- Collaborate with faculty to create alliances for future educational advancement.

**Presenter(s):** Eileen R. Hoskin, D.M.D.; Pinky Bhavsar, D.M.D.; Donald Lapine, D.M.D. | Rutgers, The State University of New Jersey, School of Dental Medicine

10:30 a.m. – noon

**L-020 Graduating from Academics to Academia: The Roads To Dental Education**

90 Minute Seminar | LBCC-102A

Although faculty shortages have been a theme of dental academia for years, there has not been a significant increase in recent dental school graduates assuming faculty positions. This session’s goal is to expose students to the many different opportunities within dental education. In the first part, a panel of faculty members will discuss how to identify teaching opportunities, manage the financial burden of student loans while still pursuing a passion for dental education, and find what you are looking for in an academic career. The second part will engage the audience to identify challenges students face while considering academic careers.

**Learning Objectives:**

- Identify what you are looking for in an academic career and learn how to find it.
- Describe the experience of teaching within academic dentistry.
- Compare part-time vs. full-time faculty positions.

**Presenter(s):** Sahar Mostafavi, B.Sc. | Tufts University School of Dental Medicine; Samantha Kelly, B.Sc. | University at Buffalo School of Dental Medicine; Natalie Y. Jeong, D.M.D., M.A. | Tufts University School of Dental Medicine; Denise Adegoke, M.S. | University of Kentucky College of Dentistry

10:30 a.m. – noon

**TI-003 Using Technologies to Facilitate and Enhance Interprofessional Education**

90 Minute Seminar | LBCC-103C

Interprofessional education (IPE) is expanding in dentistry with the objective of preparing dental and dental hygiene students to practice in an interdisciplinary, team-based patient care. This seminar will be composed of three sessions where different speakers will present their experiences with using various technology-enhanced learning modalities to facilitate and advance IPE in dental academia. Topics to be covered in the seminar will include the development of case reviews and virtual cases by a multidisciplinary team with a focus on dentistry and medicine and online learning courses to teach students non-traditional topics, such as epidemiology and biostatistics.
Learning Objectives:
• Describe informatics as an interdisciplinary science and how it can help advance interprofessional education.
• Identify educational and technical issues when developing case studies, virtual cases and online learning modules in a multidisciplinary team.
• Identify current ways to inspire and advance interprofessional education in dental institutions.

Presenter(s): Ana Candia S Neumann, D.D.S., M.P.H., Ph.D. | University of Texas School of Dentistry at Houston; Heiko Spallek, D.M.D., Ph.D., M.S.B.A. (CIS) | University of Sydney; Tofool Alghanem, B.D.S., M.S., D.M.D., M.P.H. | Tufts University School of Dental Medicine; Jeff Gutkin, Ph.D., Rutgers, The State University of New York, School of Dental Medicine

10:30 a.m. – noon
TL-004 Standard Not Met: Improving Formative Feedback Where it Matters Most
90 Minute Workshop | LBCC-Grand Ballroom A

Providing students with meaningful formative feedback is the cornerstone of effective teaching practice to encourage academic achievement and enhance learning outcomes. The feedback a student receives is influenced by environmental and contextual factors, including the interpersonal dynamics between the student and educator. The presenters will highlight current research on formative feedback in clinical education, especially related to how to deliver difficult feedback to students. The session will focus on strategies for improving the delivery of meaningful student feedback. The presenters will share best practices for having difficult conversations with students regarding academic progress, performance improvement, clinical skill development and professionalism. (This session will be recorded.)

Learning Objectives:
• Describe interpersonal and environmental variables that influence their experience of giving feedback to students.
• Identify techniques to effectively communicate formative feedback and develop strategies to enhance their current practice of delivering feedback to students.
• Evaluate negative consequences of avoiding difficult conversations with students.

Presenter(s): Juliette Daniels, M.A.; Elizabeth Sammons Rodems, M.S.W., LMSW | University of Detroit Mercy School of Dentistry

10:30 a.m. – noon
EI-023 ADEA Chair of the Board of Directors Symposium—Challenges Facing Dental Education: Phase 1 Findings from the "Gies Report for the 21st Century"
90 Minute Workshop | LBCC-Grand Ballroom B

This seminar will present the results of Phase 1 of a three-year, two-phase strategic planning study to identify the current and future challenges facing dental education in the United States. In Phase 1, a group of national experts collected information and prepared background papers. Fifty authors produced 38 background papers. Findings from the background papers will be presented. In Phase 2, beginning in the fall of 2016, a National Advisory Committee will use the Phase 1 information and findings to propose recommendations to assist dental schools adapt to challenges identified over the
Learning Objectives:

- Identify major challenges faced by the current dental education system.
- Describe the forces causing these challenges.
- Gain insight to adapt to the forces changing dental education.


10:30 a.m. – noon

**TL-012 Break the Boundaries: Blending Basic Sciences into the Clinic**
90 Minute Seminar | LBCC-Room 102B

Dental education is changing rapidly, with great emphasis on producing dentists who are doctors specialized in oral health. With this change, integrated curriculum is becoming an increasingly popular concept in dental schools. A goal of integration is to break down barriers between the basic and clinical sciences that the traditional curricular structures had reinforced for decades. However, the term "integration" is often used as a buzzword that is rarely accompanied by action or success. The aim of this seminar is to explore why implementing integration has been a challenge and propose potential new mechanisms for facilitating integrated curricula.

Learning Objectives:

- Reflect on the level of basic science integration that is currently occurring in the clinical teaching at one’s own institution.
- Explain how faculty perceive successes and challenges of integrated curricula.
- Identify potential new mechanisms for facilitating integration of basic sciences in the clinical curricula.

Presenter(s): Dharini van der Hoeven, M.Sc., Ph.D.; Kamal Busaidy, B.D.S., FDSRCS (Eng); Ryan L. Quock, D.D.S.; Ransome van der Hoeven, Ph.D. | The University of Texas School of Dentistry at Houston

10:30 a.m. – noon

**TI-005 Preparing our Graduates for CAD/CAM Technology: Leaping Beyond our Boundaries in Implementing an Efficient Digital Workflow in Academic Dental Institutions**
90 Minute Seminar | LBCC-Room 103B

This seminar is designed for educators striving to learn state-of-the-art of CAD/CAM technology and its implementation in academia. The implementation of technology is often overwhelmed by a plethora of systems and the challenges in incorporating technology based on best evidence and structuring it throughout the curriculum. Our goal is to define the scope of future digital dentistry, provide insight into challenges in implementing digital technology and ultimately share solutions that have successfully worked at pioneer institutions. This should prepare our graduates to enter the profession competent to meet the needs of their community with the use of future digital-dentistry.
Learning Objectives:

- Envision the future of digital dentistry for our graduates.
- Define the state-of-the-art of digital dentistry in restorative dentistry.
- Describe challenges and list solutions of integrating digital technology into the curriculum.

**Presenter(s):** Charles J. Goodacre, D.D.S., M.S.D.; Loma Linda University School of Dentistry; Louis Brown, D.M.D. | Boston University Henry M. Goldman School of Dental Medicine; Walter G. Renne, D.M.D. | Medical University of South Carolina James B. Edwards College of Dental Medicine

10:30 a.m. – noon

**A-002 Moving Beyond Boundaries for Assessment in Critical Thinking**
90 Minute Workshop | LBCC-Room 104B

This workshop will focus on development of assessment for critical thinking. Engaging students in exercises reflecting critical thinking to directly emulate intended activities in dental practice will be considered. This workshop will include: 1) an overview of the literature addressing validity of assessment tools available for measuring critical thinking; 2) a panel discussion to address challenges faced in assessing and monitoring continuum of competency in critical thinking; and 3) An opportunity for attendees to interactively consider implementation of explicit critical thinking skill sets and assessment strategies that measure both process and outcomes of critical thinking for the dental student.

Learning Objectives:

- Describe rationale for critical thinking in clinical education and how this acknowledgment is changing the face of dental education today.
- Recognize commonly shared challenges in dental education around assessment of critical thinking.
- Summarize strategies to develop critical thinking skill sets that become the guide and instrument for strategies in competency measurement of critical thinking.

**Presenter(s):** Tracy L. de Peralta, D.M.D., Ph.D., M.Clin.Ed.; Margherita Fontana, D.D.S., Ph.D. | University of Michigan School of Dentistry; Teresa Marshall, Ph.D.; David Johnsen, D.D.S., M.S. | The University of Iowa College of Dentistry & Dental Clinics

10:30 a.m. – noon

**CD-057 Transforming Dental Hygiene Education—Beyond the Boundaries to Continued Success**
90 Minute Workshop | LBCC-Room 104C

The American Dental Hygienists' Association (ADHA), in collaboration with the Academy for Academic Leadership (AAL), have facilitated two cohorts of entry-level dental hygiene education programs to develop new curricular models within their respective institutions. This session will provide an overview of the following new curricular domains for curriculum reform specific to dental hygiene education that are in alignment with the vision of ADHA; curricular models from the first two cohorts; and the preliminary curricular models of the third cohort.
Learning Objectives:
• Assess the proposed curricula of the future of dental hygiene.
• Define the dental workforce future environment model which includes the workforce environment and patient health care needs.
• Identify the education programs that are participating and expected results from the pilot study.

Presenter(s): Michelle Smith, RDH, M.S.D.H.; Ann Battrell, M.S.D.H. | ADHA

10:30 a.m. – noon
EI-040 Creating Safe Spaces Without Boundaries for our LGBTQ Students: Ally Training
90 Minute Workshop | LBCC-Room S-1

LGBTQ civil rights are expanding nationwide with a great deal of public support, however harassment and discrimination still continue. Creating safe spaces for LGBTQ people within our educational institutions and practice is critical to health and well being of LGBTQ students, colleagues and patients. This session will explain the concept of being an ally to a minority population and outline how to do so effectively. Participants will learn about the LGBTQ population and how to ensure inclusivity in interpersonal interactions. Collaboration will also be discussed to support the creation of a national dental education Gender and Sexual Diversity Alliance.

Learning Objectives:
• Recognize members of and terms related to the LGBTQ community.
• Describe one interpersonal, and one environmental means of creating an inclusive environment for LGBTQ students, patients, staff and faculty.
• Explain the concept of “holding space” as an ally.

Presenter(s): Gwen Essex, M.S., Ed.D., RDH | University of California, San Francisco, School of Dentistry; Joe Vuthiganon, D.M.D. | Medical University of South Carolina James B. Edwards College of Dental Medicine

10:30 a.m. – noon
I-019D Office Emergency Simulation Lab—Teaching Medical Emergency Management: Incorporating the Use of Simulation in a Comprehensive Training Program (Ticketed Event)
90 Minute Workshop | LBCC-Room S-4

In many of our dental schools, clinical faculty are ill-prepared and uncomfortable managing common medical emergencies. This is potentially problematic, as these faculty are the first-line of defense in creating a culture of safety during patient care activities. The recent advancements in simulation technology now make it possible to provide a realistic environment for individuals to be trained in this domain. This session not only will provide education and hands-on practice in managing medical emergencies, but will also provide the learners with educational models to enable them to develop emergency training programs in their respective institutions.

Learning Objectives:
• Describe the components of an effective curriculum for teaching the recognition and treatment of medical emergencies in dental schools.
• Demonstrate the basic and advanced skill in the management of medical emergencies in the dental setting.
• Describe how to integrate the use of simulation technology in to the teaching of the management of medical emergencies.


10:30 a.m. – noon
E1-015 Ignite Your Future: Transition Beyond Traditional Retirement Boundaries
90 Minute Workshop | LBCC-Seaside Ballroom B

Embark upon your new beginning! A panel of four academics at varying stages of their careers along with a financial advisor will lead a discussion on igniting the vision of your faculty transition beyond retirement. Panel members will present strategies, best practices and case studies structured in the "right time" context for both the individual and institution. Strategies for avoiding unanticipated pitfalls that could ultimately sidetrack your transition vision and alternate options to ensure success will be covered.

Learning Objectives:
• Dispel the mystery surrounding retirement by exploring actual research to inform participants on best strategies for ensuring a smooth transition and ultimately personal satisfaction in the next phase of life.
• Create formal transition strategies for administrators, faculty and staff at your home institutions. Plan your retirement with strong financial security.
• Identify post-retirement maintenance stage strategies that insure success and create an exciting retirement through activities fulfilling your personal visions.


10:30 a.m. – noon
I-110 Update on the Affordable Care Act
90 Minute Seminar | LBCC-Room 203B

Provisions on the Affordable Care Act (ACA), signed into law by President Obama in March 2010, are currently being implemented. An expert on the ACA and the legal implications of the Supreme Court’s ruling will provide an informative update with an emphasis on the provisions of importance to academic dentistry and the profession of dentistry.

Learning Objectives:
• Summarize the provisions of the Affordable Care Act.
• Analyze how the Affordable Care Act is impacted by the policies of the new administration and Congress.
• Recognize how implementation of the Affordable Care Act impacts academic dentistry.

Presenter(s): Peter Damiano, D.D.S., M.P.H. | The University of Iowa Public Policy Center and College of Dentistry & Dental Clinics

11:20 a.m. – 11:40 a.m.
CD-009 Utilizing Writing Across the Curriculum to Enhance Learning
New Ideas Session | LBCC-Exhibit Hall A

We want our students to be active learners who read and write effectively, question texts, make connections, reason cogently and are able to continue those practices once they enter the professional sphere. While multiple-choice and short-answer questions have their uses, they do not promote these abilities in students. A robust body of research in several disciplines supports the core principle espoused by the Writing Across the Curriculum (WAC) initiative: writing activities create better learners. This session will introduce the WAC initiative and how it was incorporated to revitalize the ethics course at Hostos Community College.

Learning Objectives:
• Identify key aspects of the Writing Across the Curriculum initiative.
• Describe the potential of the Writing Across the Curriculum to increase student writing proficiency, engagement and understanding of course content.
• Identify obligations of faculty utilizing writing assignments as a tool for learning and the need for sustained support from administration and fellow faculty.

Presenter(s): Diana Macri, RDH, B.S.D.H., M.S.Ed. | Hostos Community College

11:25 a.m. – 12:10 p.m.
El-022 Diagnosis Code Required! A Study on Faculty Calibration in the Use of Diagnostic Codes (Limited Attendance of 10)
45 Minute Small Group Discussion | LBCC-Room S-3

The use of diagnostic codes in dentistry has received much attention in recent years as the result of a need to better understand best practices in treatment approaches. The University of Texas School of Dentistry at Houston has adopted the Consortium for Oral Health Related Informatics (COHRI) diagnostic codes in their entirety. In an effort to understand the factors that influence the decision-making process when selecting a diagnosis code for a carious lesion, faculty were asked to participate in a survey about their knowledge of the codes and to select from several specific diagnostic codes when shown radiographic cari.
Learning Objectives:

- Recognize need for faculty accountability when supervising students in the use of diagnostic codes in treatment planning and the importance of consistency in training all clinical faculty on their use.
- Describe the challenges/opportunities related to implementing diagnostic codes in a dental school clinic, especially as it relates to clinical and educational scholarship.
- Formulate a plan of action for implementing a calibration study similar to a pilot study conducted at the presenters' institution, with emphasis on effective utilization of diagnostic codes in clinical discipline.

Presenter(s): Jeanne C. Sutton, D.M.D.; RoseMarie Fay, M.S., D.D.S.; Ryan L. Quock, D.D.S. | The University of Texas School of Dentistry at Houston

11:45 a.m. – 12:05 p.m.
A-003 Quick, Easy and Meaningful: A Feedback Method for Clinical Assessments
New Ideas Session | LBCC-Exhibit Hall A

Clinical assessments capture tremendous amounts of information on student competence, and yet students frequently receive little to no feedback following examinations, often because of test confidentiality and lack of time. In this session, you will learn how to map clinical competencies and test items to create a blueprint for providing timely, relevant and meaningful feedback to students. Blueprinting requires a small initial time investment, is reusable year after year and can be easily adjusted for different examinations. Additionally, test items are never revealed to students, maintaining the integrity of your examinations. Any competency-based health profession can use this feedback method.

Learning Objectives:

- Describe several limitations to current feedback methods following a clinical examination.
- Complete the process of blueprinting competencies and test items into domains to produce a diagnostic score report within their specific discipline and course area.
- List several benefits of this blueprinting process and enhanced student feedback.

Presenter(s): Alix Clarke, M.Sc. (Candidate), B.Sc., RDH | University of Alberta School of Dentistry

12:45 – 1:05 p.m.
A-009 Beyond Ordinary Formative Assessment: Using Canvas Platform for Video Assessment
New Ideas Session | LBCC-Exhibit Hall A

Formative assessment and instant feedback plays a critical role in students’ learning. It provides a way for instructors to monitor students’ progress and provide customized assistance as needed. This session will provide examples of how videos were implemented into a formative assessment on Canvas, our new learning management system. Participants will learn how to set up video-based assessment, the type of grading and feedback that can be applied and types of video that can gauge students’ understanding. Examples from a preclinical course will be demonstrated and data from outcomes applied to clinical experience will also be explained.
Learning Objectives:

- Set up video-based assessment.
- Incorporate different types of grading and feedback that can be applied from a video assessment.
- Identify types of video that can gauge students' understanding.


1:10 – 1:30 p.m.

Ei-036 Beyond Competency: Should Dentistry Embrace Entrustable Professional Activities?
New Ideas Session | LBCC-Exhibit Hall A

One of the inherent challenges dental educators face, laboring diligently within our competency-based curricula, is often the lack of a precise and practical definition of what constitutes "competency" for our student dentists. It is a highly granular concept and, although relatively easily assessed from a technical standpoint, is arguably of a lesser value in being transferrable to units of actual clinical practice, or more narrowly, professional clinical work. CODA standard 2-23 is left intentionally broad and as such is open to local institutional definitions and interpretations. The development of Entrustable Professional Activities in dentistry may shape the next paradigm.

Learning Objectives:

- Define the meaning of Entrustable Professional Activities.
- List the core concepts contained within the Entrustable Professional Activities educational model.
- Describe the potential for the integration of the EPA model within their individual dental school curriculum.

Presenter(s): S. Craig Rhodes, D.M.D. | University of Alabama at Birmingham School of Dentistry

1:30 – 2:15 p.m.

L-008 The Challenge of Dental Education: Captivating the New Generation (Limited Attendance of 10)
45 Minute Small Group Discussion | LBCC-Room S-3

Dental education is a combination of scientific knowledge, artistry and skills. During the last few years, the task of identifying, recruiting and retaining new faculty became more challenging due to high student loan debt and rapid changes in educational technology. Looking beyond its boundaries, the University of Puerto Rico School of Dental Medicine (UPR-SDM) faculty uses creative thinking, passion for education and a love of dentistry as engines to promote faculty leaders. It is important to have an open conversation about the future of dental education and how to collaborate to develop the new generation of faculty members.

Learning Objectives:

- Relate knowledge about the initiatives and/or programs that are being implemented in other dental schools to promote dental education.
- Create new collaboration networks among the participants for future projects.
• Create and establish new programs in their institution to promote dental education as a career path.

Presenter(s): Jocelyn A. Medina-Paneto, Ph.D., M.Sc.(c); Damaris Molina-Negron, D.M.D. | University of Puerto Rico School of Dental Medicine

1:30 – 2:30 p.m.
C-003 Transition from Dental Students to Dental Professionals and Career Development Opportunities
60 Minute Seminar | LBCC-Room102A

Once the recent graduate was sitting on stage at their dental school graduation, with no clue what to do next. They knew that finding a job will take three months before their license become active. Three months to do anything including analysis of the potential opportunities you may have as a dentist. This session will drive through about some opportunities in public health, education, government, Consultants, Research/Scientific Affairs, Professional Relations, speakers, authors and provide useful insights of the importance of cultural competencies and diversity concept.

Also, will explain the opportunity to practice in a minority community; the minority group will be the Hispanic community. Why Latinos? Latinos comprise nearly 17 percent of the U.S. population, and this proportion is anticipated to increase to 30 percent by 2050. Latinos are a diverse ethnic group that includes many different cultures, races, and nationalities. Barriers to care have resulted in striking disparities in quality of health care for these patients. These barriers include language, lack of insurance, different cultural beliefs, and in some cases, illegal immigration status, mistrust, and illiteracy. The National Standards for Culturally and Linguistically Appropriate Services address these concerns with recommendations for culturally competent care, language services, and organizational support. Latinos have disproportionately higher rates of caries, periodontal disease, obesity and diabetes mellitus. That health belief are dependent on education, socioeconomic status, and degree of acculturation. The dentist must be sensitive to Latino cultural values of simpatia (kindness), personalismo (relationship), respeto (respect), and modestia (modesty). The LEARN technique can facilitate cross-cultural interviews. Some cultural barriers may be overcome by using the “teach back” method to ensure that directions are correctly understood and by creating a welcoming health care environment for Latino patients.

Learning Objectives:
• Identify new dental career opportunities
• The relevance of cultural competencies to grow a healthy practice
• Business opportunities among Hispanic Communities for practitioners.

Presenter(s): Jorge Rojas, D.D.S., FOS | Global Scientific Affairs Senior Research Scientist

1:30 – 2:30 p.m.
TL-046 Diving Into eModules: Things a Millennial Wants You to Know
60 Minute Workshop | LBCC- Grand Ballroom B

With improved technology the ability to lead more interactive and student focused learning has become a reality. Multisensory interactive learning, like that achieved through eModules, provides a platform for reaching the higher levels of the Bloom’s Taxonomy hierarchy. Millennials desire more focused learning based upon strict objectives and a broader focus on individual learning styles. The possibility of
achieving higher levels of learning through the creation of student led topic specific eModules deserves exploration.

Learning Objectives:

• Describe how to design a well thought out eModule including: a proposal, timeline for project development, estimated budget, rubrics utilizing Bloom’s Taxonomy, a showcase, research and implementation.
• Identify the keys steps in achieving successful student driven and faculty assisted content creation.
• Describe new approaches to course material presentation that allows for higher levels of student interaction and learning.

Presenter(s): Levi P. Brinkerhoff; Grant Essink; Jennifer Kallio, D.D.S. l University of Nebraska Medical Center College of Dentistry

1:30 – 2:30 p.m.

EI-031 A Multi-disciplinary and Evidence-based Approach in Clinical Dental Trauma Education
60 Minute Seminar l LBCC-101B

Dental trauma is a very broad and complicated topic which naturally involves multiple specialties. How to teach this topic and help students provide comprehensive treatment is a great challenge. A lot of dental students do not feel comfortable treating dental trauma patients, affecting their willingness and ability to provide care. This session will demonstrate how to develop a curriculum map to teach clinical dental trauma in a multidisciplinary and evidence-based approach. This is a very successful education model applied to clinical patient care and improves the student’s confidence in treating dental trauma.

Learning Objectives:

• Upon completion, participant will be able to design the education model for comprehensive care in treating dental trauma patient.
• Upon completion, participant will be able to use multidisciplinary and evidence-based health care methods to teach complicate dental education subjects.
• Upon completion, participant will be able to understand how to merge education theory with clinical care.


1:30 – 2:30 p.m.

TL-006 Learning Together: Teaching Pediatric Dentistry and Cardiology Residents About Risk Assessment
60 Minute Seminar l LBCC-Room 102C

This session explains the development of an interdisciplinary activity designed for pediatric dentistry and pediatric cardiology residents that included topics in dentistry, risk assessment and cardiology. This project represents a partnership between University of Texas School of Dentistry at Houston (Pediatric Dentistry Residency Program) and Baylor College of Medicine (Department of Cardiology). This unique opportunity addressed the limited interaction between medical and dental residents and the existing
gaps on knowledge of oral health and cardiology. This presentation describes the process of integrating caries risk assessment into the clinical decision making process performed collaboratively by cardiology and pediatric dentistry residents.

Learning Objectives:

- Describe an interprofessional activity between pediatric dentistry residents and cardiology fellows/residents in a medical clinic.
- Discuss educational and technical issues when developing an inter-disciplinary activity with didactic and clinical components.
- Identify current ways to encourage and promote multi-disciplinary collaboration to improve learning and patient care.

Presenter(s): Gary Badger, D.D.S., M.S. | University of Texas School of Dentistry at Houston

1:30 – 2:30 p.m.
**CD-058 Redesign of Traditional Lecture Courses in the Basic Sciences Into Case-based, Interactive Online Modules**

60 Minute Seminar | LBCC-Room 204

Students entering dental education programs expect their school’s curricula to fit their 21st century selves. This translates both in an expectation that their academic experience has a strong digital component (web-based tools, database-driven systems, media-rich content), as well as one that is attuned to the everyday realities of their clinical training. With this in mind, this presentation will describe New York University College of Dentistry’s efforts of redesigning traditional lecture-based science curriculum into both blended and fully-online courses, as a way to decompress their curricula and provide flexibility and independence in support of their academic careers.

Learning Objectives:

- Identify ways to integrate educational technologies into traditional lecture courses.
- Design innovative ways to provide students with formative assessments throughout their content review.
- Integrate the adaptive personalized learning methodology into their curricula.

Presenter(s): Cristian Opazo, Ph.D.; Joyce O’Connor, Dr.P.H., RD | New York University College of Dentistry

1:30 – 3:00 p.m.
**A-014 Beyond the Boundaries of Traditional Assessment: Student-created Portfolios**

90 Minute Workshop | LBCC-Grand Ballroom A

Assessment by portfolio is gaining interest and acceptance as a method of evaluation in dental institutions and in the case of California licensure. Since the American Dental Association House of Delegates called for the elimination of human subjects during clinical licensure examinations, dental schools have been taxed with providing a well-rounded manner of assessing student readiness to enter practice. Portfolios offer documentation/assessment of knowledge, skill, evidence-based decisions, critical thinking and self-assessment. Three dental schools will share their unique experiences of moving
beyond the boundaries of traditional assessment into a more student-centered portfolio assessment model.
Learning Objectives:

- Compare and contrast the adoption of portfolio assessment at three different dental schools and discuss the rationale for each school’s unique model.
- Discuss how faculty development has factored into the adoption of portfolio assessment and strategies that have been used.
- Analyze lessons learned by each institution and how these lessons might help participants avoid potential pitfalls back at their home institutions.

Presenter(s): Cynthia C. Gadbury-Amyot, M.S.D.H., Ed.D. | University of Missouri - Kansas City School of Dentistry; Rosemary McPharlin | Oregon Health & Science University School of Dentistry; Kimberly K. Patterson, D.D.S., M.S. | Louisiana State University Health New Orleans School of Dentistry

1:30 – 3:00 p.m.
El-011 Revisiting Professional Promises 2006—Ethics of Access to Care
90 Minute Seminar | LBCC-Room 101A

This panel presentation revisits the ideas discussed in a 2006 workshop focusing on Professional Promises: Hopes, Gaps and Access to Oral Health Care. The 2006 workshop invited ethicists, practicing dentists, dental hygienists, dental educators and others to engage in a discussion about ethical issues related to access to care. Ten years later, key themes will be revisited. Information presented will highlight current data about access to care, professional issues related to social justice and oral health care and current proposed solutions under discussion including emerging workforce models, oral health literacy and fees and reimbursement.

Learning Objectives:

- Discuss data from government and professional organizations documenting current access to care data and trends.
- Identify the social justice issues of access to oral health care.
- Outline solutions to address access to care that takes into consideration current data and the profession’s ethical obligation of social justice and need to contribute to the common good.

Presenter(s): Pamela Zarkowski, J.D., M.P.H. | University of Detroit Mercy School of Dentistry; Marko Vujicic, Ph.D. | American Dental Association; Ralph Fuccillo, M.A. | DentaQuest Foundation and DentaQuestion Foundation; Frank Alfred Catalanotto, D.M.D. | University of Florida College of Dentistry

1:30 – 3:00 p.m.
TL-054 Night at the Museum: Creating Collaborative Service-learning Masterpieces
90 Minute Workshop | LBCC-Room 104A

To encourage a culturally competent environment, dental institutions must provide community-based learning experiences for students. Often, dental schools invite high school or college students to have hands-on experiences. To go beyond the dental school, Tufts University School of Dental Medicine collaborated with the University of Connecticut School of Dental Medicine to bring innovative interactive curriculum to middle school children at Boston’s Museum of Science summer camps. This session will
demonstrate how interprofessionals from different institutions can collaborate on educational community service projects to reach wider audiences and allow dental students opportunities to teach beyond their ordinary scope.

**Learning Objectives:**

- Explain that innovative, alternative methods along with collaboration among dental institutions can create unique and meaningful community service projects benefiting both dental students and different age group populations.
- Understand the impact dental educators have on STEM Education Coalition objectives and how early immersive learning activities may possibly yield the best dental student applicant pool.
- Use tools learned in the class to design their own unique service-learning curriculum to encourage an appreciation for life-long community service.

**Presenter(s):** Melissa E. Ing, D.M.D. | Tufts University School of Dental Medicine; Michael T. Goupil, D.D.S., M.Ed., M.B.A., FACD | University of Connecticut School of Dental Medicine; Kanchan M. Ganda, M.D.; Britta E. Magnuson, D.M.D. | Tufts University School of Dental Medicine

1:30 – 3:00 p.m.

**A-005 Measuring Competency Through Multidirectional Approaches in Curriculum-wide Assessment Frameworks**

90 Minute Workshop | LBCC-Room 104B

This program will raise awareness of the importance in designing innovative multidirectional approaches to competency-based assessment in integrated curricula and include consideration of both challenges and solutions for developing frameworks for this purpose. This workshop will include: 1) an overview of the current literature addressing evidence for best practice in competency assessment; 2) a panel discussion to address challenges faced in creating novel assessment frameworks that promote reflection and student guidance through multidirectional approaches; and 3) an opportunity for attendees to interactively consider effective solutions in developing ideal assessment frameworks that drive their purpose-designed strategies forward at their own institutions.

**Learning Objectives:**

- Identify evidence for best practice in competency-based assessment strategies in a predoctoral dental program.
- Recognize commonly shared challenges in dental education around building frameworks for multidirectional approaches to competency-based assessment strategies in an integrated curriculum.
- Recommend solutions for designing and implementing frameworks for competency-based assessment that promote reflective practice for the learner.

**Presenter(s):** Tracy L. de Peralta, D.M.D., Ph.D., M.Clin.Ed.; Vidya Ramaswamy, Ph.D.; Mark Fitzgerald, D.D.S., M.S. | University of Michigan School of Dentistry
1:30 – 3:00 p.m.
CD-003 Best Practices of Practice Management Courses in Canadian Dental Schools
90 Minute Workshop | LBCC-Room 104C

The extent to which practice management courses (PMCs) share similar goals, objectives, content, assignments and resources is unknown. Moreover, are the patterns represented by PMCs effectively achieving the goals of preparing students as outlined by theories and models of practice management? To support the critical assessment of PMCs, results of qualitative and quantitative data of 10 Canadian dental schools' PMCs will be presented. Trends in current course objectives, content, expected assignments and promoted bibliographies will be explored. A synthesis of findings, in conjunction with current literature on PM, will guide a discussion on how PMCs can be developed, improved and refined.

Learning Objectives:

• Identify the various useful components for delivering successful practice management courses.
• Define a list of guiding principles based on theory and models from the literature for creating practice management courses.
• Create a practice management assessment tool that can be used to assess students in terms of the guiding principles.

Presenter(s): Dieter J. Schonwetter, M.A., Ph.D.; Ernest Cholakis, D.M.D., M.B.A. | University of Manitoba
Faculty of Dentistry

1:30 p.m. – 3:00 p.m.
L-002 Culture Shock: Clinician to Educator
90 Minute Workshop | LBCC-Room 5-1

Most dental educators transition into academia after being in private practice for a few years. The years of experience in private practice does not adequately prepare dental professionals for this cultural change. Emerging educators have similar struggles with time commitment issues, how much to take on outside of the required course load, how to prevent being torn in many different directions and where to seek needed help to be successful. This workshop will review strategies to deal with common struggles of emerging educators. Participants will have opportunities to discuss and develop plans to address key stresses.

Learning Objectives:

• Define and outline their teaching philosophy.
• Create a strategy to manage meetings, course planning, teaching load, assessments and extracurricular activities.
• Develop a three-year plan for participation at within each participant’s academic institution.

Presenter(s): Donna Lesser, RDH, Ed.D. | Moreno Valley College; Vickie Kimbrough, RDH, Ph.D. | Southwestern College; Stacy Eastman, RDH, D.D.S. | Taft College
In many of our dental schools, clinical faculty are ill-prepared and uncomfortable managing common medical emergencies. This is potentially problematic, as these faculty are the first-line of defense in creating a culture of safety during patient care activities. The recent advancements in simulation technology now make it possible to provide a realistic environment for individuals to be trained in this domain. This session not only will provide education and hands-on practice in managing medical emergencies, but will also provide the learners with educational models to enable them to develop emergency training programs in their respective institutions.

Learning Objectives:

- Describe the components of an effective curriculum for teaching the recognition and treatment of medical emergencies in dental schools.
- Demonstrate the basic and advanced skill in the management of medical emergencies in the dental setting.
- Describe how to integrate the use of simulation technology in to the teaching of the management of medical emergencies.


Can you train oral health care providers to provide both dental care and limited primary medical care? Is this a desirable path for dentistry? What services would these dentists provide? What health outcomes could be achieved? This symposium explores the possible future of this idea, including the concept of three levels of training: medically competent oral physicians; technically proficient dentists with less medical expertise; and mid-level providers. You will engage in debate with thought-leaders in dentistry and dental education about this possible future direction for dentistry.
Learning Objectives:

- Describe the academic and regulatory challenges in training future oral health professionals to provide limited primary preventive medical care.
- Discuss new training models for oral physicians, and their potential consequences, on healthcare
- Propose potential research to compare the efficaciousness of proposed training models to current models.

Presenter(s): Donald B. Giddon, D.M.D., Ph.D. | Harvard School of Dental Medicine; Christian S. Stohler, D.M.D. | Columbia University College of Dental Medicine; Bruce Donoff, M.D., D.M.D.; Brian J. Swann, D.D.S. | Harvard School of Dental Medicine; Leon A. Assael, D.M.D. | University of Minnesota School of Dentistry

1:30 – 3:00 p.m.

L-005 Student Perspectives for Cultivating Humanistic Dental School Environments
90 Minute Seminar | LBCC-Seaside Ballroom A

Dental schools provide opportunities and experiences for students to learn from and within the community. Formal and informal exchanges allow students from diverse backgrounds to engage with peers, faculty, administrators and staff in an expression of shared goals, commonalities and difference. The extent to which these interactions enrich the learning environment is largely dependent on a cultivated humanistic culture where the value and capacity of all individuals are acknowledged, respected and promoted. During this session, students, faculty and deans will consider and discuss the shared responsibility of all members of the dental education community in creating a humanistic culture.

Learning Objectives:

- Explain factors that promote a humanistic environment.
- Compare and contrast professional and personal behaviors that contribute to a humanistic culture.
- Describe the role of students, faculty and administrators in creating a humanistic environment.

Presenter(s): Rabeea Vanevenhoven, Guneet Kohli

1:30 – 3:00 p.m.

I-003 U.S. Supreme Court Update
LBCC-Room 103B

Past and future decisions of the U.S. Supreme Court could affect various aspects of dental education and the delivery of oral healthcare. Cases that could have an impact on academic dentistry include recently decided cases such as Fisher v. University of Texas at Austin (race as a part of holistic admissions), King v. Burwell (tax credit subsidies for federally-established insurance exchanges), and North Carolina State Board of Dental Examiners v. Federal Trade Commission (tooth whitening by non-dentists). ADEA will have legal experts discuss the cases and the scope and applicability of these cases to academic dentistry.
Learning Objectives:

• Explain the role of the U.S. Supreme Court in interpreting legislation and policy that could affect dental education, and summarize the process of judicial review.
• List U.S. Supreme Court cases that could have potential impact on dental education.
• Analyze how past and future U.S. Supreme Court cases impact dental education.

Presenter(s): Lisa Soronen | Executive Director, State and Local Legal Center, Supreme Court Advocacy for State and Local Government

1:35 – 1:50 p.m.
**TL-011 Beyond the Boundaries of Inclusion: Thinking Through LGBT Health Disparities**
New Ideas Session | LBCC-Exhibit Hall A

Objectives: Apply critical thinking to an ethical dilemma involving the denied treatment of a transgender patient. Methods: Role-playing with a member of our transgender community acting as patient. Students are placed in random groups using i-clickers, responding both before and after small and class-wide discussion, and appraise the change in responses. Results: Health disparities are demonstrated including access to services, bias in service delivery and fear of rejection. Students apply their critical thinking skills to break apart socially conditioned beliefs and prejudices. Conclusion: Create fair-minded thinkers utilizing critical thinking framework applied to ethical dilemmas.

Learning Objectives:

• Apply critical thinking skills in a clinical setting.
• Identify methods and tools to address ethical dilemmas.
• Develop teaching activities for student articulation of assumptions.

Presenter(s): Pauletta G. Baughman, D.M.D. | University of Louisville School of Dentistry

3:30 – 4:30 p.m.
**C-004 Calibrating the Clinical Coach: Strategies for Using Technology in the Clinic**
60 Minute Seminar | LBCC-Room 103C

Faculty calibration is a challenge in dental education. In order for clinical programs to have successful student outcomes, clinical educators must regularly calibrate. Calibration efforts should include all members of the dental education team, especially those teaching part time or volunteering. Does it seem impossible to get your clinical faculty on the same page for clinical assessment? Find out how your clinical team can better align clinical assessment outcomes. This presentation will highlight strategies for using technology as not only an effective teaching strategy but also as a means to calibrate faculty with regard to grading student clinical competencies.
Learning Objectives:

- Discuss strategies for developing a faculty calibration exercise using technology.
- Determine a plan to integrate technology to improve clinical assessment outcomes among instructors.
- Develop a plan to integrate the NanoCam into clinical teaching practices.

Presenter(s): Tammy R. Sanderson, RDH, M.S.D.H. | College of Southern Nevada

3:30 – 4:30 p.m.
**EI-018 Intra- and Interprofessional Education through Collaboration**
60 Minute Seminar | LBCC-Room 101B

The mouth is connected to the body. As dental professionals, we spend a significant amount of time learning and then educating on this subject. When caring for patients with medical conditions, a team approach is necessary for the benefit of the patient. Oral health is just another aspect of that team. Introducing interprofessional education and encouragement early in healthcare training helps build a strong foundation for the future. In addition, intraprofessional training in dentistry education allows for a deeper level of appreciation and understanding resulting in a stronger, more efficient dental team that can never be taught from a book.

Learning Objectives:

- Recognize learning opportunities that partnerships can provide.
- Recognize ways to incorporate interprofessional and intraprofessional education through collaboration.
- Identify potential partnership opportunities in the community.

Presenter(s): Christina Horton, RDH, B.S.D.H., CDA | University of Texas Health Science Center at Tyler; Carrie Hobbs, M.Ed., RDH | Tyler Junior College; Kate Starnes, J.D., M.Ed. | University of Texas Health Science Center at Tyler

3:30 – 4:30 p.m.
**A-008 How to Use Faculty Calibration Guides to Standardize Student Assessment**
60 Minute Seminar | LBCC-Room 102A

Faculty calibration is primarily built around the use of written criteria to provide objective student assessment. This seminar will demonstrate the utilization of faculty calibration guides with written criteria and visual aid components to provide corrective feedback and evaluation standardization for preclinical projects. The manual content is arranged to facilitate three goals for calibration: consistent feedback during laboratory sessions, enhanced facultystudent interaction and objectivity during laboratory evaluations. Implementation of the calibration guide can create a better understanding of the project and the criteria logic to enhance the clinical application of the procedure.
Learning Objectives:

- Identify appropriate content for developing visual aides and written criteria in preclinical laboratory projects used to calibrate faculty in their course.
- Apply visual aids and written criteria for corrective feedback to enhance faculty student interaction in their courses.
- Develop methods for an objective assessment while evaluating student preclinical courses projects.

Presenter(s): Alia Eldairi, D.D.S.; Paula Collins, D.M.D. | University of Louisville School of Dentistry

3:30 – 4:30 p.m.
CD-012 Interdisciplinary Teams in Clinical/Translational Research
60 Minute Seminar | LBCC-Room 102B

This interdisciplinary team will give presentations on how to create partnerships with industry and build interdisciplinary teams to take novel technologies from preclinical testing through FDA-approved clinical studies. A specific example of a novel root-shaped implant currently in clinical testing will be given, along with examples of how these technologies are introduced into the curriculum.

Learning Objectives:

- Describe the process of developing new technologies through industry partnerships, preclinical testing and clinical testing.
- Define the issues related to bringing a new technology to the clinic through rigorous preclinical and clinical testing.
- Conduct a dialog with students about the rigorous testing of new technologies required before technologies are available in the clinic.

Presenter(s): Lynne A. Opperman, Ph.D.; Elias D. Kontogiorgos, D.D.S., Ph.D.; Likith Reddy, M.D., Ph.D. | Texas A&M University College of Dentistry

3:30 – 4:30 p.m.
TL-040 Didactic and Clinical: Going Beyond Boundaries to Connect the Dots
60 Minute Seminar | LBCC-Room 102C

Knowledge retention is paramount for successful learning. Students need basic understanding and clinical reasoning skills in order to approach clinical problems. Clinical teaching then depends on basic knowledge retention from didactic courses to act as building blocks in developing this skill. When it comes to medical risk assessment and managing medically complex patients, what level of knowledge retention should be expected before students start their clinical rotations? How can we revise our teaching methods to enhance the students’ ability to retain this knowledge? This program will address the methods developed at New York University College of Dentistry to address this multifaceted challenge.
Learning Objectives:

• Explore programs that connect the content of didactic with clinical courses.
• Describe various technologies available for teaching and learning.
• Create their own tools for assessing teaching and learning.

Presenter(s): Analia Veitz-Keenan, D.D.S.; Debra Ferraiolo, D.M.D | New York University College of Dentistry

3:30 – 5:00 p.m.
SA-001 Beyond Specialty Boundaries: Whom Do We MATCH? Challenges Facing Evaluating Postdoctoral Dental Candidates
90 Minute Seminar | LBCC-103B

The current trends in selection of candidates for postgraduate programs in dentistry can quite often be a daunting task. The changes implemented in reporting of national board scores have forced postdoctoral dental program directors to modify how they assess candidates' knowledge, decision-making capability and noncognitive traits, including empathy, self-confidence, integrity and emotional intelligence. The implementation of the Advanced Dental Admission Test (ADAT) in lieu of these changes in reporting has created a unique predicament across specialties. This session aims to bring together the directors of dental specialties and to discuss these issues with the students, residents and fellows.

Learning Objectives:

• Understand the distinctive challenges facing directors in the selection of candidates for postgraduate programs.
• Identify unique strategies being utilized by directors and candidates in this process.
• Have insight into the innovative techniques that program directors are planning to implement in the upcoming cycle.

Presenter(s): Shyam Prasad Aravindaksha, B.D.S., M.D.S. | University of Detroit Mercy School of Dentistry; Anders Nattestad, Ph.D., D.D.S. | University of the Pacific, Arthur A. Dugoni School of Dentistry; Edmund Khoo, B.D.Sc. (hons), ABO, FICD | New York University College of Dentistry; Sahar Alrayyes, D.D.S., M.S. | University of Illinois at Chicago College of Dentistry

3:30 – 5:00 p.m.
TI-020 Teaching From the Cloud: What Elements of Dental Education Should Move to the Cloud?
90 Minute Workshop | LBCC-104A

Cloud-based technology will transform dental education, but it is also intimidating and confusing. Mastering the new technologies associated with collaborative online platforms while simultaneously satisfying institutional standards can be a major challenge. This program will help dental educators and/or administrators to navigate the cloud through an overview of the Internet2R) NET+ initiative. By the end of the program, educators will be able to demystify the opportunities and risks of leveraging existing and emerging cloud services. The program will feature concrete examples from use in dental schools. Funded by the ADEA Council of Sections Program Fund.
Learning Objectives:

- Recognize and evaluate existing cloud services that can serve the need of their own institutions or programs.
- Identify NET+ services that comply with institutional requirements and policies.
- Develop a strategy for their own institution to implement a cloud services portfolio that suits the institute's needs.

Presenter(s): Lynn A. Johnson, PhD | University of Michigan School of Dentistry; Heiko Spallek, D.M.D., Ph.D., M.S.B.A. (CIS) | University of Sydney; Dana Voss; David Rankin, M.S., PgC Information Assurance, CGCIO | University of North Carolina at Chapel Hill School of Dentistry

3:30 – 5:00 p.m.
TL-600 Chair of the Board Symposium-Beyond the Horizon: Innovative Ideas for Dental Education
90 Minute Workshop | LBCC-Grand Ballroom A

We often scan the horizon to see what’s coming, but what lies beyond that boundary? The ADEA Annual Session & Exhibition gives us the opportunity to come together and explore the possibilities. The Chair of the ADEA Board of Directors, Dr. Cecile Feldman, and the Annual Session Program Committee have identified several interesting leading-edge ideas to be shared in a fast-paced session based on TED Talks. Join us to expand your view and be part of the discussion.

Learning Objectives:

- Describe at least one innovative idea and how it can be applied in dental and/or allied dental education.
- Identify ways a new idea could be applied in dental and/or allied dental education.

Presenter(s): Cecile Feldman, D.M.D., M.B.A. | Rutgers, The State University of New Jersey, School of Dental Medicine; Mary McNally, M.Sc., D.D.S., M.A. | Dalhousie University Faculty of Dentistry; Kiyoungh Cho | New York University College of Dentistry; Taylor Squires | University at Buffalo School of Dental Medicine; Richard Mink, M.D. | Harbor-University of California Los Angeles Medical Center; Linda Niessen, D.M.D., M.P.H. | Nova Southeastern University; Cindy Amyot, Ed.D. | University of Missouri - Kansas City School of Dentistry

3:30 – 5:00 p.m.
El-049 Faculty Development Marketplace: A Forum for Collaboration (Short Talks)
90 Minute Seminar | LBCC-Room 101A

This exploration of faculty development provides each speaker with five minutes to summarize the role and purpose of faculty development at their institution, what programs are offered and how they are assessed. While there are various faculty development efforts across North American dental schools, the work of faculty developers is poorly understood and best practices have not yet emerged. These short presentations will enable participants to explore connections beyond boundaries, spread ideas, provide updates about exciting developments, establish and foster collaboration and trigger joined projects among institutions.
Learning Objectives:
- Identify the role and the purpose of faculty development.
- Find collaboration partners among other faculty developers.
- Differentiate how institutions evaluate effectiveness of faculty development initiatives.

Presenter(s): Zsuzsa Horvath, Ph.D. | University of Pittsburgh School of Dental Medicine; Meixun Sinky. Zheng, M.A., Ph.D. | University of the Pacific; Arthur A. Dugoni School of Dentistry; Cara Tax, M.Ed. | Dalhousie University Faculty of Dentistry; Aditya Tadinada, D.D.S., M.S., MDS. | University of Connecticut School of Dental Medicine; Vicky Evangelidis-Sakellson, D.D.S., M.P.H. | Columbia University College of Dental Medicine; Gary Pape, M.A., D.D.S. | Western University of Health Sciences College of Dental Medicine; Yun Saksena, B.D.Sc., M.M.Sc., D.M.D. | Tufts University School of Dental Medicine; Emily Springfield, M.Ed. | University of Michigan School of Dentistry; Daniel Bender, Ed.D. | University of the Pacific; Arthur A. Dugoni School of Dentistry; Anitha Potluri, B.D.S., D.M.D., M.Dsc. | University of Pittsburgh School of Dental Medicine

3:30 – 5:00 p.m.
EI-010 Medicare Dental Benefit for Baby Boomers: Time to Put Teeth in Medicare
90 Minute Seminar | LBCC-Room 204

America is getting older. Every day, 10,000 baby boomers retire. With retirement comes loss of dental insurance and decreased access to care for seniors. While higher-income seniors use dental care in greater numbers than ever before, the poor and seniors on limited income do not. This results in disparities among seniors in access to preventive care, unfilled caries, periodontal diseases, tooth loss and oral cancer that are unacceptable in a civilized society. This symposium describes the evolving oral health needs of seniors, the value in providing them care and approaches to inclusion of a dental benefit in Medicare.

Learning Objectives:
- Describe oral health disparities among Americans over age 65.
- List four common comorbidities and describe how they complicate dental care in our patients with diabetes, heart disease, stroke and cancer.
- Review the value/benefits in providing dental care to older adults including potential cost savings resulting from the inclusion of dental care in health insurance products and Medicare.


3:30 – 5:00 p.m.
I-019F Office Emergency Simulation Lab-Teaching Medical Emergency Management: Incorporating the Use of Simulation in a Comprehensive Training Program (Ticketed Event)
90 Minute Workshop | LBCC-Room S-4

In many of our dental schools, clinical faculty are ill-prepared and uncomfortable managing common medical emergencies. This is potentially problematic, as these faculty are the first-line of defense in
creating a culture of safety during patient care activities. The recent advancements in simulation technology now make it possible to provide a realistic environment for individuals to be trained in this domain. This session not only will provide education and hands-on practice in managing medical emergencies, but will also provide the learners with educational models to enable them to develop emergency training programs in their respective institutions.

Learning Objectives:

• Describe the components of an effective curriculum for teaching the recognition and treatment of medical emergencies in dental schools.
• Demonstrate the basic and advanced skill in the management of medical emergencies in the dental setting.
• Describe how to integrate the use of simulation technology into the teaching of the management of medical emergencies.


3:30 – 5:00 p.m.
BA-004 Using the Electronic Health Records to Measure the Quality of Dental Patient Care
90 Minute Seminar | LBCC-Room S-7

With the increased adoption of electronic health records (EHR) in dental institutions, structured data are now available for assessing the quality of oral health care provided and patient outcomes. This presentation will describe the work carried out across four institutions in adapting and evaluating selected dental quality measures using historical data retrieved from the EHR. Presenters will discuss the approach used to query the EHR to develop practical quality measures in order to monitor the care delivered to our patients, guide clinical education and ultimately improve oral and general health.

Learning Objectives:

• Describe the current state of dental quality measurement development and the need for feasible and validated measures.
• Illustrate the obstacles of dental quality measurement development research and current advances by describing our current work.
• Identify ways to improve buy-in for standardized data documentation and use of quality metrics in an effort to improve learning and patient care.

Presenter(s): Ana Candia S Neumann, D.D.S., M.P.H., Ph.D. | University of Texas School of Dentistry at Houston; Kristen Simmons, RDH, M.H.A. | Willamette Dental Group; Muhammad Walji, Ph.D. | University of Texas School of Dentistry at Houston; Elisabeth Kalenderian, D.D.S., M.P.H., Ph.D. | Harvard School of Dental Medicine
EL-027 Challenges Facing Allied Dental Health Education: Phase I of the Gies Report for the 21st Century
90 Minute Workshop | LBCC-Room Seaside Ballroom B

In 2014, a three-year strategic planning study of allied dental education in the United States was launched to determine forces impacting the future practice and educational programs of restorative dental technologists, dental assistants, dental hygienists and dental therapists. For Phase 2 in 2017, Phase 1 information will be used to propose recommendations to advance allied dental education over the next 25 years. This session will present a summary of the findings from the Phase 1 background papers.

Learning Objectives:
• Identify the major challenges facing allied dental health educational programs.
• Discuss the economic, demographic and political variables that will impact future roles for allied dental health professionals.
• Demonstrate how changes in practice patterns and health care delivery will shape allied dental health educational program content and health care in 2040.

Presenter(s): Jacquelyn L. Fried, R.D.H., M.S. | University of Maryland School of Dentistry; Carolyn Breen, RDH, Ph.D. | Rutgers, The State University of New Jersey, School of Dental Medicine; Colleen Brickle, RDH, Ed.D. | Normandale Community College; Anita M. Bobich, B.A., C.D.T. | Pasadena City College
EDUCATION SESSIONS
MARCH 21, 2017

8:00 – 9:00 a.m.
TI-002 Laser Safety: Is Your Dental School Ready?
60 Minute Seminar I LBCC-Room 101B

As dental schools embrace laser dentistry technology in their curriculum, it is important to have a well-designed laser safety program in place that maximizes the benefits of lasers and protects the safety of the dental team and all patients. The lasers used in dentistry today are categorized as Class 4. The American National Standards Institute (ANSI) defines key safety protocols to be followed to keep all laser operators, auxiliary staff and patients safe. This program will address the best practices for developing a comprehensive dental laser program in the dental school curriculum.

Learning Objectives:
• Define laser classifications and explain laser terminology.
• Describe of the role and responsibilities of a Laser Safety Officer.
• Apply best practices to a comprehensive dental laser safety program at their dental school.

Presenter(s): William P. Leavitt, D.D.S., M.P.A. | University of Nevada, Las Vegas, School of Dental Medicine; Scott Benjamin, D.D.S. | Benjamin Dental Group

8:00 – 9:00 a.m.
TL-028 Critical Thinking: Thinking About Your Thinking (and Getting Students To, Too)
60 Minute Seminar I LBCC-Room 102A

A study at California State University cited an overwhelming majority of faculty claiming critical thinking to be a primary objective of instruction (89%), yet only 19% could even explain what critical thinking is. The Commission on Dental Accreditation has emphasized the importance of critical thinking in dental education by developing standard 2-9. This session will discuss critical thinking, and how it can be applied within the dental curriculum in a substantive manner. Examples of how critical thinking strategies have been implemented within the curriculum and faculty development program at Boston University Henry M. Goldman School of Dental Medicine will be discussed.

Learning Objectives:
• Define critical thinking.
• Incorporate critical thinking strategies into the classroom.
• Assess critical thinking as it relates to student development.

Presenter(s): Neal Fleisher, D.M.D.; Cataldo Leone, D.M.D., D.Med.Sc, FICD | Boston University Henry M. Goldman School of Dental Medicine
8:00 – 9:30 a.m.
**TL-044 Fostering Critical Thinking Beyond the Boundaries of the Traditional Classroom**
90 Minute Seminar | LBCC-Room 101A

Studies suggest that a significant portion of students are not learning the critical thinking, written and oral communication and complex reasoning skills thought to be at the core of higher education (Arum 2010). Developments in active learning pedagogy and instructional technology have prompted educators to “flip” their classrooms in an attempt to enhance the development of these skills. First exposure external learning techniques as well as in class active learning exercises such as cooperative learning, debates and case study discussions via audio response systems, and self-reflection utilizing cell phone videos will be discussed.

**Learning Objectives:**
- Identify flipped classroom strategies aimed at presenting pre-classroom content.
- Apply strategies aimed at creating an active learning environment fostering critical thinking.
- Discuss the use of educational technology utilized in flipped classrooms enhancing the development of critical thinking.

**Presenter(s):** Kathi R. Shepherd, RDH, M.S.; Maureen VanHook, RDH, M.S.; Tamika N. Thompson-Sloan, D.D.S., M.S. | University of Detroit Mercy School of Dentistry

8:00 – 9:30 a.m.
**A-004 Effective Strategy for Teaching Clinical Faculty to Provide a Calibrated Assessment of Student Clinical Competence**
90 Minute Seminar | LBCC-Room 102C

The session will provide dental educators with the nuances of implementing and sustaining a formative assessment tool for clinical faculty calibration of operative dentistry concepts and terminology. Attendees will participate in a mock faculty calibration session using an audience response system to guide formative discussions. Of importance will be to discuss faculty calibration of both formative and summative assessment of dental students’ clinical operative dentistry experiences. In bringing engaging calibration sessions to restorative faculty, we can close the gap in operative dentistry instruction across preclinical and clinical curricula. Success rates of our program will be discussed, as well as lessons learned.

**Learning Objectives:**
- Describe the importance of using a formative assessment tool for calibrating faculty to provide a calibrated assessment of student clinical competence.
- Describe how to implement and sustain a formative assessment tool for calibrating faculty on operative dentistry clinical instruction.
- Use the audience response system to collect participant score data and interpret the results through descriptive and inferential statistics.

**Presenter(s):** Michael J. Metz, D.M.D., M.S.D., M.S., M.B.A.; Marcelo T. Durski, D.D.S., M.D.S., Ph.D.; Cynthia J. Metz, M.S., Ph.D. | University of Louisville School of Dentistry
8:00 – 9:30 a.m.  
**TL-010 Beyond Boundaries: Interpersonal Skills to Improve Clinical Supervision Feedback**  
90 Minute Workshop | LBCC-Room 104A

Participants in this workshop will practice specific interpersonal skills to improve their supervision feedback. The skills are based on a unique method for giving positive (reinforcing) and negative (corrective) feedback to dental students in the clinic. The ARTful Method of Giving Clinical Supervision Feedback was developed by the University of California School of Medicine. The four elements are: setting the stage for performance feedback; strategic use of active listening; setting learning goals; and providing meaningful feedback on performance. Providing students with more feedback increases student satisfaction, shows the educator’s commitment to the learner and improves student performance.

**Learning Objectives:**

- List the benefits of using the ARTful Clinical Supervision Feedback method.
- Apply each element of the ARTful Clinical Feedback Method.
- Relate prior challenging experiences in giving learners clinical supervision feedback and utilize the ARTful Clinical Supervision Feedback method to address performance issues.

**Presenter(s):** Linda S. Centore, Ph.D., N.P. | University of California, San Francisco, School of Dentistry; Stuart Schrader, Ph.D. | Indiana University School of Dentistry; Anne Koerber, Ph.D., D.D.S. | University of Illinois at Chicago College of Dentistry; Gary Pape, M.A., D.D.S. | Western University of Health Sciences College of Dental Medicine

8:00 – 9:30 a.m.  
**EI-006 Implementation of an Adolescent Risk Behavior Assessment in an Academic Pediatric Dental Setting**  
90 Minute Workshop | LBCC-Room 104B

A medical questionnaire addressed to adolescent patients has been implemented as part of the Pediatric Dentistry Department at the University of Florida. The questionnaire is based on the American Academy of Pediatric Dentistry Guidelines. The goal is to begin the transition from the pediatric to adult model and assist patients in taking personal responsibility for their health. In addition, the questionnaire will help the dental professional to have information regarding the adolescent’s risk behaviors in order to be able to achieve a thorough approach toward this patients in the clinical setting.

**Learning Objectives:**

- Describe the process of developing a confidentiality policy as well as an adolescent medical questionnaire that could be used in an academic dental setting.
- Defend the importance of providing a thorough approach toward adolescents in a clinical dental setting.
- Describe the topics related to patient confidentiality and the use of motivational interviewing techniques when treating adolescent patients.

**Presenter(s):** Edna Perez, D.M.D.; Leda Mugayar, D.D.S., M.S. | University of Florida College of Dentistry
8:00 – 9:30 a.m.
CD-005 Beyond Classic Dental Education: Innovative Approaches to Conveying Humanistic Care
90 Minute Seminar | LBCC-Room 204

Humanism is increasingly recognized as a core competency in dental education. Comprehensive oral health care requires graduates who can effectively interact and empathize with a diverse range of patients. Yet, skills such as communication, conflict management and emotional intelligence can be afterthoughts in the curriculum. This session describes how one dental school teaches these skills through a variety of innovative methods, including an improvisational theater selective course, a special patient care block rotation, and a newly-developed didactic Life Course. Participants will learn implementation strategies for teaching humanistic care in their home institutions.

Learning Objectives:
• Describe the CODA standards related to comprehensive, patient-centered care and humanistic environment.
• Discuss the different educational settings for conveying humanistic values and affective skills summarized by the presentation team.
• Apply successful elements summarized by the presentation team to the participant’s own institution.

Presenter(s): Clarice S. Law, D.M.D., M.S.; Craig D. Woods, D.D.S., M.A.; Evelyn M. Chung, D.D.S.; Minh Tran, Ph.D. | University of California, Los Angeles, School of Dentistry

8:00 – 9:30 a.m.
EL-025 Beyond Boundaries: Professional Development Through Mentoring and Academic Career Planning
90 Minute Workshop | LBCC-Seaside Ballroom B

Mentoring junior faculty is a responsibility of academic institutions. In addition to using it as a strategy for faculty recruitment and retention, it can provide career satisfaction and increased faculty productivity. However, many faculty go through their career without careful consideration of a personal development plan. Presenters will discuss the importance of mentoring particularly emphasizing the process of developing an academic career plan to enhance career growth. Participants will engage in discussion about the power of a well-developed plan that will work in their particular institution, aligned with institutional goals and the faculty members’ rank and track.

Learning Objectives:
• Discuss the important components of the academic career planning process.
• Identify essential communication tools to utilize when discussing the academic career plan with mentors and administrators.
• Describe how one dental school has implemented the academic career planning process into ongoing mentoring for junior faculty.

Presenter(s): Rebecca S. Wilder, RDH, M.S.; Jessica Y. Lee, D.D.S., M.P.H., Ph.D. | University of North Carolina at Chapel Hill School of Dentistry; Janet M. Guthmiller, D.D.S., Ph.D. | University of Nebraska Medical Center College of Dentistry
10:00 – 11:15 a.m.
I-500 Closing Plenary—Cracking Creativity: Re-Engaging Our Innate Creativity for Greater Productivity & Growth

Sponsored by GlaxoSmithKline Consumer Healthcare
90 Minute Seminar I LBCC-Exhibit Hall B

Abigail Posner is Head of Strategic Planning at Google’s ZOO, a creative think tank for agencies and brands. As a thought leader, author, manager and corporate executive, she has spent her life catalyzing change and creating impact. She draws on her degree in Social Anthropology from Harvard University to shine a unique, humanistic lens on culture, business and technology that brings fresh perspective to corporate culture, product development, branding and marketing. While at Google, she launched an industry-first thought leadership series on human beings’ emotional relationships with the digital space: Humanizing Digital. This research decodes technology in an inspiring and useful way. Previously, Ms. Posner was Executive Vice President, Strategy Director at Publicis New York, and Head of Strategic Planning at DDB New York. She blogs regularly on topics around beauty in our culture at Beautyskew.com. She has published a range of articles on marketing, digital culture and beauty, and is a contributor to Advertising Age and Google’s sites. She has been featured in several publications, including Business Insider, The Huffington Post, The New York Times, La Presse, CNBC, Mumbrella, AdNews, B&T and Globes Israel. You can be creative too. Yes, you. Now more than ever we have access to a virtually endless topography to explore and reconnect us to our innate creativity. Learn how the modern world can actually help to reconnect us to our pre-digital, if not pre-technological, humanity and yield a profound difference in our professional and personal lives.

Learning Objectives:
• Identify ways to use innate creativity to improve productivity and enhance personal growth.
• Apply a humanistic lens to examine culture, business and technology as related to dental education.

Presenter(s): Abigail Posner | Google’s ZOO

11:30 a.m. – 12:30 p.m.
I-510 Strategies for Success: Submitting a Poster or Program for ADEA Annual Session and Exhibition
LBCC-Room 102C

Are you considering submitting a program or poster for next year’s Annual Session? Are you new to ADEA and want to learn more about how to be part of the program? If so, attend this dynamic workshop on how to develop and submit a strong proposal or poster. Members of the ADEA Annual Session Program Committee (ASPC) will share tips and information for submitters including selection criteria, writing a clear and concise abstract and common pitfalls to avoid. Participants will evaluate examples of strong and weak submissions using ASPC evaluation rubrics.
Learning Objectives:
- Describe the components of a well-written abstract.
- Apply selection criteria to evaluate poster and program submissions.

Presenter(s): Pamela Hughes, D.D.S. | Oregon Health & Science University School of Dentistry; Samantha Kelly, B.Sc. | University at Buffalo School of Dental Medicine; Paul Trombly, D.M.D. | University of Detroit Mercy School of Dentistry

11:45 a.m. – 1:15 p.m.
CD-052 Teaching Interprofessional Collaboration Through Critical Thinking and Reflection
90 Minute Seminar | LBCC-Room 101B

Curriculum must ensure graduates are competent to engage in interprofessional collaboration, critical thinking and reflective practice. Rather than seeing these as independent professional behaviors, think synergistically. It is strongly recommended interprofessional education (IPE) be embedded within existing curricula. IPE curricular planning needs to consider how strategy can be both process and learning outcome. The three behaviors share much in common so why not use teaching strategies (process) so students synergistically learn (outcome) to be reflective, critical thinking, collaborative practitioners. In this small group, case-based workshop, participants will apply developed critical thinking and reflection instructional strategies/tools to an IPE case.

Learning Objectives:
- Discuss the synergistic outcomes resulting when the instructional strategy serves as both learning process and learning outcome.
- Apply developed critical thinking and reflection instructional tools to facilitate student learning to be reflective, critical thinking, interprofessional collaborative practitioners.
- Upon completion, participants will be able to distinguish curricular content that could be enhanced by using instructional strategy as both learning process and learning outcome.

Presenter(s): Laura L. MacDonald, Ph.D. (Candidate), M.Ed., R.D.H.; Mary Bertone, M.S.P.H., R.D.H.; Anthony Iacopino, Ph.D., D.M.D. | University of Manitoba Faculty of Dentistry

11:45 a.m. – 12:45 p.m.
EI-033 Best Practices for Computers in the Dental Operatory: Research and Guidelines
60 Minute Workshop | LBCC-Room 104A

Computers in clinical healthcare settings have been described as disruptive innovations with unanticipated negative consequences. The challenge is to find the best ways to incorporate computers without jeopardizing the provider-patient relationship. This program will present a summary of the research and a "best practices" approach. Participant activities will include table discussions on current teaching methods related to use of computers, brainstorm the development of evaluation tools and practice assessments.
Learning Objectives:

- Identify the challenges of computers use in dental operatories based on data presented from the literature and one dental school’s experience.
- Develop a tool to improve computer use habits in the dental setting.
- Employ a tool to improve and evaluate computer use habits in the dental setting.

Presenter(s): Judy Skelton, Ph.D.; Marcia Ditmyer, Ph.D., M.S., M.B.A., MCHES University of Nevada, Las Vegas, School of Dental Medicine

11:45 a.m. – 12:45 p.m.
EI-026 Beyond Boundaries with Health and Wellness Resources
60 Minute Seminar | LBCC-Room 101A

Within dental education, movement toward working with other medical professions is used to improve care of the individual patient. How can we be better team players for patients if we are not taking care of ourselves? The health and wellness committee was introduced in 2009 with the aim to meet the ever-changing needs and interests of faculty, staff and the campus community. Quality programs were provided, as well as comprehensive and inclusive services and facilities. Participants will learn how to create an environment that fosters teamwork, boosts collaboration and instills a sense of community.

Learning Objectives:

- Identify how their institution can initiate a committee to foster teamwork, boost collaboration and instill a sense of community.
- Distinguish what activities will be appropriate to introduce into their institutions to provide opportunity to encourage health and wellness.
- Apply ideas to create resources for their institution to promote physical fitness, healthy habits and balanced behaviors to improve the wellness of the work community.


11:45 a.m. – 12:45 p.m.
60 Minute Seminar | LBCC-Room 102A

By 2030, one out of five Americans will be 65 or older with dental needs exceeding traditional and emergency dental care. Therefore, it is critical that we educate our dental students on the needs of this vulnerable population. This session will describe a pilot project conducted by the University of Texas School of Dentistry at Houston in partnership with a local Retirement Community. The primary aim of this project was to educate our students on the needs of a geriatric population as part of our long term goal of improving the oral and overall health of the elderly.

Learning Objectives:

- Describe the structure and purpose of different types of eldercare facilities—e.g. skilled nursing facilities, adult day care, assisted living and independent living.
• Develop an oral health promotion program that will promote optimum oral health for the aging population.
• Gain experience interviewing, teaching oral health skills and screening the aging population who may have any medical complexities and/or physical/mental challenges.

Presenter(s): Margo Melchor, RDH, M.Ed., Ed.D.; David Fray, D.D.S., M.B.A.; Maryam Tabrizi, RDH, D.M.D., M.P.H. | The University of Texas School of Dentistry at Houston

11:45 a.m. – 12:45 p.m.
EI-037 Application Review and Interview Process for Residency Programs—Where Do We Go in a Pass/Fail World?
60 Minute Workshop | LBCC-Room 104B

Program directors from all residency programs have been challenged with reviewing applications and selecting residents with seemingly diminishing information about the student. The national dental board is pass/fail and multiple schools are no longer ranking students or are utilizing pass/fail systems. Finding methods of assessing students and their ability to succeed in residency programs is becoming more difficult. The interview process is becoming more crucial to the selection process, but it is still a fallible process. This workshop will facilitate discussion between residency programs concerning techniques utilized during their application review and interview process.

Learning Objectives:
• Identify various methods of assessing candidates during the application review.
• Describe the new ADAT test and assess if it has assisted or will assist with their admissions process.
• Identify unique methods of evaluating candidates during the interview process that can provide more comprehensive information.

Presenter(s): Barbara MacNeill, M.S., D.M.D., FAGD | University of Texas Health Science Center at San Antonio Dental School; Colleen Greene, D.M.D., M.P.H. | Children’s Hospital of Wisconsin
ADCFP POSTERS
March 20, 2017 | 11:00 a.m. – 1:00 p.m.

P-259 Development of Caries Detection and Excavation Simulation in the Preclinical Setting for Predoctoral Students
Presenter(s): Cherry Choy | Harvard School of Dental Medicine

P-260 Preclinical Simulation of Indirect Pulp Therapy for Predoctoral Students
Presenter(s): Joseph DePalo | Harvard School of Dental Medicine

P-261 Effects of Silver Diamine Fluoride Application on the Oral Microbiome Profile of Early Childhood Caries Population
Presenter(s): Sungeun Koo | Harvard School of Dental Medicine

P-262 Suitability of the Physics Forceps as a Teaching Instrument for Non-traditional Extraction Technique on Cadaveric Specimens
Presenter(s): Tyler Fix | Midwestern University School of Dental Medicine-Arizona

P-263 Measuring the Prevalence of Dental Anxiety in the Midwestern University Dental Institute Patient Population
Presenter(s): Alexandra Pierre-Bez | Midwestern University School of Dental Medicine-Arizona

P-264 Shear Bond Strength of Lithium Disilicate Glass Ceramic and Zirconia Materials: Effect of Silane Temperature and Application Time
Presenter(s): Yu Yin (Rachel) Ngai; Azadeh Zadmehr | Midwestern University School of Dental Medicine-Arizona

P-265 A Case Report: Acute Myeloid Leukemia
Presenter(s): Branden Brar | New York University College of Dentistry

P-266 The Effects of Predoctoral Orthodontic Education on the Perceived Benefits of Orthodontic Treatment—A Survey Study
Presenter(s): Shaileen Ejtemai | Nova Southeastern University College of Dental Medicine

P-267 What Can Uber and Airbnb Teach Us About Dental Education?
Presenter(s): Kiyoung Cho | New York University College of Dentistry

P-268 A 12-year Survey on VitalBook Usage at New York University College of Dentistry
Presenter(s): Elizabeth M. Maas | New York University College of Dentistry

P-269 Interactive Media Embedded in Pre-clinical Education to Improve Learning
Presenter(s): Nicole Liu | New York University College of Dentistry

P-271 The Benefits and Perceptions of Peer-assisted Learning
Presenter(s): Amanda M. Muzzio | New York University College of Dentistry
P-272 The Efficacy of Student Peer Assessments and How it Contributes to His or Her Professional Development
Presenter(s): Li-Jen Chang | New York University College of Dentistry

P-273 The Effects of Antioxidants on Proliferation of Human Gingival-Derived Mesenchymal Stem Cells
Presenter(s): Shaileen Ejtemai | Nova Southeastern University College of Dental Medicine

P-274 Assessment of Student Knowledge and Attitudes of Patients Living With HIV
Presenter(s): Jiten Solanki | Nova Southeastern University College of Dental Medicine

P-275 Do Older Patients Have a Poor Treatment Plan Acceptance Rate for Orthodontic Treatment?
Presenter(s): Zohaib Munaf | Nova Southeastern University College of Dental Medicine

P-276 Digital Imaging as a Communication and Assessment Tool in the Simulation Clinic
Presenter(s): Charlene Mo | Roseman University of Health Sciences College of Dental Medicine - South Jordan Utah

P-277 The Flipped Classroom Approach to Teaching Predoctoral Oral Histology
Presenter(s): Trent Gabriel | The Maurice H. Kornberg School of Dentistry, Temple University

P-278 Deliberate Practice as a Means of Improving Communication Skills in Dental Students
Presenter(s): Joe Kwan-Ho Yun | University of California, San Francisco, School of Dentistry

P-279 Improving Pediatric Oral Health Screening Participation and Outcomes via Developing 'Flipped Classroom' Content
Presenter(s): Joe Kwan-Ho Yun | University of California, San Francisco, School of Dentistry

P-280 New Curriculum Modules for Informed Consent Using a Flipped Classroom and Peer-peer Video Review Structure
Presenter(s): Eli Almaz, Whitney Bryant | University of California, San Francisco, School of Dentistry

P-281 Geometric Morphometric Analysis of the Influence of Three-dimensional Basicranium Shape on Facial Symmetry
Presenter(s): Ethan Do | University of California, San Francisco, School of Dentistry

P-282 Skeletal Anabolism by Concurrently Targeting the PTH1R and the CASR
Presenter(s): Christian Y. Santa Maria | University of California, San Francisco, School of Dentistry

P-283 Facilitating Student Dentist-Patient Relationships Through Informed Consent Discussion for Treatment Planning
Presenter(s): Wendy Fu | University of California, San Francisco, School of Dentistry

P-284 Interprofessional Education on Children’s Oral Health for Primary Care Providers
Presenter(s): Jung Soo Kim | University of California, San Francisco, School of Dentistry
P-285 Flipped Classroom vs. Traditional Lectures: Evaluating Differences in Dental Students' Performance on Examinations
Presenter(s): Nadia Shaheen; Tiffany Lue; Fariya Khan | University of California, San Francisco, School of Dentistry

P-286 Measuring Efficacy of Pre-session Self-guided Learning in Dental School Education
Presenter(s): Julianna Ko | University of California, San Francisco, School of Dentistry

P-287 Pathways to an Academic Career in Dentistry
Presenter(s): Rami Nazarian | University of Detroit Mercy School of Dentistry

P-288 An Academic Experience: Lecturing, Grading, and Education Research for the First-Year Dental Anatomy Course
Presenter(s): Sarah McGowan | The University of Iowa College of Dentistry & Dental Clinics

P-289 Yoga as an Interdisciplinary Tool in an Academic Setting and Resource for Holistic Learning With Implications in Alternative Treatment Methods
Presenter(s): Tara Sears | University of Iowa College of Dentistry & Dental Clinics

P-290 Dental Student Preferences for Patient Education using Digital Media
Presenter(s): Elliott Glenn | University of Iowa College of Dentistry & Dental Clinics

P-291 Computer Guided Implant Placement: Does Technology Aid in Longer Prognoses of Dental Implants?
Presenter(s): Elaine Boosalis | University of Iowa College of Dentistry & Dental Clinics

P-292 Barriers Encountered by Foreign-trained Dentist Seeking Professional Opportunities in the United States: Admission Process
Presenter(s): Barjinder Takra | University of Michigan School of Dentistry

P-293 Acquiring Clinical Skills With Standardized Patients: Dental Student Perceptions
Presenter(s): Elias Pabón | University of Puerto Rico School of Dental Medicine

P-294 Pathways to Leadership: Exploring My Academic and Administrative Skills
Presenter(s): Alice Marie Arroyo-Juliá | University of Puerto Rico School of Dental Medicine

P-295 Does the Use of Study Modules Increased the Performance and Confidence of the University of Puerto Rico Medical Science Campus School of Dental Medicine Third Year Students In Treating Pediatric Population?
Presenter(s): Karla G Alacán-Ríos | University of Puerto Rico School of Dental Medicine

P-296 Knowledge on the Management of Special Needs Patients’ of the Fourth Year Dental Medicine Students at the University of Puerto Rico Medical Science Campus After Hands-on Workshops
Presenter(s): Yatnee A. Encarnación-Ginés | University of Puerto Rico School of Dental Medicine

P-297 Reasons Why the Faculty of the School of Dental Medicine of the University of Puerto Rico Medical Sciences Campus Had to Start a Teaching Career After Being in a Private Practice
Presenter(s): Anneris Matías-González | University of Puerto Rico School of Dental Medicine

P-298 Dental Student Evaluation of a Video Library of Clinical Technique Demonstrations
Presenter(s): Marinee Cabrera | University of Texas Health Science Center San Antonio School of Dentistry

P-299 Development and Pilot-Testing of a Survey to Measure Interprofessional Awareness
Presenter(s): Aalia Farukhi | University of Texas Health Science Center San Antonio School of Dentistry

P-300 Evaluation of a Local Anesthesia Module With Multiple Learning Methods
Presenter(s): Kim T. Do; Beatriz E. Fortanely | University of Texas Health Science Center at San Antonio School of Dentistry

P-301 Pilot-Test of a Survey to Measure Perception of Patients’ Pain in Dentistry
Presenter(s): Keri Keller | University of Texas Health Science Center San Antonio School of Dentistry

P-302 Mindset and Clinical Success Survey (MACS): Does Growth versus Fixed Mindset Influence Dental Students’ Clinical Performance?
Presenter(s): Madiha A. Khanani | University of Texas Health Science Center at San Antonio School of Dentistry

P-303 Do Patient Communication Videos Increase Students’ Confidence to Interact With Spanish Speaking Patients?
Presenter(s): Stephanie Lomeli | University of Texas Health Science Center San Antonio School of Dentistry

P-304 Dental Students’ Evaluation of Clinical Posture Feedback Systems
Presenter(s): Amanda Mitchell | University of Texas Health Science Center San Antonio School of Dentistry

P-305 Comparison of Educational Methods to Prepare Students for Lab Practicals in Dental Anatomy
Presenter(s): Dhea Patel | University of Texas Health Science Center at San Antonio School of Dentistry

P-306 CAPS (Clinical Activity and Productivity Study): Does student Personality Traits Influence Patient Retention in a Dental Clinic
Presenter(s): Kristan Rodriguez | University of Texas Health Science Center at San Antonio School of Dentistry

P-307 Dental Students’ Evaluations of a Pilot Clinical Decision Support Weite
Presenter(s): Nancy Wong, M.B.A. | University of Texas Health Science Center at San Antonio School of Dentistry

P-308 Does Participation in a Teaching Honors Program (THP) in Dental School Increase Percentage of Graduates Who Choose Academic Careers?
Presenter(s): UTHSCSA Fellowship Group Project | University of Texas Health Science Center San Antonio School of Dentistry
P-309 VoiceThread Promotes Student Centered Learning by Improving Student Discussion  
Presenter(s): Ruidan Ma | University of the Pacific, Arthur A. Dugoni School of Dentistry

P-311 My ADEA Academic Dental Careers Fellowship Program Experience  
Presenter(s): Sneha Mirchandani | University of the Pacific, Arthur A. Dugoni School of Dentistry

P-312 VoiceThread Promotes Student Engagement in Discussion by Increasing Flexibility  
Presenter(s): Xiao Xi Yu | University of the Pacific, Arthur A. Dugoni School of Dentistry

P-313 Assessment of the Knowledge, Attitudes and Implementation of Tobacco Smoking Cessation Interventions Among Dental and Dental Hygiene Students: The University of Texas School of Dentistry at Houston Experience  
Presenter(s): Victoria Manon | University of Texas School of Dentistry at Houston

P-314 Student and Faculty Perceptions of Biomedical Science Preparedness for Clinic  
Presenter(s): Travis Bauer | University of Texas School of Dentistry at Houston

P-315 Perceptions of Teaching From a Post-graduate Resident  
Presenter(s): Jenny Limchoa | University of Texas School of Dentistry at Houston

P-316 Performance and Perceptions of Dental Students Using Artificial Versus Natural Teeth for Preclinical Endodontic Training: A Randomized Controlled Trial  
Presenter(s): Sameer Jain | University of Texas School of Dentistry at Houston

P-318 Perspective and Experience of Dental Academia  
Presenter(s): Milca Mendez-Ceballos | Virginia Commonwealth University School of Dentistry

P-319 Narcotic Prescription Patterns Following Dental Procedures in the Dental School Oral and Maxillofacial Surgery Setting  
Presenter(s): Vickas Agarwal | Virginia Commonwealth University School of Dentistry

P-320 Effectiveness of CAD/CAM Technology for Preclinical Waxing Self-assessment  
Presenter(s): Adam Staffen | Virginia Commonwealth University School of Dentistry

P-321 Systematic Review of Treatment Modalities for Trismus Secondary to Radiation Treatment  
Presenter(s): Rebaz Waise | Virginia Commonwealth University School of Dentistry

P-322 The Impact of Peer-guided Instruction on Student Readiness for Clinic Transition  
Presenter(s): Asia Yip | Boston University Henry M. Goldman School of Dental Medicine

P-324 Development of a Clinical Educator in Dentistry  
Presenter(s): Xiaohan Fan | University of Pittsburgh School of Dental Medicine

P-325 Negotiating Challenges in Dental Education Using a Strategic, Multi-faceted Approach  
Presenter(s): Kristen Goble | University of Pittsburgh School of Dental Medicine

P-327 Enlightening Experience in Educating: How the Student Becomes the Teacher  
Presenter(s): Jamie Kaufer | University of Pittsburgh School of Dental Medicine
P-329 Exploring a Path to the Career in Academic Dentistry
Presenter(s): Tanvi Mehta | University of Pittsburgh School of Dental Medicine

P-332 An Enlightening Journey: Discovering a Career Path in Academic Dentistry
Presenter(s): Chris Yang | University of Pittsburgh School of Dental Medicine

P-333 Active Versus Passive Learning: How Teaching Styles Affect Student Success Outcomes
Presenter(s): Matthew Giordano | Dental College of Georgia at Augusta University

P-334 How Do Students Perceive the Effectiveness of a Visual Breakdown of a Waxing Practical Grading Rubric?
Presenter(s): Jessica Anderson | Dental College of Georgia at Augusta University

P-335 Pre-dental Performance as Indicators of Academic Achievements in Dental School
Presenter(s): Alexandra Howell | Dental College of Georgia at Augusta University

P-336 Should Blood Glucose Measurement be Part of the Initial Dental Diagnostic Appointment?
Presenter(s): Marlina Manhiani | Dental College of Georgia at Augusta University

P-337 Tell, Show, Do: Changing the Paradigm of Oral Hygiene Compliance
Presenter(s): Nicole Ochoa | Dental College of Georgia at Augusta University

P-338 Wanna Teach? An Initial Survey Gauging Student Interest in Academic Dentistry
Presenter(s): Kathleen Fadler | Dental College of Georgia at Augusta University

P-339 Are Dental Student Tutors a Viable Option for Teaching Other Dental Students? A Survey and Correlative Study
Presenter(s): Nicole Ochoa | Dental College of Georgia at Augusta University
Abstracts for Posters Presented at the 2017 ADEA Annual Session & Exhibition

Presented on Sunday, March 19, 2017, 1:00-3:00 pm

P-000. Alternative Predictors of Academic Success in the First Semester of Dental School and Recommendations to Undergraduate Advisors

G. Beazuzil, H. Perez, E. Sabato, S. Jiang, K. Feneny, Rutgers School of Dental Medicine

Educational Research

Rutgers School of Dental Medicine (RSDM) has found that students’ academic decisions in undergraduate study are correlated to their performance in the first term of dental school. The aim of this study was to analyze these data and make recommendations to college academic advisors, which may influence the performance of dental students during the first year. Methods: This study was approved by the Rutgers IRB (PRO20150001969). A total of 174 student records (the top ten and bottom ten students as of the end of the first trimester of dental school) were evaluated. Significant variables were identified as predictors of success for RSDM first-year dental students. Specific outcomes were reviewed with regards to opportunities for undergraduate institutions. Results: Several variables not traditionally evaluated on the students’ college transcripts were found to be significantly different for students ranking in the top and bottom ten of their class at the end of the first trimester: average science credits per term (7.8 versus 6.9; p=0.0030); failure withdrawal (0.38 versus 1.30; p=0.0028); science failure/withdrawal (0.21 versus 0.89; p=0.0099); summer courses taken (60% versus 81%; p=0.036); and STEM major (93% versus 73%; p=0.031). Conclusion: This study reinforces recommendations made to undergraduate academic advisors. Dental admissions officers suggest focusing on the importance of academic enrichment in the sciences and quantitative courses. As the first terms of dental school have a very heavy didactic science course load, students’ success may improve if they became accustomed to such demands in undergraduate studies. While it is important to focus on success in difficult classes, students should be cognizant that taking dental school prerequisites in an isolated environment may not adequately prepare them for the rigor of dental school. Additional suggestions include increasing awareness of each institution’s academic support services and participating in opportunities to learn about the demands of the dental school curriculum, such as pipeline programs. These recommendations may reduce failure rates and difficulties that students tend to face during the early years of dental school.

P-001. The Use of iPads to Facilitate Student Learning

H. Ong, A. M. Nasti, D. Cannella, C. Pae, Stony Brook University

Educational Research

Technology has become increasingly pervasive in dental education, yet investigation of the utility and impact of technological devices in dental curricula has been limited. This study investigated students’ use of the iPad as a clinical tool in their transition to clinic during the end of the first-year curriculum at one dental school. The aims of the study were to explore the utility, perceptions, and potential of the iPad during patient care in the dental school clinic and to determine how iPads, as an educational platform, can be implemented into dental curricula to help facilitate students’ transition into clinical care. Methods: First-year dental students (n=39) received an iPad that was preloaded with clinic course materials such as instructions and video demonstrations of how to take blood pressure, perform a head and neck exam, and interview a patient. They were trained how to access the material two weeks prior to their initial patient encounter. Students completed pre and post surveys to assess the usefulness of the iPad as a reference tool and provide their perceptions of technological devices in clinic care. Results: Nearly all students reported feeling they were proficient in using iPads (98%) and mobile technologies in general (94%). The majority of the students said they believed that the iPad prepared them for their initial clinical experience (77%) and enabled them to be more efficient during clinic (63%). They did not find that using the iPad negatively impacted their ability to establish a relationship with their patients (82%). A majority of the students reported feeling that the iPad will be useful on other rotations (74%); they planned to refer to the content to assist them in other courses (85%); and they reported feeling that the iPad will have a positive impact on their clinical learning experiences (75%). Conclusion: These students had positive perceptions about using iPads to facilitate clinical care during their initial patient encounters and expected to utilize this new technology in their future courses.

P-002. Special Needs Patient Care in Dental Education: An Educational Experience at the University of California, Los Angeles School of Dentistry

A. Yaghsezian, A. Shahnian, E. Chung, M. Ota, University of California, Los Angeles

Educational Research

The Commission on Dental Accreditation (CODA) requires that dental school graduates be competent in assessing the treatment needs of special needs patients (SNP). Prior studies have reported that the higher dental students’ perceived value of their predoctoral SNP experiences, the more likely they are to treat these patients in private practice. In 2010, a clinical rotation for junior dental students at UCLA School of Dentistry was developed to expose them to SNP. It consisted of clinical observation augmented by small-group discussions guided by hospital dentistry faculty. The students then presented to their peers on the management of a patient case. The aims of this study were to evaluate the success of this educational model in fulfilling the CODA standards and creating positive perceptions for dental students about SNP. Methods: Voluntary surveys were given to each student before and after the rotation. The pre-rotation survey assessed the students’ previous experiences treating SNP and their overall impressions of this population. The post-rotation survey evaluated the students’ comfort level and their likelihood of treating SNP in the future. Results: From 2014 to 2017, 178 students attended the rotation; 121 pre surveys and 93 post surveys were returned. The results showed that while most students had some experience treating SNP and employed modification to treatment provided, their comfort levels varied. The rotation was received well. Overall, the students reported feeling that this rotation was clinically relevant and strengthened the concepts they
learned in their didactic courses. Positive comments included enjoying the observation of dentistry on in-patients in the operating room and sedation in the dental clinic. Comments for improvement included direct involvement in patient care and a longer rotation. Conclusion: Although the students said they felt more comfortable treating SNP after completing the rotation, they noted that a longer rotation would be more beneficial. Future goals are to extend the duration of the rotation and include more student-patient interactions in the hopes of inspiring students to treat SNP in private practice.

P-003. A Survey Update of How U.S. and Canadian Dental Schools Manage Faculty Development
Lindsey Atiyeh, Maureen McAndrew, New York University; Zsuzsa Horvath, University of Pittsburgh

Educational Research
The aim of this study was to determine the current status of faculty development in U.S. and Canadian dental schools. The intent was to document the evolution of dental faculty development activities and structures in the past 15 years. The study will establish current practices and serve as a benchmark for comparison to make improvements on future practices of faculty development. Methods: The authors consulted with O’Neill and Taylor regarding their 2001 study. An updated survey instrument was used with their permission. Additional questions were informed by Sonnino et al. to reflect current responsibilities and functions of faculty development across U.S. medical schools. The survey was reviewed by four faculty developers for content validity. Distribution occurred in fall 2015 to each of the 65 U.S. dental schools and ten Canadian dental schools. Survey recipients were faculty developers listed in ADEA’s Directory of Institutional Members (May 2015) or the school’s website. Responses were collected via email or telephone until January 2016. Results: The response rate for U.S. dental schools was 52/65 (80%) and 5/10 (50%) for Canadian schools. The overall rate was 57/75 (76%). Faculty development sponsors included four new entities: faculty affairs, human resources, outside consultants, and the parent university center of teaching. Of the participating schools, 23 (40.4%) reported having an Office of Faculty Affairs and/or Office of Professional/Faculty Development. Of the schools that had these offices, 12 reported offices that were established in the past zero to five years. Four schools reported having a dedicated academy established as an honorary and/or service-oriented group that impacts their institution’s pursuit of teaching excellence. The mean number of full-time equivalents employed across schools was 2.67 (range 1-10). Conclusion: The overall trends revealed an increase in faculty development efforts across schools, with an increase in the number of offices dedicated to this function. There has been an increase in the number of schools with an established Office of Faculty Affairs and/or Office of Professional/Faculty Development. The responding schools also reported greater interprofessional collaborative efforts and the initiation of dedicated academies in both U.S. and Canadian schools.

P-004. Students’ Self-Assessment Following a Caries Detection and Excavation Preclinical Simulation Activity
Cherry Choy, Joseph DePal, Harvard School of Dental Medicine

Educational Research
Despite diagnosis and management of dental caries as a predoctoral core competency, dental students have continuously reported difficulty in translating the didactic concepts of caries pathology into clinical practice. Limited resources simulating clinical caries pathology exist for caries detection and excavation in the preclinical setting. The aim of this study was to develop an academic tool to simulate the visual and tactile sensation of caries pathology and assess its effectiveness in helping students develop confidence in their ability to detect and excavate caries. Methods: Simulated carious tyndont teeth were fabricated using Columbia Dentoform Tyndont Teeth and various mixtures of GC resin, pumice, sticky wax, yellow elastomer, and composite. All students in the Harvard School of Dental Medicine class of 2018 (n=35) were invited to participate in the caries detection and excavation preclinical simulation activity. Prior to the activity, participants completed a self-assessment survey measuring their self-reported confidence in caries diagnosis, detection, and excavation based on a seven-point scale (1=least confident to 7=most confident). During the session, students detected and excavated the simulated caries under the guidance of two D4 students. After the session, participants were asked to complete the same survey. Non-participants were invited to complete the survey as well and served as the control group. A three-month follow-up survey will be distributed. Results: Ten students attended the activity, and 25 elected not to attend. Among the non-participants, the response rate to the survey was 80% (n=20). Prior to the activity, participants and non-participants reported similar levels of confidence (mean average=4.68 and 4.18, respectively; p=0.42). Post activity, the participants reported higher levels of confidence in all areas than before, including clinical and radiographic diagnosis of caries, restorative treatment planning, differentiation of carious dentinal layers, caries excavation, and assessment of pulpal blushing (mean average 2.96, p=0.004). Conclusion: Following the activity, participants reported statistically significant higher confidence in their ability to diagnose, detect, and excavate caries. These results suggest that this preclinical exercise can be a useful tool in helping students translate didactic concepts of caries detection and excavation into clinical practice and may be worthwhile to incorporate into dental curricula.

P-005. Resilience and Fear of Failure in Predoctoral Dental Students
Jamie L. Parise, Michelle M. Lee, Nathaniel D. Krumdick, Kenneth J. Kadiziela, Midwestern University-Illinois

Educational Research
Predoctoral dental students experience extreme stress due to high academic demands and fear of failure. Resilience, or the ability to overcome adversity, can determine adaptive management of increased stress. An understanding of the relationship between resilience and fear of failure may facilitate successful completion of dental school, as well as successful transition to the workplace. This study aimed to examine resilience in relation to fear of failure in predoctoral students at one dental school. Methods: IRB approval was granted as exempt under 45 CFR 46.101(2). Participants were 134 third- and fourth-year dental students. After being provided with a study information sheet, the participants were invited to complete a demographic form, the Resilience Scale, and the Performance Failure Appraisal Inventory. All data collected were anonymous. Results: The results indicated that students with an overall higher fear of failure possessed lower resilience (r=-0.48, p<0.001). Moreover, one a standard deviation increase in resilience was associated with a 0.48 decrease in fear of failure (β=-0.48, p<0.001). The results also showed significant predictive relationships between resilience and fear of failure due to devolution in one’s self-estimate (β=-0.25, p<0.05) and fear of failure due to shame and embarrassment (β=-0.25, p<0.05). Conclusion: These results suggested that higher fear of failure was associated with lower resilience and that both fear of failure due to devolution in one’s self-estimate and fear of failure due to shame and embarrassment relied reliably predicted levels of resilience. These findings highlighted the importance of learning more about resilient attitudes and how fear of failure negatively impacts the ability to maintain a resilient mindset in predoctoral dental students. An opportunity exists for coaching dental students in managing stressors related to failing and maintaining healthy resilience while in dental school.

P-006. Providing Dental Students with Training in Correctional Oral Health Care in an Integrated Student-Faculty Collaborative Clinic
Mindy Truong, Zhen Shen, Lisa Simon, Harvard School of Dental Medicine; Leo Eisenstein, Saksham Gupta, Harvard Medical School; David Beckmann, Matthew Tobey, Massachusetts General Hospital

New Program
The United States has the world’s largest incarcerated population, and access to dental care is one of the most highly reported needs of formerly incarcerated people. In this program, an interdisciplinary faculty and student team implemented a dental clinic in a city jail as part of an integrated medical, dental, and mental health care team. The goals of the clinic are to a) provide oral health care to a population detained in a jail, b) provide students with educational exposure to correctional dentistry, and c) establish a model for delivering interdisciplinary health care in a correctional facility. Methods: Dental, medical, nursing, physician
Assistant, and undergraduate students all volunteer at the clinic, which is administered by an attending psychiatrist, dentist, and physician. Dental care is delivered by a third- or fourth-year dental student assisted by a first- or second-year student. An attending dentist is present throughout the encounter, and patients elect to be treated by students. Patients may be referred among dental, medical, and mental health teams within the same clinic session. An education team provides health education to detainees. All disciplines meet at the conclusion of the clinic to discuss the patients encountered and lessons learned. Results: Volunteering at the clinic is popular among dental students, with approximately 10% of the student body participating. Student participants have indicated increased interest in correctional health as well as working with other underserved groups. The clinic is the only opportunity for dental students at the Harvard School of Dental Medicine to experience the correctional setting, as well as the only student-faculty collaborative clinic in a correctional institution in the nation. Other health professions students have been trained to provide oral exams and provide dental anesthesia to patients through skill sharing among students at the clinic. Dental students developed an oral health module for the detainees education curriculum. Conclusion: This integrated clinic in a jail exposes dental students to correctional dentistry through team-based interprofessional care.

P-007. A Preclinical Suture Laboratory’s Effect on Dental Students’ Clinical Experiences
Hasanain Alani, Mohammed Ameen, Abraham Khanafer, University of Detroit Mercy
Educational Research
At this dental school, dental students are exposed to suturing techniques starting in the third year. To provide students with a sound understanding of simple suturing techniques and hands-on preclinical experience, the authors implemented a suture laboratory component as part of their oral surgery course during the second year of school. Throughout the laboratory component, students received hands-on training on cadavers, by practicing simple suturing techniques before starting their clinical rotations. The aim of this study was to investigate the laboratory’s role and effectiveness in preparing dental students in performing sutures during their oral surgery rotations. Methods: IRB approval was obtained prior to accessing information pertaining to the study. The survey was conducted with students in the third and fourth years (Classes of 2018 and 2017, respectively). The Class of 2017 did not have any preclinical suture training, while the Class of 2018 received training by an oral surgery faculty member in the form of the suture laboratory component. Members of the Class of 2017 were surveyed about their preference of having hands-on suturing training prior to their rotations, their level of readiness, and their confidence to perform suturing. The Class of 2018 students were given questions to evaluate their overall laboratory experience and readiness to perform sutures during their rotations after going through the preclinical training. Results: 39 survey responses from the Class of 2018 and 32 from the Class of 2017 were included in this study. On a scale of 1 to 10 with 10 being the most positive, the Class of 2018 averaged 7.18, while the Class of 2017 averaged 3.40 when asked to rate their abilities to suture. Also, 96% of the Class of 2017 strongly agreed that they would prefer having a preclinical suture laboratory, and both groups agreed that more practice sessions were needed. Conclusion: Suture lab was presented at the right time of the program as an effective tool that caused a significant skills improvement for the Class of 2018. Suture lab will be available for the next classes with more practice sessions to better prepare students for their oral surgery rotations.

P-008. “ADEA Hack-a-Thon” Suggests Interprofessional Education Most Vital to Academic Success
Meghan A. Kelley, Jennifer Towers, Irina F. Dragan, Tufts University
Educational Research
The aim of this study was to assess group presentations developed by participants in the 2015 and 2016 “New England Curriculum ADEA Hack-a-Thon.” During the event, students created presentations describing core components of fictitious dental schools. Each group identified curricula and values deemed most vital to academic success. Students were encouraged to develop a curriculum in which graduates would be competent in essential areas of dentistry. Methods: In this IRB-approved study, nine PowerPoint presentations were reviewed (five from 2015; four from 2016) for the following themes: public health, community service, research, health and wellness, interprofessional education, integrating technology, dental academia, business, evidence-based dentistry, pass/fail curriculum, problem-based learning, systems-based learning, and flipped classroom. Each presentation was de-identified prior to any data analysis. Mentions of key words/themes were counted and tabulated for each presentation, averaged for each year, and then compared by year. Results: In all nine presentations, the students reported feeling that interprofessional education was most vital to a successful dental curriculum. Of all themes presented in the 2016 event, interprofessional education was ranked highest (17.6%), less than in 2015 (22.6%). Dental research was a recurring theme in presentations: 14.1% (2016) and 16.5% (2015). In 2016, dental research was followed by community service and public health as themes, compared with 2015 when problem-based learning and community service were commonly identified as themes. Conclusion: Common themes identified showed that these dental students perceived that interprofessional practice along with community events were the most preferred educational tools. In a follow-up to this study, key informant interviews with event participants are under way to provide qualitative data to explain presentation choices.

P-009. Perceptions of Orthodontic Case Complexity Among Orthodontists, General Practitioners, Orthodontic Residents, and Dental Students
Andrew Heath, Elizabeth Heath, Jeryl English, University of Texas at Houston; Sercan Akyalcin, Tufts University; Cleverick Johnson, Elizabeth B. Swearingen, University of Texas at Houston
Educational Research
The aim of this study was to assess the perceptions of orthodontic case complexity among orthodontists, general dentists, orthodontic residents, and dental students and to compare their perceptions to the American Board of Orthodontics Discrepancy Index (DI). Methods: Orthodontists, general dentists, orthodontic residents, and dental students were invited to participate in a web-based survey. Pre-treatment orthodontic records of 29 cases with a variety of malocclusions and a range of DI scores were obtained. Participants were asked about types of orthodontic appliances used and the adequacy of their predoctoral orthodontic education, and they evaluated the complexity of the 29 cases on a 100-point visual analogue scale. Results: A total of 343 participants responded to the survey: 59 orthodontists, 81 general dentists, 33 orthodontic residents, and 170 dental students. The results showed that 71.6% of these general dentists provided some orthodontic services, with 21.0% providing full fixed appliances and 38.3% providing clear aligners. The responding orthodontists gave the highest adequacy of predoctoral orthodontic education rating, while the general dentists gave the lowest rating. The DI score was significantly associated with complexity perceptions (p=0.0168). The association between average complexity score and DI score varied significantly by provider group (p=0.0033), with the orthodontists and residents showing the strongest associations. When the DI score was greater than 15, the orthodontists and residents perceived cases as being more complex than other provider groups. Conclusion: The orthodontists and orthodontic residents in this study had better judgment than the other participants in evaluating orthodontic case complexity. The high correlation between orthodontic professionals’ perceptions and DI score suggested that their additional orthodontic education and training improved their ability to recognize case complexity. DI proved to be a clinically useful tool for assessing pre-treatment case complexity.

P-010. Pediatric Clinical Experiences of Predoctoral Students at UTHSCSA Campus-Based and Community Clinics
Kanu P. Grewal, Claudia I. Contreras, Kevin J. Donly, William D. Hendrixson, University of Texas Health Science Center at San Antonio
Educational Research
The aim of this study was to assess and compare the number of campus-based and community-based pediatric dental clinical experiences received...
by predoctoral students at the University of Texas Health Science Center at San Antonio Dental School for 2011-12 and 2014-15. Methods: A retrospective chart review was conducted to identify specific dental procedures performed on pediatric patients by third- and fourth-year dental students during their pediatric dental rotations in 2011-12 and 2014-15. Results: Each year, students received more experience at the community clinics than at the dental school clinic. They received basic clinical experiences at the dental school clinic during a one-week rotation in the third year and more diverse treatment experiences at the community clinics in a two-week rotation during their fourth year. The number of procedures performed in 2011-12 was lower than those performed in 2014-15. The authors suspect that the introduction of managed care has extended into private practices and chain clinics, thus influencing the patient pool at these clinics. At the dental school clinic, students complete preventive, restorative, and infant exam competencies and perform procedures that are central to pediatric dentistry treatment. The data showed that students had exposure to all age groups of children with most being 6-18 years. Each student had experience conducting infant exams, with one community clinic accounting for most of these experiences. This facility has a Women, Infants, and Children (WIC) clinic that provides the most pediatric patients. Dental students received experience in SSCs and restorative procedures, but limited exposure to space maintainers and pulp treatments. The availability of full-time dental faculty facilitated the learning experience for students at these clinical sites. At all three sites, students performed procedures under the supervision of pediatric dentistry faculty members. Conclusion: Rotations at community clinics made a significant contribution to the dental students’ pediatric clinical experiences in both quantity and diversity. These findings suggest that pediatric dental clinics with WIC and Head Start programs can serve as an important patient pool to help dental students gain experience with pediatric patients under the age of three.

Michelle Wedderburn, Renee Dahaney, Karla Reid, Suzanne Grey, Irving McKenzie, Sophia Khan, University of Colorado Educational Research
Oral health plays a role in one’s overall health and quality of life, and long-lasting outcomes can be achieved through educating younger generations. This study focused on children at Windward Road Primary and Junior High (WRPJH) School in Kingston, Jamaica. This community faces social and economic challenges affecting access to dental care. Government clinics do not offer adequate dental services, and oral health care knowledge is limited, resulting in poor oral health and malnutrition. The aim of this study was to ascertain the dental needs of children at the WRPJH School and, in doing so, improve their future oral health outcomes. To effect a positive change in oral health behavior, there needs to be a focus on dental education, prevention, and access to dental care. Methods: 80 students at the WRPJH School aged 5-13 years from Grades 1 and 6 were selected for the literature review and were analyzed for quality. The study was approved as exempt by the Oregon Dental Hygienists’ Association (ADHA) government relations counsel, had four categories: scope of practice, midlevel provider, current practice, and demographics. The study was approved as exempt by the Pacific University IRB. Results: A total of 442 surveys were returned for a response rate of 36%. Over half (59%) of the respondents reported believing that a midlevel provider is needed in the state. Perceptions that a midlevel provider was needed were significantly higher among respondents who held an expanded practice permit and were members of the ADHA (p<0.0001). Of the respondents, 91% (n=400) agreed or strongly agreed that if a midlevel provider were introduced in Oregon, it should be a registered dental hygienist. Among these respondents, 43% (n=186) were interested in becoming midlevel providers, and 47% (n=203) perceived that the education for a midlevel provider should consist of additional training ending in a bachelor’s degree. The majority of those interested in becoming a midlevel provider (74%, n=137) preferred to gain their education through online teaching with a clinical internship. Conclusion: These results suggest that most dental hygienists in Oregon perceive there is a need for a midlevel dental provider. An overwhelming majority of the dental hygienists in this study noted that this provider should already be a registered dental hygienist. Their perceptions regarding the preferred form of education suggest that those interested in developing curricula for a midlevel provider should consider including online teaching with a clinical internship component.

P-012. A New Midlevel Dental Provider in Oregon: Dental Hygienists’ Perspectives
Courtney Gallaway, Janet Lee, Kathryn P. Bell, Amy E. Coplen, Pacific University Educational Research
Methods: A survey was mailed on December 5, 2013, to a 30% (n=1231) sample of dental hygienists registered in Oregon that included all expanded practice permit holders (n=351). All other survey recipients were randomly selected from the total 4,101 registered dental hygienists in Oregon. The 32-question survey, developed in consultation with the chair of the Oregon Dental Hygienists’ Association (ADHA) government relations counsel, had four categories: scope of practice, midlevel provider, current practice, and demographics. The study was approved as exempt by the Pacific University IRB. Results: A total of 442 surveys were returned for a response rate of 36%. Over half (59%) of the respondents reported believing that a midlevel provider is needed in the state. Perceptions that a midlevel provider was needed were significantly higher among respondents who held an expanded practice permit and were members of the ADHA (p<0.0001). Of the respondents, 91% (n=400) agreed or strongly agreed that if a midlevel provider were introduced in Oregon, it should be a registered dental hygienist. Among these respondents, 43% (n=186) were interested in becoming midlevel providers, and 47% (n=203) perceived that the education for a midlevel provider should consist of additional training ending in a bachelor’s degree. The majority of those interested in becoming a midlevel provider (74%, n=137) preferred to gain their education through online teaching with a clinical internship. Conclusion: These results suggest that most dental hygienists in Oregon perceive there is a need for a midlevel dental provider. An overwhelming majority of the dental hygienists in this study noted that this provider should already be a registered dental hygienist. Their perceptions regarding the preferred form of education suggest that those interested in developing curricula for a midlevel provider should consider including online teaching with a clinical internship component.

P-013. The Benefits of Peer-Assisted Learning in Dental Education
Amanda M. Muzzio, Analia Veitz-Keenan, New York University Educational Research
Peer-assisted learning (PAL) has been incorporated into many dental schools around the world as an efficient and effective model for students to learn, teach, and navigate through the curricula. Such PAL programs include student teaching, student-led tutoring, and peer-to-peer mentoring. Both schools and students appear to benefit from using this student teaching and mentoring approach. PAL is able to allow schools more flexibility in training for more teachers, while simultaneously giving both peers the opportunity to engage and learn. Previous studies have begun to demonstrate the effectiveness of PAL programs in clinical and didactic courses based on test results and positive student perceptions of the programs. Students have reported that PAL allowed them to feel more relaxed and to experience a more supportive and approachable learning environment. Without faculty present, students perceived that they could ask questions openly without the influence of faculty perceptions on the student. This study sought to explore the attitudes and experiences of dental students involved in the PAL programs at New York University College of Dentistry (NYUCD). This information can potentially be used to improve the PAL programs for the benefit of students and the school alike. The aims of our study were to describe the benefits and areas of improvement pertaining to PAL. Methods: The IRB deemed this study exempt from review. A literature search was performed for articles that assessed the value of PAL used in academia. An anonymous survey was delivered to the student body at NYUCD to assess the students’ experience and perceptions of the offered PAL programs. Results: Nine studies were selected for the literature review and were analyzed for quality. The survey was distributed to students. Conclusion: This study furthered the understanding of how student-led teaching and mentoring can be an important model for navigating the health sciences, along with the areas of improvement in the PAL at NYUCD.
P-014. The Effects of Predoctoral Orthodontic Education on the Perceived Benefits of Orthodontic Treatment: A Survey Study

Dayoon Lee, Soohi Yim, Edmund Khoo, New York University Educational Research

Patients seek orthodontic treatment for a variety of reasons ranging for minor esthetic concerns to complex interdisciplinary rehabilitation. In the U.S., orthodontic treatment is so commonplace that it is almost a rite of passage for most children and adolescents. While the perceived benefit of orthodontic treatment on the patients’ quality of life is an issue that has been studied before, there have not been many studies on the effects of predoctoral orthodontic education on these perceived benefits. The aim of this study was to survey the effects of predoctoral orthodontic education on the perceived benefits of orthodontic treatment. Methods: Two dental student groups were surveyed. The first group was first-year dental students who had not been exposed to education on orthodontic treatment. The second group consisted of fourth-year dental students who had been exposed to education on orthodontic treatment. All participants were given the same questionnaire asking for their perception of the benefits of orthodontic treatment in regards to esthetics, function, and overall quality of life. Results: The results were interesting.

P-015. Mindset and Clinical Success Survey of Dental Students

Madiha A. Khanani, Rita R. Parma, William D. Hendricson, University of Texas Health Science Center at San Antonio Educational Research

This study examined the concept of fixed and growth mindsets and their impact on clinical success as described in Mindset: The Psychology of Success by Dr. Carol Dweck. The aim of this study was to explore the question “Does mindset influence indicators of clinical success?” by identifying the mindsets of University of Texas Health Science Center at San Antonio senior dental students, obtaining clinical faculty members’ retrospective ratings of selected indicators of each student’s clinical performance, and determining if there was a relationship between mindset and clinical success. Methods: The Mindset and Clinical Success (MACS) survey, consisting of eight questions based on Dweck’s book, was administered to fourth-year dental students. A clinical success survey using a Likert scale was administered to multiple faculty members from each clinic group to rate students’ clinical performance based on factors such as performing under pressure, improving with feedback, and managing stressful situations. Results: For preliminary results, 37 dental students and five clinic faculty members completed the MACS survey. The results indicated that students with a growth mindset scored significantly higher than other students. Conclusion: As dental students enter clinic, it is important to understand factors that can help them succeed. The preliminary results suggest that students with growth or tending toward growth mindsets were perceived as more successful by faculty members. Although perception of success is often based on clinical grades and production numbers, assessing mindset as a predictor of dental students’ clinical success demonstrates the importance of introducing students to the mindset concept as part of dental school curricula.

P-016. The Gluten-Free Operative and Prophylaxis Dental Procedure

Melissa E. Ing, Kyle Jonna, Michael Miskelly, Britta E. Magnuson, Sarah Pagni, Shubha Nanda, Tufts University Educational Research

Celiac disease is an autoimmune disorder in which exposure to gluten causes small intestine damage. Gluten is a thickening agent found in foods, shampoos, and cosmetics. The number of celiac disease diagnoses has increased in recent years. Even trace exposure to gluten can cause severe gastrointestinal injury and discomfort in celiac disease-positive patients. In 2013, the FDA imposed a 20 ppm limit for gluten content in order for a food to be labeled as gluten-free, but currently there are no labeling regulations for non-food products. Fear of exposure to gluten-containing dental materials and subsequent gastrointestinal problems can intimidate celiac disease-positive patients seeking oral health care. This study evaluated gluten content in dental materials routinely used in Tufts University School of Dental Medicine (TUSDM) Predoctoral Student Clinic operative and prophylactic procedures. Methods: The study was non-human subjects research. In the study, 26 routinely used TUSDM operative and prophylaxis dental materials were analyzed for gluten content with an Enzyme Linked Immunosorbent Assay (ELISA) kit, which uses anti-gluten antibodies to test for the presence of gluten proteins. The products were tested in triplicate, and the results were analyzed in comparison with a standard curve set with materials included in the test kit in order to ascertain the amount of gluten contained in each product. Results: According to the ELISA literature, for a product to be considered gluten-free, it must have gluten content below 5 ppm. All products tested showed gluten levels below 5 ppm, which is below the 20 ppm limit established by the FDA for a food product to be labeled gluten-free. Conclusion: For a routine operative or prophylaxis visit, a patient visiting the TUSDM clinic is not at risk of exposure to gluten from the materials tested. All materials used in other dental disciplines at TUSDM should be tested to guarantee gluten-free dental visits. In addition, all products used in the dental setting including items such as soaps and lotions should be gluten-free in order to provide a gluten-free dental environment.

P-017. Intraprofessional Education of Dental and Dental Hygiene Students: Student-Perceived Benefits and Curricular Suggestions

Marita R. Inglehart, Julianne Doctor, Elizabeth Cahill, Martha McComas, University of Michigan Educational Research

In 23 U.S. universities, dental and dental hygiene students are educated side-by-side. The aims of this study were to explore which benefits dental and dental hygiene students perceived in intraprofessional education, which curricular suggestions they would like to have used in intraprofessional education, and whether the number of joint courses was correlated with the perceived benefits of intraprofessional education. Methods: Survey data were collected from 375 dental and 117 dental hygiene students from 12 U.S. universities that have both a dental school and a dental hygiene program. Results: The majority of respondents agreed/agreed strongly that having joint classes with dental and dental hygiene students would allow them to develop better interprofessional relationships (57%), gain a better understanding of the roles of the members of the other profession (53%), and a better understanding what the other profession “is all about.” Suggestions of curricular interventions in classroom-based settings included having a lecture about the roles of dentists and dental hygienists (74%) and discussions of professional roles in joint classes (73%). Other endorsed classroom-based interactions were to include intraprofessional group projects (57%) and more in-class time for intraprofessional projects (54%). The majority wanted “partnering up” in lab courses, and numerous specific suggestions were made for increased clinical interactions such as mutual shadowing (54%) and practicing “patient hand-off” (69%). Only 24% indicated that they interacted with students of the other profession regularly. However, 59% wanted to have more joint educational experiences, and 49% wanted to take more intraprofessional courses with each other. The 12 schools differed in the number of joint courses from 0 to 6. The more courses dental and dental hygiene students jointly attended, the less likely they were to agree that joint courses allowed them to get to know the members of the other profession better (r=-0.15; p=0.001) and to develop better interprofessional relationships (r=-0.13; p<0.01). Conclusion: The results of this study suggest that merely educating dental and dental hygiene students side-by-side in classes does not result in increased intraprofessional understanding. Curricular interventions, especially in clinical settings, should be developed.

P-018. Interactive Media Embedded in Preclinical Dental Education to Improve Learning

Nicole Liu, Analia Veitz-Keenan, New York University Educational Research

Developing clinical practice competence is a complex process that is difficult to achieve. Preclinical and didactic courses are necessary to expose students to the basic skills required before entering the clinic. However, the skills necessary for competence are difficult to remember when they need to be applied. The advantage now in education is the possible use...
of interactive media. Interactive modules can be embedded in courses and later accessed by students before clinical practice. Many products have been created for learning by incorporating videos and evaluations. Students can watch the modules multiple times while faculty members can use the system for evaluation and assessment. However, there is limited evidence showing that integrating technology-enhanced teaching with traditional approaches has the potential to improve clinical competence. There are also claims that interactive modules may help bridge the gap between theory and practice. To facilitate learning in several courses in various disciplines at New York University College of Dentistry, a series of interactive modules were created to facilitate preclinical and clinical experiences. The aim of this study was to evaluate the students' of acceptance and participation with this new technology. Methods: An anonymous questionnaire was used to assess the efficacy, comprehension, and level of acceptance of the interactive modules. Results: The results of the questionnaire were analyzed to evaluate the general level of acceptance of the interactive modules. Conclusion: The available educational literature provides support in varied uses of interactive modules. However, many factors need to be taken in consideration in assessing their usefulness for clinical practice. The results of this study are helpful in evaluating the acceptance of interactive modules for teaching and learning.

P-019. Measuring Dental Students’ Knowledge Acquisition and Retention After One Year
Timothy Dang, Woonjae Kim, Natalie Deleanu, Rebecca Poling, New York University
Educational Research
The aim of this study was to determine if knowledge acquired by 375 second-year (D2) dental students from viewing online modules that contained embedded quiz questions was 50% or more retained by the same students one year later. Methods: In January 2015, 375 D2 students were enrolled in an esthetics course in which they were instructed to learn from specially designed online presentations that included embedded quiz questions. Students were to answer these questions forcing recall of the important concepts. Answers gave correct feedback and why. Students also took separate knowledge self-assessments in which the same students one year later. Methods: In January 2015, 375 D2 students were compared with the data from the 2016 knowledge self-assessments. The students were informed that the scores on these tests would not affect their grade in any way. The data from the 2015 knowledge self-assessments were compared with the data from the 2016 knowledge self-assessments. Results: The third-year dental students retained more than the 50% that was expected. Conclusion: These results suggest that embedded quiz questions in online presentations may improve retention of important concepts up to one year. However, confounding factors should be examined, and more research on retention rates is needed.

P-020. Identifying Stress-Related Variables: Building Effective Programs to Reduce Student Burnout
Lauren Gerkowicz, Sarah Pagni, Ellen Patterson, Tufts University
Educational Research
Multiple published studies have documented a high prevalence of stress and burnout in dental students. However, it is unclear how dental schools can best identify effective, targeted student interventions. To address these questions, a longitudinal survey research study was designed to explore multiple measures of perceived stress and variables related to stress resilience and academic performance. The aims of the study were to identify: 1) variables associated with higher levels of perceived stress, 2) type and prevalence of activities used to manage stress, and 3) relationships between stress symptoms, life events, and academic performance. These data will inform development of programs that identify and assist students at highest risk for stress-related problems, create tools and resources to promote stress resilience, and enhance dental school curricula to promote student wellness as integral to professional development and optimal patient care. Methods: The online voluntary survey included multiple validated measures of perceived stress as well as sociodemographic information, type and frequency of relaxation/stress management activities, and multiple additional variables linked to stress. The survey was administered twice (fall 2015 and spring 2016). Survey responses were matched and linked to students’ academic records, then re-identified to protect student confidentiality. A $10 gift card incentive was offered for completing each survey. Results: 125 D1 students completed both surveys. Statistically significant associations included decreased perceived stress in the second survey and the finding that students who used alcohol, marijuana, or sedatives at least once a week showed higher levels of stress, depression, and anxiety. No statistically significant associations were found between academic performance and the following variables: commute length, undergraduate major, being a caretaker of children, and time spent on active vs. passive stress-reduction activities. 65% of the D1 students reported believing that significant life events impacted their academic performance. Conclusion: Preliminary data analysis demonstrated that stress-related symptoms were common and students reported a wide range of activities to self-manage their symptoms. This ongoing study will provide data regarding modifiable variables associated with stress and its impact on dental students’ academic performance and represents an important step toward the development of effective interventions to promote student wellness and stress resilience.

P-021. Health Issues Among Dental Students
Amanda Andre, Maureen McAndrew, New York University; Gaëlle Pierre
Educational Research
Various research studies have focused on the adverse effects of stress on dental students. However, there are no studies that assess the overall quality of life of students and the effect of health choices on their quality of life. The purpose of this study was to assess the main health issues affecting the quality of life of dental students. The analysis included often overlooked aspects such as diet, activity level, family relationships, and mental health. Methods: The WHOQOL-SRPB BREF survey instrument was given to a population of first-, second-, third-, and fourth-year dental students to measure overall quality of life. As a follow-up questionnaire, the 26-item 2015 Boyton Health Service College Student Health Survey was given to the same population of students. The Boyton survey is applicable to dental students and collects information about leisure time, fitness/activity level, alcohol use, mental health status, and drug use, including the use of stimulants as a study aid. The anonymous data were collected in paper and online formats (Qualtrics). No identifiers were linked to the subjects. Results: The total number of participants was 401. The paper-format surveys were entered into the Qualtrics online survey system and analyzed. The quality of life assessment showed that most of these dental students considered their quality of life to be good and felt either neutral or satisfied with their health. Females were associated with higher quality of life in the social relationships domain, and psychological domain scores were significantly lower for the third-year than the first-year students (p=0.031). The percentage of students who used alcohol was 71.7%, while 4.6% considered themselves smokers. The prevalence of medication use as a way to increase focus while studying was 15%.

P-022. Advancing Dental Student Education in Cone Beam Computed Tomography
Elizabeth Doman, Braxton Haremza, Kristina Okolinska-Mulligan, University of Detroit Mercy
Educational Research
Cone Beam Computed Tomography (CBCT) is an imaging technique similar to computed tomography in which the X-rays are divergent, forming a conical beam. The uses of CBCT include a wide array of areas in dentistry in which it may become the standard of care. It is important for schools to incorporate CBCT so that graduates can be competent in modern radiographic techniques. The aims of this study were to investigate the need for implementation of teaching CBCT to dental students and how students think that CBCT education should be implemented in their dental school coursework to prepare them for future practice. Methods: A review of best learning methods was completed to formulate a plan of action for incorporating CBCT education and competence. A survey of second-, third-, and fourth-year students from five dental schools was
conducted, following informed consent and IRB approval. The survey was designed to determine the students’ thoughts on how they could best learn the material and the parameters and depth of the course needed. If students had been educated on CBCT, they were asked questions addressing the teaching methods used, material covered, competence in exposing and/or interpreting a CBCT, the most effective teaching method(s), what year CBCT education should be introduced, and if they would consider using CBCT in their future career. The students were also asked to rank applicability of CBCT in their careers after graduation and how CBCT education should be incorporated into the curriculum for future students.

Results: The results showed that 86% of these dental students had had CBCT education in their dental education in the form of live lectures focused on 3-D anatomy, case-based oral pathology, and radiographic interpretation. Despite the education received in their dental programs, the majority of these students perceived they were not competent in interpreting (49%) or exposing (54%) a CBCT scan. Conclusion: The survey conducted can act as a guide as to the methods of incorporating CBCT education. Given these findings, new methods of advancing CBCT education need to be formulated to increase competence among graduates.

P-023. Flip or Flop: The Flipped Classroom Model Improves Dental Students’ Comprehension
Sara Tejani, Hiroe Ohyama, Harvard School of Dental Medicine; Hiro Kobayashi, Tokyo Dental College
Educational Research
The flipped classroom model is a pedagogical method that encourages independent learning. Before class, students are assigned materials to explore new learning objectives. In the classroom, these objectives are reinforced through group activities and case studies. The aims of this study were to determine the efficacy of the flipped classroom model and students’ impressions of the model. Methods: Students in the Harvard School of Dental Medicine Class of 2018 participated in flipped classroom activities during the operative dentistry course. Students were instructed to watch a 19-minute video on composite resins before class. They then completed an in-class assessment and survey. The assessments and surveys were analyzed to determine students’ comprehension of the material as well as their opinions on the flipped classroom model. Students then engaged in an interactive group activity, including case discussions, to reinforce the concepts introduced in the video. At the end of the activity, students completed another assessment and survey. Results: The entire third-year class of 35 students participated in the study. The average score on the initial assessment was 57%, while the average score on the final assessment was 74%. Of these students, 31 (89%) had a higher score on the second assessment than the first, three students (9%) had a lower score, and one student’s score did not change. Of these students, 17 (50%) had a favorable view of the flipped classroom model before and after the exercise, and there was a 17% increase in their scores. Seven students (21%) had an unfavorable view of the teaching model before and after the activity, and they only had an 11% increase in their scores. Conclusion: Although these students comprehended some didactic material from the video lecture, their understanding drastically improved after the in-class activity since their average score on the assessment improved from 57% to 74%. Students with a favorable view of the flipped classroom model had greater improvements in their scores compared to students with less favorable view. These results suggest that a flipped classroom model can be a powerful tool in dental education, especially for students who view the model favorably.

P-024. Self-Directed Digital Learning: When Do Dental Students Study?
James Zhong, Lorne D. Koroluk, Ceibh Phillips, Tate H. Jackson, University of North Carolina at Chapel Hill
Educational Research
Self-directed, web-based learning methods have been shown to be effective in predoctoral dental education, but uncertainty remains as to how contemporary students use such resources. The aim of this investigation was to evaluate, using direct observation, the utilization patterns of web-based learning modules in relation to planned self-study time allocated across a predoctoral dental curriculum and proximity to course examinations. Methods: The Growth and Development (G&D) curriculum at the University of North Carolina at Chapel Hill School of Dentistry uses self-directed web-based learning modules in the place of lectures and includes scheduled self-study times during normal 8AM-5PM school hours to provide time to use the modules. Module access (using a unique log-in/password) for the DDS Class of 2014 was recorded for date and time across four G&D courses between summer 2011 and fall 2012. Results: There was a statistically significant difference in the likelihood of a student accessing modules during scheduled time across the curriculum. Conclusion: As dental students progressed through the curriculum, self-directed learning module access both during scheduled times and in proximity to examinations varied significantly. This evidence may help optimize dental curricula using such resources.

P-025. The Use of Student-Response Systems in a Dental School Curriculum
Sahar Mostafavi, Benjamin D. Smith, Jennipher Murphy, Sarah Pagni, Irina F. Dragan, Nadeem Karimbux, Tufts University
Educational Research
The use of technology in dental education has paved the way for innovative teaching methods and increased student engagement. Student-response systems aim to increase active learning inside the dental classroom by encouraging participation. At Tufts University School of Dental Medicine (TUSDM), the use of the student-response system Learning Catalytics (LC) was implemented in 2013. Characterizing LC’s broad usage in the current curriculum and tracking trends in technology is an important first step in analyzing the outcomes and effectiveness of this tool. Despite LC’s growing popularity among educators, this information has not yet been studied. The aim of this study was to examine the extent and methods of use of the LC system across the TUSDM curriculum since its implementation. Methods: A retrospective study design was approved by the TUSDM Institutional Review Board. Data from all 115 existing clinical, preclinical, and didactic/basic science courses at TUSDM were collected and analyzed to identify the following outcomes: number and types of courses using LC, number and types of questions delivered to students using LC, and correct/incorrect responses per question. Counts, descriptive statistics, and percentages were computed to compare data points across the three years to observe changes and progression throughout LC’s use. Results: In 2013, two courses at TUSDM used LC student-response technology. In 2014 and 2015, the number increased to six and 19, respectively. All courses using LC were clinical courses in 2013 and 2014. In 2015, 21% didactic and 11% preclinical courses began implementing LC. Since 2013, there has been a cumulative 1625% increase in the number of LC questions delivered to students, with student participation remaining consistent at an average of 61%, 65%, and 60% in 2013, 2014, and 2015, respectively. Conclusion: The rapid growth of emerging technological teaching tools such as LC can pose an overwhelming task for educators who wish to utilize these tools into dental school curricula and increase student participation. Follow-up survey studies on student and faculty perceptions of LC will provide valuable data on how to engage students and optimize its use.

P-026. First-Year Dental Students’ Interest in Learning about Diverse Groups of Patients: A Longitudinal Analysis from 2000 to 2016
Rabia Asifaq, Evan D’Silva, Rebecca Larson, Marita R. Inglehart, University of Michigan
Educational Research
The U.S. surgeon general’s report on oral health showed that patients from socioeconomically disadvantaged backgrounds and/or minority populations and children and patients with special health care needs (SHCN) are especially at risk for increased oral disease and challenges when seeking oral health care. The aims of this study were to gain a better understanding of the factors underlying the interests of first-year dental students (D1s) in learning about communicating with patients from diverse backgrounds between 2000 and 2016. Results: The participating students’ interest in learning about
communicating with patients from diverse populations at the beginning of the course centered around four themes. Theme 1 was related to an interest in providing care for patients with SHCN and Theme 2 to learning about patients from socioeconomically disadvantaged or minority groups, children, and older adults. Theme 3 focused on learning about addictions and chronic pain and Theme 4 on learning about gender and sexual orientation. The majority of the D1s in all years were interested in learning about children, older patients, and patients with mental health issues. More recent cohorts were also interested in learning about treating patients from socioeconomically disadvantaged or minority groups and treating patients with SHCN, anxiety or addiction disorders, or chronic pain. However, the D1s in 2016 had a higher mean interest in learning about patients from different ethnic groups, learning about the classification of mental disorders, treatment approaches to mental disorders, and treating patients with anxiety disorders and chronic pain than the D1s in 2000. Conclusion: A difference in these D1s’ responses over time was found. The most recent cohort of D1s was more interested in learning about patients from diverse groups than were the earliest cohort in 2000. Engaging dental students in comprehensive education about patients with SHCN and from diverse populations is crucial to ensure that future providers are knowledgeable and comfortable with providing care for these patients.

P-079. Alternative Tobacco Product Use and Knowledge Among Dental Students
Rizvan A. Moosvi, Eric C. Cheng, New York University

Due to the negative oral health outcomes associated with smoking cigarettes and alternative tobacco products (ATPs), dental health professionals have a unique opportunity to counsel patients in tobacco product cessation. The aim of this study was to describe dental and dental hygiene students’ use, knowledge, and beliefs about cigarettes and ATPs, including student education about tobacco cessation and counseling. This study was IRB approved for the use of human subjects. Methods: 1,708 dental, postgraduate, and dental hygiene students at New York University (NYU) College of Dentistry were asked to complete an online confidential survey. Results: A total of 708 students (39.7%) responded. Of these, 146 students (20.1%) reported ever using cigarettes, while 253 (35.7%) reported ever using any ATP. The students reported feeling they received inadequate training on ATP cessation, were neutral about receiving enough training on cigarette cessation, and reported being somewhat confident or not so confident about being able to counsel a cigarette smoker or ATP user, respectively, to quit. By their fourth year of dental school, 77.8% of the responding students had counseled someone to stop smoking cigarettes, but only 40.7% of those had counseled someone to stop using ATPs. Additionally, these students felt more confident and reported receiving significantly more education on cigarette cessation interventions than ATP cessation interventions (p<0.001). Conclusion: In this sample, dental students reported low confidence in helping people quit using tobacco products and reported feeling they received inadequate training on tobacco cessation interventions. These findings call for a revised tobacco education curriculum for dental students, focused on building knowledge and confidence for promoting tobacco cessation. This study was supported by funds from NYU College of Dentistry to AIS.

P-030. Efficacy of Digital Self-Assessment in Operative Preclinical Dentistry
Hiro Kobayashi, Tokyo Dental College; Cliff Lee, Supatiriya Chutnan, Malu Almusa, Paula Bavia, Hiro Ohyama, Harvard School of Dental Medicine

Self-assessment is a critical component required by most health education regulatory bodies, including the Commission on Dental Accreditation (CODA). Recently, the application of digital technologies as assessment tools has been used in restorative dentistry. However, this has been challenging in operative dentistry due to the need of convergent walls for direct restorations. The aim of this study was to determine whether
digital technologies helped students to self-assess in operative preclinical procedures. Methods: 35 students (Class of 2018) at Harvard School of Dental Medicine completed preclinical practical assessments for Class II amalgam and Class III composite procedures. All preparations were scanned with CEREC Omnicam (Sirona Digital Systems, New York). Students self-assessed their actual preparations on typodonts, as well as digital scanned images with the analyzing tools from software (CEREC Software 4.4.2). Four independent operative faculty members graded students’ preparations visually and then with digital tools using the same rubrics as the students. The digital assessment was performed by students and faculty approximately ten days after conventional assessment. The differences between student score and the average faculty score for each exercise, as well as the differences between conventional and digital evaluations, were calculated and analyzed. A survey regarding the digital self-evaluation was also given to the students. Results: In both assessments, lower performing students were more likely to overestimate their performance, while the higher performing students tended to estimate their performance similar to the faculty grades. Although the lower performing students overestimated their work, their digital evaluation scores were closer to the faculty grades. The higher performing students did not show much improvement in self-assessment with digital evaluation. There was no statistical difference between faculty digital and conventional assessments. Students’ survey results showed that the students preferred the conventional evaluation as the main method in preclinical exercises, but they believed that digital evaluation was a valuable learning experience.

Conclusion: In this study, digital tools helped the students to self-assess their performance. The lower performing students showed the most improvement in digital self-assessment. The students also perceived that digital technologies were useful aids to improve self-assessment.

P-031. Effects of Varying Feedback on Performance in Predoctoral Orthodontic Competence
In a previous study, students receiving written comments without grades on formative assessments demonstrated higher confidence in performance and more positive attitudes toward instruction compared to groups that received pass-fail grades or emoticons. The aim of this study was to investigate the performance of the different feedback groups on summative case-based competence assessments. Methods: The study was reviewed and exempted by the New York University IRB (13-R-9723). Students in D3 Orthodontics Seminars (2013, 2014) received six, two-hour weekly sessions of instruction. Students were given seven formative assessments based on clinical simulation cases for which they constructed problem lists, treatment objectives, and treatment plans scored to the same criteria. Groups of students received different types of feedback on formative assessments: pass-fail grades (PF), emoticons (EM), and written comments (WC). At the final session, students took summative assessments consisting of four cases. Comparisons were made between EM (N=91) and WC (N=85) groups, which received the same cases for the summative assessment. Comparisons with the PF group could not be made because those students received different cases. Performance on summative assessments was based on the number of cases without critical errors (CE): A=0 CE on four cases, A=0 CE on three cases, B=0 CE on two cases, B=0 CE on one case. Passing was set at zero CE in at least one case in the assessment. Performance grades were categorized as high (A/A-/B+), and low quality (B/B-). Data were calculated by percentage (Grade/N), and error bars were set at 95% confidence intervals. Results: Although there was a trend favoring the WC group, there was no statistically significant difference in performance. Chi-square test results: letter grades, $p=0.57$; high vs. low quality grade, $p=0.62$; pass vs. fail, $p=0.39$. Though written comment feedback positively influenced students’ confidence, this study found that it did not show a significant performance effect. The data suggested differences in performance favoring the WC group. The effect was more pronounced when summative grades were collapsed into high/low quality and pass/fail. Future studies will investigate if this effect is reproducible.

P-032. Does a Local Dental Anesthesia Review Module Increase the Confidence of Third-Year Dental Students at Start of Their Clinical Education?
Beatriz E. Fortanely, Kim T. Do, Earlanda L. Williams, William D. Hendricson, University of Texas Health Science Center at San Antonio Educational Research
Many dental students at the start of their clinical experiences are concerned about administering local dental anesthesia injections (LDAI). At the University of Texas Health Science Center at San Antonio School of Dentistry, dental students’ primary LDAI training occurs as a DS1. Recall of this information two years later, at the start of DS3 clinic, is often lacking. The aim of this study was to determine whether a review module (RM) of LDAI before DS3 clinic increased the confidence of students when providing LDAI. Methods: The LDAI RM was developed using a lesson plan incorporating review of injections and anatomy on cadavers, skulls, and 3-D models that had previously been administered in 2015 to teach DS1 students about LDAI. A survey was administered to all 113 DS3 students via Google Surveys regarding their confidence level for anatomy and injection technique and asking them to voluntarily sign up for the RM, held two days before their first clinical session. After the RM, a post survey was administered to the 70 participants. Two months after the RM, follow-up surveys were administered, one to the 70 students who attended and another to the 43 students who did not attend, with 100 surveys received. Results: Approximately 51% of the students reported feeling their anatomy knowledge was good/excellent after their DS1 LDAI education compared to 99% after the DS3 RM ($p<0.0001$). Also, 39% of the students agreed/strongly agreed that they were confident to give LDAI on live patients after their DS1 experiences, compared to 91% after the DS3 RM ($p<0.0001$). On the follow-up survey, 100% of those who participated in the RM reported it had increased their confidence in giving intraoral injections. Furthermore, 98.4% of the students who attended the RM reported that their confidence level to give their first LDAI was good/excellent as compared to 81% who did not attend the RM ($p<0.0001$). Conclusion: These students perceived that a timely LDAI RM prior to the start of DS3 clinic was a beneficial experience that increased their anatomical knowledge and increased their confidence to administer LDAI to patients.

P-033. Do Predoctoral Teaching Experiences Influence Dental Students to Pursue Academic Careers?
Oksana Nad, Maureen McAndrew, New York University Educational Research
As dental schools struggle with faculty shortages, it is imperative to investigate programs that offer students the opportunity to begin teaching while still in dental school. The aim of this study was to discover if students who engaged in teaching assistant programs while in dental school were more likely to pursue positions as part-time or full-time faculty members. Methods: This research was a retrospective follow-up study, in which former teaching assistants (TAs) from two TA programs at New York University (NYU) College of Dentistry were tracked down from 2005 to 2014 to determine if they had continued with academia. Using a list of 294 former TAs from the “Selective in Teaching Skills” and the “Practicum in Clinical Teaching” programs, these individuals were contacted via email and asked to complete a short Qualtrics survey containing questions on demographics, financial debt, previous teaching and research experiences, and their current position in dentistry. Results: 106 individuals completed the survey in its entirety resulting in a 36% initial response rate. The results showed that the majority of the previous TAs went into private practice (78%), a General Practice Residency (45%), or a specialty program (44%). Only 27 previous TAs had a part-time (19.6%) or full-time (6.9%) teaching appointment. Of these respondents, 81% taught for enjoyment, 79% taught for intellectual stimulation, 65% taught for the interactions with students, and 40% taught for networking. Student loan debt (45.8%), university building a private practice (34.7%), and family commitments (19.4%) were the most common reasons given for not pursuing a teaching career. However, 75% said they planned to teach mid-career or later in their career, 27.8% planned to teach throughout their career, and only 6.9% had no plans to teach.
Conclusion: The preliminary results suggest that students who participated in the NYU teaching assistant programs gained a foundation for teaching. However, student loan debts and limited teaching opportunities interfered with their interest in teaching.

P-034. Dentists’ Perspectives on Cariogenicity of Infant Foods
Jill Bleything, Bosch Lisa, Missouri School of Dentistry & Oral Health
Educational Research

The aim of this survey study was to investigate dentists’ opinions of the cariogenicity of breast milk, bovine milk, and infant formula, providing insight to variables that may influence these opinions and the need for dental educators and researchers to address this topic as it relates to the epidemic of early childhood caries. Methods: SurveyMonkey was used to survey dentists attending the Greater St. Louis Dental Society’s Mid-Continent Dental Meeting in October 2015 and the Chicago Dental Society’s Mid-Winter Dental Meeting in February 2016. Dentists were approached randomly in person and asked to complete a 15-minute survey. The survey consisted of 20 questions, ten of which concerned demographics, while the remaining ten were questions regarding confidence in cariogenicity and risk of decay for each food source. Results: There were a total of 370 respondents to the survey (57% male). Among the respondents, 15% thought that infant breast milk was cariogenic, and 15% had no confidence that breast milk was cariogenic. Another 52% were moderately confident that formula was cariogenic. Similarly, 15% thought bovine milk was cariogenic, while 15% had no confidence that it was cariogenic. However, 33% were moderately confident that breast milk was cariogenic. Also, 8% thought that infants who breastfeed beyond two years were at greater risk for decay. Conclusion: Overall, among the participating dentists, breast milk was the infant food least frequently identified as cariogenic. The percentage of dentists identifying formula and bovine milk as cariogenic was similar. However, within each food, there was significant disagreement about its cariogenicity, especially infant formula. Conclusion: The American Academy of Pediatrics and the American Academy of Pediatric Dentistry do not align on their recommendations concerning infant food sources at this time, which may have contributed to the mixed results among this study’s participants. Clear and solid guidelines concerning infant food sources and thus association with early childhood caries are needed for implementation in dental education and services provided by dental professionals.

P-035. Dental Students’ Perceptions of LGBT Education
Jessica M. Grenfell, Conor O’Brien, Andrew Schwartz, Dolores Cannella, Stony Brook University
Educational Research

Lesbian, gay, bisexual, and transgender (LGBT) individuals comprise 3.8% of the U.S. population, roughly nine million people. In the current climate of awareness about inclusion and representation, future dental professionals must be prepared to serve a diverse patient pool in a professional and appropriate manner. The aim of this survey was to assess Stony Brook School of Dental Medicine students’ perceptions of their preparation to work with LGBT patients and coworkers. The survey also assessed if the students felt there was a need to incorporate more LGBT-specific education into their education. Methods: Prior to the study, the IRB approval was gained, and the study was deemed not to be human subjects research (IRB#08-902508-1). The survey was administered to all dental students during their 2016-17 year orientation. The project overview was described, and a research consent form was distributed. The anonymous survey was given to the 147 voluntarily participating students. The survey questions assessed students’ perceptions of and satisfaction with their current curriculum for LGBT patient and peer populations, the academic and clinical environment for LGBT persons, and observations of unequal treatment in the academic and clinical environment. Results: 93% of the responding students strongly agreed or agreed that LGBT persons deserve equal and non-discriminatory health care; and 60% strongly agreed or agreed that this school’s curriculum should include more education about treating lesbian, gay, bisexual, and other sexual minority patients, while 69.2% strongly agreed or agreed that the curriculum should include more education about treating transgender patients. Only 12.3% reported feeling their classes had prepared them to work with lesbian, gay, bisexual, and other sexual minority patients and coworkers, while 10% perceived they were well prepared to work with transgender patients and coworkers. Conclusion: A significant proportion of these dental students did not feel that their current curriculum had prepared them to treat and work with the LGBT population. These results support both the need and desire for changes in the curriculum to better prepare students to treat and work with LGBT patients and peers.

P-036. Contributions of International Authors to High-Impact U.S. Dental Journals
Kathleen Molgaard, Nadeem Karimbux, Sarah Pagni, Tufts University
Educational Research

This project was a retrospective study based on the 2015 study “Changing Demographics of Published Authors in United States Dental Journals,” which found a trend of increasing publications by non-U.S. authors. The current project investigated which specific countries contributed significantly to the trend. Methods: IRB exemption was granted. Journals were selected based on the protocol used in the pilot: U.S. journals with the highest Science Citation Index and an impact factor greater than 2.5 in publication since 1994. The journals examined were the Journal of Dental Research, Journal of Endodontics, and Journal of Periodontology. For each journal, five complete sample years (1994, 1999, 2004, 2009, and 2014) were investigated. Research articles from each journal and year were examined to establish the country in which the principal investigator was based, and this information was recorded in Excel. P-values <0.05 were considered statistically significant. Results: Of the 75 non-U.S. countries published in these three U.S. dental journals, a statistically significant difference existed in the number of journal articles published by Brazilian authors over the 20-year study period at the 5% level of significance. The median values showed an increase in the articles published by Brazilian authors in these journals over the study period. Conclusion: Brazilian authors contributed significantly more to these three U.S. journals than authors from other non-U.S. countries. This finding will spark further investigation into the reason for this trend.

P-037. Comparing Amalgam vs. Composite Usage in U.S. Dental Schools
Kyle Jonna, Steven Eisen, Gerard Kugel, Sarah Pagni, Britta E. Magnuson, Tufts University
Educational Research

All dental schools aim to prepare their students for careers in dentistry, but methods and procedures taught may vary. The aim of this study was to examine amalgam and composite usage as restorative materials for posterior teeth in predoctoral student clinics at U.S. dental schools. Methods: Data were queried from the BigMouth Dental Data Repository to compare five U.S. dental schools. BigMouth is a multi-institutional, centralized dental data repository that contains clinical data from dental institutions that are part of the Consortium for Oral Health Research and Informatics (COHRI). The query included time, record numbers, restorative material (amalgam or composite), and tooth number. Data were analyzed over two time periods: January 1, 2007-December 31, 2010 and January 1, 2011-December 31, 2014. Individual patient data were available, so clustering was considered. The Tufts Medical Center/ Tufts University Health Sciences IRB determined this study to be exempt. Results: From period one to period two, overall amalgam usage decreased from 47.5% to 36.2%, a statistically significant decrease (p=0.01). Individually, all of the universities followed the same trend and had a statistically significant decrease in amalgam usage between the two time periods (p<0.05). In comparing the five universities to one another with regard to separate time periods, a statistically significant difference was found in usage between each school during both periods (p<0.001). During period one, amalgam usage at these schools varied from 32.4% to 76.6%. In period 2, the usage varied from 20.6% to 62.4%. Conclusion: This study found that amalgam usage had decreased between the two time periods, showing a decline in its usage in student clinics and mirroring trends found in private practice. Additionally, during both time periods, the usage of amalgam and composite was statistically significantly different for each school. Differences in materials usage could be due to a variety of reasons, including the reason for this trend.
including educational differences at schools, characteristics of the patient population, or insurance coverage. Future studies are needed to explore these factors in more depth to determine if they may be impacting clinical materials used at dental schools.

P-038. An Investigation of Underrepresented Minority Students in Dental Hygiene
Diane P. Kandray, Karen H. Larwin, Youngstown State University
Educational Research
The aim of this study was to explore the factors that motivate underrepresented minority (URM) individuals to enter the profession of dental hygiene and their experiences in the profession. Understanding the reasons for choosing dental hygiene and the career experiences of URM students is imperative to improving recruitment efforts. Methods: Descriptive mixed-methods study included two phases of data collection. Phase one used an electronic questionnaire distributed to registered dental hygienists in Ohio and Pennsylvania. The survey asked both selected response and open-ended questions about what motivated respondents to go into dental hygiene, what experiences they had in school and since graduating, and their recommendations regarding recruitment. The second phase of the study consisted of confidential, personal, in-depth interviews with 17 registered dental hygienists who identified as URM dental hygienists. The transcripts from the in-depth personal interviews were analyzed manually using a coding technique to identify common themes and subthemes that emerged from the transcribed responses. IRB approval for the study was obtained from Youngstown State University. Results: In January 2016, the questionnaire was sent to 1,289 dental hygienists and had a response rate of 22%. The survey respondents reported that their most common reason for choosing the profession of dental hygiene was referral from a dental professional or prior dental assisting experience (52.0%). The most highly recommended recruitment efforts to expose URM students to the dental hygiene profession were increasing the public’s image about the profession (7.4%) and targeting high school students (18.5%). Analysis of the in-depth interviews with URM dental hygienists showed that visiting high schools for career day, using social media to market to millennials, and utilizing alternative admission criteria were suggested as recruitment strategies to target URM students. Conclusion: These results indicate that knowing individuals in the dental profession impacted many of the respondents’ motivation to enter the dental hygiene field. While the dental profession has made some progress in recruiting professionals who mirror the patient population, more must be done. Targeted recruitment techniques are needed to increase the number of URM students entering the dental hygiene profession.

P-039. Communication Accommodation Theory: Where Is Dentistry?
Sangho Lee, Mitchell Jay Lipp, New York University
Educational Research
Communication skills are essential to professional competence and are recognized in dental practice and education standards. Communication Accommodation Theory (CAT) is a framework for understanding nonverbal and verbal changes in behaviors that occur during interpersonal interactions. It has been studied in education, familial relations, multicultural relations, and health professions. Studies include interventions to enhance intimacy, competence, attention, and efficiency in doctor-patient, doctor-doctor, and instructor-student interactions. While CAT has gained acceptance, it is absent from the dental literature. The aims of this systematic review were to define CAT, review its prevalence in peer-reviewed publications in the health professions; and analyze articles according to context, applications, and outcomes. Methods: The published literature for 1960-2016 was systematically searched using key words “communication” and “communication accommodation theory” and the names of prominent scholars. Databases searched were Dentistry & Oral Sciences Source (DOSS), Cumulative Index to Nursing & Allied Health (CINAHL), ERIC, PubMed, Embase, Scopus, and Psycinfo. References from a recent unpublished systematic review augmented search results. Articles that met inclusion/exclusion criteria were categorized according to year published, health profession, publisher, country, and type of study. Outcomes of studies were categorized by interactants and behavior investigated. Results: Of 370 abstracts reviewed, 350 articles did not meet inclusion/exclusion criteria. An additional 17 articles from a recent unpublished systematic review were screened, of which 13 articles were added, yielding a total of 33 articles. CAT publications increased in trend, with a spike after 2006. CAT in health care settings was second largest in terms of volume of studies (19%). Medicine represented 79% of studies in the health professions. Most articles focused on provider-patient interactions. Studies showed that accommodative behaviors improved outcomes. Quality of contact, relational solidarity, compliance, and personal communication increased while communication apprehension decreased. Both over- and nonaccommodative behaviors increased communication apprehension, while quality of contact, relational solidarity, personal communication, and well-being decreased. There were no publications on CAT in dentistry, osteopathic medicine, and public health. Conclusion: CAT is important in understanding components of successful relationships in health care settings. Since communication skills are essential to professional competence, CAT should be considered in dental practice and education.

P-040. Clinical Activity and Productivity Survey of Dental Students
Kristan Rodriguez, Joseph Bartoloni, William D. Hendrixson, University of Texas Health Science Center at San Antonio
Educational Research
The aim of this study was to investigate the correlation among dental students’ personality, clinical productivity, and cancelled patient appointments. Methods: These data were collected for each student: production points in the third-year clinic and cancelled appointment percentages. The Clinical Activity and Productivity Survey (CAPS) was administered to fourth-year dental students at one U.S. dental school at the start of the year. CAPS included the Kiersey Temperament Sorter II (KTS II), a personality inventory. The study addressed two questions: What were the KTS II profiles of these dental students? Which personality profile had the most clinical production and the least cancelled appointments? Results: 69 dental students completed the CAPS. 60 of the 69 students (86%) scored higher for sensing than for intuition (14%); 41 (59%) scored higher for feeling than for thinking (41%); and 56 (81%) scored higher for judging than for perceiving (19%). There was no significant difference in clinical production during the third year among introverts (3,910 points), extroverts (4,137), and students with introvert/extrovert tie scores (3,892) (F=1.53563; p=0.2229). Students grouped into three personality clusters: SFP, STJ, and SFJ. Clinical productions of students in each cluster were compared, and there was a significant difference among the groups (F=3.2469; p=0.045). The SFP cluster (sensing, feeling, perceiving) had the highest clinical production. Analyses (F=3.0256; p=0.00352) showed that extroverted students had significantly fewer cancelled appointments (18.3%) than introverts (21.5%) and students with equal introversion/extroversion scores (21.0%). Students with SFP, STJ, and SFJ profiles did not have significantly different cancellation rates. Conclusion: The most frequent personality trait cluster was sensing, feeling, and judging (SFJ), followed by STJ and SFP. Among these fourth-year students, 28 had an SFJ profile in combination with introversion or extroversion. The least frequent cluster was sensing, feeling, and perceiving (SFP). No student had an NTP profile. There was no significant difference for clinical production or patient cancellations among SFJ, STJ, and SFP clusters. The extroverted students had significantly more clinical production points and significantly fewer patient cancellations than the introverted students.

P-041. Assessing Clinical Experiences in Predoctoral Pediatric Clinic: Ten-Year Review
Jacob Balkos, Juan F. Yepes, Joan E. Kowolik, Thankam Thyvalikakath, Indiana University
Educational Research
Clinical experience is a critical component of dental education as well as a school’s accreditation status as required by the Commission on Dental Accreditation (CODA). Current research on the topic of predoctoral pediatric dentistry includes studies showing reduced patient numbers and procedures per patient, decreasing graduation requirements for students, and lack of confidence in graduates’ preparedness to treat child
P-042. Does VoiceThread Promote Student-Centered Learning by Improving Student Discussion?
Ruidan Ma, Xiao Xi Yu, Nan Xiao, Der Thor, University of the Pacific

The aim of this study was to determine if VoiceThread could be used to effectively facilitate the discussion of new course content not presented during class lecture. Methods: 140 dental students in a physiology course at the University of the Pacific Arthur A. Dugoni School of Dentistry were divided into 20 groups and created VoiceThread presentations to review physiology and explain pathologies not presented during class lectures. Each student viewed and made comments/questions on the presentations. Students were free to comment/ask questions on any part of the presentation. Members of the presenting groups were expected to respond to the comments/questions, and other audience members were encouraged to participate in the discussion. Each presentation slide, except for the title and reference slides, was categorized as a physiology or pathophysiology slide based on the presented material. The number of comments on either category of slide was determined. Students were also surveyed on their learning experience with VoiceThread. Results: Each of the group presentations on average had 5.05 slides on physiology and 6.05 slides on pathophysiology. However, over twice as many questions/comments were directed at pathophysiology (4.36 questions/comments per slide) than physiology (2.17 questions/comments per slide). On the survey, many students reported that they favored presenting and discussing content using VoiceThread. Conclusion: These results suggest that VoiceThread could be an effective educational tool allowing students to apply physiology for pathophysiology discussion and that VoiceThread can be used to facilitate students’ learning in new content not discussed during class. The increased discussion in pathophysiology through applying physiology also suggested that VoiceThread can facilitate higher level learning on Bloom’s taxonomy: namely, students may be more likely to engage in applying, analyzing, and other higher cognitive domains. Based on the survey responses, these students liked the ability to research thoroughly and phrase their comments/questions with ample time provided by using VoiceThread, encouraging them to participate more. Live-in-class discussions often have time constraints and social pressure, and students may lack the opportunity to participate or feel less confident in participating; VoiceThread may offer a means to overcome these challenges.

P-043. Does VoiceThread Promote Student Engagement in Discussion by Increasing Flexibility?
Xiao Xi Yu, Ruidan Ma, Der Thor, Nan Xiao, University of the Pacific

The aim of this study was to identify if students took advantage of the time flexibility provided by VoiceThread to view, comment, and discuss presentations. Methods: 140 students enrolled in the physiology course at the University of the Pacific Arthur A. Dugoni School of Dentistry were divided into 20 groups. Each group created a presentation to review physiology and explain a major physiological disorder. Students were instructed to view and make a minimum number of comments/questions on other groups’ presentations. The presenting group had to reply to any comments/questions on their own presentation; questions/comments could be either audio or text. Following the assignment, a survey was sent out to assess students’ feedback on using VoiceThread. The time and date of comments for each presentation were analyzed. Results: The results showed that students viewed and commented on the presentations at different times of the day and on different days. The highest periods for commenting were between 7 pm and 11 pm and during the weekend. Results from the post-assignment survey showed that the majority of students reported that the VoiceThread method of presentation allowed more flexibility in presentation design, more effective questions to be asked, and more time to answer questions. Students also reported feeling that the flexibility of VoiceThread made it a superior learning method compared to traditional in-class presentations. Conclusion: This study found that VoiceThread was flexible and allowed these students greater freedom to learn and interact with their peers. A major advantage of incorporating this learning method over traditional face-to-face presentations was that it allowed students to learn at their own pace and convenience.

P-044. Beyond Boundaries of Clinical Education: Assessment of a Pilot DMD Advanced Practice Clinical Education Model
Michelle L. Thomas, Lauren Steinberg, Joshua Cline, Rosalia Rey, Gail Childs, Ronald Watson, University of Florida

The aim of this study was to comparatively assess a pilot DMD Advanced Practice in General Dentistry clinical model (APGD) to a traditional DMD clinical model in regards to clinical experiences, student development, and student perspectives on the clinical curriculum at the University of Florida College of Dentistry. The objectives of the APGD model included completing multiple procedures per appointment, participating in literature reviews, and encouraging student development. Methods: IRB approval was obtained for this study (U-0445). The APGD clinic ran from January 2012 to May 2013. Each clinic had approximately 15 students and identical hours of operation. Quantitative assessment measures included axiUm reports to calculate number and types of procedures completed. Difference scores were formed between each procedure variable (31 procedure variables total) and the APGD value. P-values less than 0.05 were considered statistically significant. Student records tracking admittance to residency programs were used to assess student development. Qualitative assessment included focus groups with students and faculty. Results: 16 of the selected 31 clinical procedures were statistically significant for the APGD program as compared to the traditional model. The total number of procedures in the APGD clinic was 13,922 compared to an average of 10,259 in the traditional clinic. In the Class of 2013, 30 students were accepted to residency programs, and 19 (63% of them) participated in the APGD model. Analysis of APGD focus group summaries resulted in comparatively more student reports in their abilities to 1) do more complex procedures, 2) increase opportunities for critical thinking with complex treatment plans, and 3) incorporate evidence-based dentistry. Conclusion: Overall, the students who participated in the APGD model completed more clinical procedures and had increased opportunities for critical thinking and incorporation of evidence-based care than the other students. More APGD students were also accepted to residency programs. For these reasons, the pilot APGD clinical model was viewed as successful, and further investigation is warranted.
P-045. What Can Uber and Airbnb Teach Us about Dental Education?
Kiyoungh Cho, Mitchell Jay Lipp, New York University Educational Research

Uber, the largest taxi fleet in the world, does not own a single taxi. Similarly, Airbnb, the largest accommodations provider, does not own real estate. Consider the development and acceptance of e-learning and competency-based education. Now, imagine a dental education program without courses, without clinical facilities, without walls, yet able to flexibly accommodate and adapt to individual learners, their career goals, and constraints (social, financial, time). The aim of this study was to design a concept map reframing the dental education program for the future; taking advantage of existing technology and resources and incorporating new models for competency-based education. Methods: The project began during brainstorming sessions involving students and faculty members at New York University College of Dentistry. A pilot poster was presented by Dr. Mitchell Lipp and Dr. Elise Eisenberg at the 2016 ADEA Commission on Change and Innovation in Dental Education Summer Liaisons’ Meeting. During that meeting, feedback and suggestions were culled from participants and incorporated into a more detailed concept map. Components of the concept map were followed by literature searches yielding evidence grades. Results: Key features included the following: 1) learning communities networked variably: online, brick and mortar schools, practice-based education networks, community health centers, and faculty practices to foster professional identity; 2) educational programs to set standards and credentials so that students and instructors possessed requisite knowledge, skills, and professional attitudes; 3) curriculum stemmed from “Entrustable Professional Activities” duties a dentist performs related to patient care and the framework in which knowledge, skills, and attitudes for competence are associated; and 4) varied experiences for learning and skill acquisition: e-learning, haptics, simulations, patient care. Conclusion: Considering high startup costs associated with traditional dental education programs and unmet needs for accessible care for large portions of the global population, the authors conceptualized a model that efficiently used existing resources and optimized educational pathways toward professional competence. The educational program is customizable depending on the learner. Ultimately, the quality of the end product will depend on the rigor of dental education programs accepting their roles in setting standards and developing and implementing methods for assessment, evaluation, and credentialing.

P-046. Teaching Nursing Students to Assess Perinatal Oral Health
Sheridan Kelley, Ruth Zielinski, Danielle Furgeson, University of Michigan Educational Research

Oral health is an important aspect of perinatal health that is often overlooked by expecting mothers and health care providers. Many women do not see a dentist during pregnancy. Time with doctors is often very limited, with nurses performing the majority of examination procedures and patient education. The aims of this study were to educate students at the University of Michigan (U-M) School of Nursing on the importance of oral health during and immediately following pregnancy and to assess the impact of the training. Methods: A review of the literature was conducted to identify resources related to perinatal oral health and complications commonly seen during pregnancy. Based on these findings, a presentation was developed for use in the standard coursework for students in the midwifery and family nurse practitioner programs at the U-M School of Nursing. Pre- and post-intervention surveys regarding knowledge and experience in perinatal oral health were completed by those attending the presentation. The results of the surveys were analyzed to determine how oral health was perceived by the students and their patients. Results: The findings revealed mixed results regarding both students’ focus on oral health when treating their patients and patients’ perceptions of the importance of perinatal oral health. The patients of the students often had difficulty finding a dentist who accepted Medicaid or who was willing to treat them during their pregnancy. Students reported a significant improvement in their knowledge of oral health during pregnancy. Conclusion: The presentation proved to be an effective method to enhance awareness and confidence in nursing students in regards to perinatal oral health. Similar educational experiences may help improve the focus on similar aspects of health that are often overlooked during pregnancy. Further, utilizing individuals from various aspects of health care (such as dental students, dentists, and hygienists) in presenting focused educational experiences may enhance the interprofessional aspect of health care and lead to overall better care for patients.

P-047. Beyond Clinic Boundaries: Enhancing Dental Hygiene Students’ Learning with Online Instructional Videos
Sally Lockwood, Daniel Hoot, Sharon Compton, University of Alberta Educational Research

The academic ability of students is high upon entry to dental hygiene programs; however, psychomotor skill development can be a challenge. If students require further support, they have historically had to rely on their textbook and lab manual, but these did not provide the same observational learning experience of instructor demonstration. In response to this, a blended learning model was identified as a possible strategy to improve learning. Strategically, the teaching team designed and deployed a series of instructional videos that could be accessed anywhere, anytime, and on multiple devices. The aim of this study was to examine students’ perceptions regarding the efficacy of these videos in relation to their achievement of learning objectives and their overall learning experience. Methods: This REB-approved study utilized an end-of-term survey, which captured students’ experiences in using videos as one of their learning resources. Survey questions addressed usefulness of the videos to support learning processes, the students’ perceptions of the impact the videos had on their performance, utilization of the videos in terms of devices employed to view the videos, and frequency of access. Results: The students’ responses (n=32) to the videos were positive, with 83% reporting the videos to be very useful. Further data showed 97% of the respondents believed the videos helped clarify information, 50% believed that the videos reduced stress and increased confidence, 45% identified a reduction in time required to meet learning objectives, 90% felt that the videos had a positive impact on their skill evaluations, and 81% felt the videos were useful for self-review. No students reported the videos to be harmful. Finally, students reported using various devices to access the videos and that they would access the videos over the course of the term. Conclusion: The survey results suggested that the videos had a positive impact on the students’ learning and created a more efficient and effective learning environment. These findings suggest that providing instructional videos to support learning competencies in periodontal instrumentation may be able to enhance dental hygiene students’ learning environment.

P-048. A Needs-Based Assessment of Spanish in the Dental Curriculum
Carlotta Fantin-Yusta, Sergio Calleja, Katelyn Groh, Theodora Danciu, Vidya Ramaswamy, University of Michigan Educational Research

By 2050, approximately 25% of the U.S. population will be Latino, the largest minority group; currently, an estimated 10% of the U.S. population speaks primarily Spanish. Language barriers in health care contribute to health disparities including decreased access to preventive services, poor adherence to treatment, and overall decreased satisfaction with care. The academic ability of students is high upon entry to dental hygiene programs; however, psychomotor skill development can be a challenge. If students require further support, they have historically had to rely on their textbook and lab manual, but these did not provide the same observational learning experience of instructor demonstration. In response to this, a blended learning model was identified as a possible strategy to improve learning. Strategically, the teaching team designed and deployed a series of instructional videos that could be accessed anywhere, anytime, and on multiple devices. The aim of this study was to examine students’ perceptions regarding the efficacy of these videos in relation to their achievement of learning objectives and their overall learning experience. Methods: This REB-approved study utilized an end-of-term survey, which captured students’ experiences in using videos as one of their learning resources. Survey questions addressed usefulness of the videos to support learning processes, the students’ perceptions of the impact the videos had on their performance, utilization of the videos in terms of devices employed to view the videos, and frequency of access. Results: The students’ responses (n=32) to the videos were positive, with 83% reporting the videos to be very useful. Further data showed 97% of the respondents believed the videos helped clarify information, 50% believed that the videos reduced stress and increased confidence, 45% identified a reduction in time required to meet learning objectives, 90% felt that the videos had a positive impact on their skill evaluations, and 81% felt the videos were useful for self-review. No students reported the videos to be harmful. Finally, students reported using various devices to access the videos and that they would access the videos over the course of the term. Conclusion: The survey results suggested that the videos had a positive impact on the students’ learning and created a more efficient and effective learning environment. These findings suggest that providing instructional videos to support learning competencies in periodontal instrumentation may be able to enhance dental hygiene students’ learning environment.

Students’ Learning with Online Instructional Videos
the context of patient care. However, 73% indicated a lack of Spanish curriculum at their institutions. Of the survey respondents who reported that their dental school had Spanish-speaking instruction, approximately half (54%) indicated that assessments included exams, final research papers, and presentations, and approximately a quarter (23%) reported the course had no assessment. Conclusion: This convenience sample provided valuable information as student leaders at the IHA conference are also leaders in their dental schools and can influence Spanish-based experiences for dental students. The results of this study suggested that most dental schools do not currently offer organized Spanish-speaking instruction and supported the need for curriculum changes to make such instruction available to dental students.

P-049. Beyond Oral Health Literacy Boundaries: Improving Readability of Patient Materials

Tiffanie White, Alice Curran, University of North Carolina at Chapel Hill

Educational Research

Health literacy is a significant predictor of a patient’s health status. Patient education material (PEM) written at patients’ reading level has been reported to improve health outcomes. Readability is the objective measurement of the reading skills needed to understand written material. Key health care groups including the Institute of Medicine recommend that PEMs be written at a fifth to sixth grade reading level. Numerous studies have assessed readability in medicine, but such studies in the dentistry are limited. PEMs from multiple sources are available to adult patients in dental schools, but their readability is unknown. The aim of this study was to assess the readability of a sample of dental PEMs to determine if there were differences in compliance with reading level recommendations among sources. Methods: A sample of 44 PEMs from University of North Carolina at Chapel Hill School of Dentistry (UNC SOD) clinics comprised three categories based on source: industry (IN), dental specialty organizations (DS), and UNC SOD original material (UNC). Each PEM was scored electronically using Gunning Fog, Coleman Liau, Flesch-Kincaid Grade Level, Automated Readability, SMOG, and Flesch Reading Ease indices. Results: The 44 PEMs averaged 11.33 across all indices. Among the indices, Gunning Fog means were as follows: IN (n=20): 11.8, SD 2.6; DS (n=13): 10.7, SD 1.5; UNC (n=11): 14.23, SD 4.6. Also, 39 (88%) PEMs scored at or above 7th grade reading level: IN 95%, UNC 90.0%; DS 76.9%. There was a marginally statistically significant difference (p=0.052) between PEMs using the Gunning Fog index only. Conclusion: All categories of PEM failed to comply with readability levels including adults. PEMs from dental specialty organizations were most compliant but averaged at the 12th grade reading level. This study found less compliance with readability of these dental PEMs than in other published reports. Online readability indices are readily available and straightforward to use and interpret. For institutional PEMs, editing should be performed prior to publication to ensure compliance. Dental, dental hygiene, and dental assisting educators should apply readability assessments to all PEMs prior to their distribution and judiciously distribute those PEMs that are out of compliance.

P-050. Beyond the Classroom: An e-Learning Module for Dental Education

MyHanh Phan-Rinne, Mary Lynn Froeschle, Nagamani Narayana, Gwen Hlava, Joan Sivers, Julie Marshall, University of Nebraska Medical Center

Educational Research

Dental students must learn to be thorough, precise, and comprehensive when performing clinical extraoral, intraoral, and hard tissue patient examinations. This foundational skill is paramount to competent patient care. An e-learning module was developed at the University of Nebraska Medical Center (UNMC) to guide second-year dental students entering clinics and as a review for third- and fourth-year students. The aim of this study was to determine the students’ use of the module and their perception of its benefit. The overarching purpose was to understand the effectiveness of the e-learning module in assisting students to develop competence in performing a clinical patient examination. Methods: This project was determined to be IRB exempt by the UNMC IRB (409-15EX). The e-learning module was introduced to students during the fall semester of their second year (D-2) prior to entering the clinics. The module was also available to third- and fourth-year dental and dental hygiene students. At the end of the semester, students were asked how often they had accessed the module and to provide feedback regarding their interaction with the module using a five-point Likert scale and open-ended questions. Results: The majority of the D-2 students (46/48, 96%) completed the module prior to their first patient experience. Half of these students spent 31-45 minutes interacting with the module, 7% spent 1-15 minutes, 24% spent 16-30 minutes, and 20% spent 46-60 minutes. The students evaluated the information to be very easy to understand (85%), very easy to apply to clinic (68%), sufficiently in-depth (57%), and greatly increased their learning (68%). The majority of the students (96%) would recommend the module to their peers. The open-ended questions indicated that the student perceived the self-paced, active component and video demonstrations were the most important aspects of the module. Visualizing the step-by-step sequence of performing extraoral, intraoral, and hard tissue examinations increased students’ comfort level prior to their initial patient experiences. Conclusion: These students spent time outside of class interacting with the e-learning module. The majority of students felt the information was appropriate for students entering the clinic, and the video demonstrations helped students better prepare for their initial experiences in performing clinical patient examinations.

P-051. Beyond Words: Effectiveness of iPad Image Feedback in Preclinical Dental Courses

Michele L. Kirkup, Brooke N. Adams, Lisa H. Willis, Paul E. Reifeis, Indiana University

Educational Research

Communicating standards to students involves instructors providing verbal feedback to foster learning. Due to the confined space of dental procedures, instructors may experience difficulty aiding dental students in visualizing feedback. In August 2016, first- and second-year preclinical courses at Indiana University School of Dentistry (IUSD) implemented a project to enhance the effectiveness of laboratory teaching by using iPad images allowing instructors to provide visual feedback on students’ projects. The aim of this study was to assess instructors’ perceptions of this tool in the exchange of assessment information. Methods: IRB approval #1606179055 was obtained, and a grant was utilized to purchase ten iPad mini tablets. Pre surveys were distributed to 25 preclinical instructors in three courses to gain their perspectives on the effectiveness of providing verbal feedback with a check item instrument consisting of five subscales from strongly agree to strongly disagree. Instructors the participated in iPad feedback calibration sessions, which included annotation training and sharing images to students’ folders stored in a secure online platform. In September 2016, the instructors began using iPad images to annotate students’ projects from the instructor’s perspective. Students received the images for reflection. Results: The response rate on the pre surveys was 68%. The pre-survey results showed the instructors gave overall favorable responses in their abilities to effectively verbally communicate project criteria to students. However, when asked if students appeared to effectively visualize the feedback from the instructor’s perspective, 28% of the instructors neither agreed nor disagreed, and 24% disagreed with the statement. Conclusion: The findings suggest evaluation methods may be improved to help students visualize from the instructor’s perspective. The investigators plan to test the hypothesis that, by incorporating iPad images in preclinical courses, instructors may be able to provide enhanced visual feedback to students. Further research will examine if participating in iPad feedback will increase students’ performance examinations compared to previous years. Also, similar check-item post surveys with same subscales will be given to instructors at the conclusion of the iPad project (January 2017) to collect their responses on the effectiveness of conveying feedback through iPad images. A comparison analysis will be performed on the pre and post survey data.

P-052. Blogging: An Effective Peer-to-Peer, Self-Reflective Teaching Tool in Dental Hygiene Education

Shirley A. Lee, Eun-Hwi Cho, Loma Linda University

Educational Research

Online course management systems are frequently used to supplement course concepts due to the lack of available classroom interaction time.
Traditional methods of engaging students may include group projects, essays, and reflective journaling. Peer-to-peer teaching and learning skills can be developed utilizing blogging as a creative tool to promote communication, collaboration, and self-reflection. The aims of this study were to evaluate the impact of blogging on first-year dental hygiene students utilizing an online course management system and to determine how blogging and clinical education correlated via a post-course survey. Methods: Prior to the study, IRB approval was obtained. First-year dental hygiene students in the 2015-16 academic year received an invitation to participate in this study because they were required to blog weekly in their clinical seminar course. Students were asked to post one original blog about their clinical experiences. They were also required to comment on at least one classmate’s blog. Students were also invited to complete an anonymous survey consisting of ten questions regarding blogging and their clinical experience utilizing a five-point Likert scale and one question for suggestions on improving their blogging experience. Results: 19 students completed the survey. The responding students agreed that blogging increased their clinical knowledge (95%), that their clinical knowledge was enhanced by their classmates’ blogs (89%), that they were able to increase their classmates’ knowledge through their blogs (83%), and that weekly self-reflections were valuable for their professional growth (83%). Conclusion: Competency-based dental education should be learner-centered in an environment that incorporates opportunities for self-reflection. The majority of students in this study found blogging to be an effective platform to share clinical experiences and increase clinical knowledge and confidence in patient care. The students also reported that blogging improved their communication skills via peer-to-peer teaching. They recognized the importance of self-reflection in their professional development, with many intending to continue blogging or self-reflecting in the future. While these results were positive, the authors believe it would be beneficial to replicate the study with a larger sample size.

P-053. Breaking Boundaries: Reducing Dental Students’ Apprehension in Treating Special Needs Patients
Marc Henschel, James Keenan, New York University

The Commission on Dental Accreditation (CODA) requires dental schools to provide appropriate methods of assessing dental students’ competence for treating patients with developmental/acquired disabilities, cognitive impairment, and complex medical problems and the elderly. For adequate experiences, the population should include patients whose medical, physical, psychological, or social situations make it necessary to consider a wide range of care options. Clinical instruction should include proper communication, management techniques, and treatment assessment. Students should be proficient in the management of special needs patients since a formal specialty does not exist. To better prepare students in successfully managing this patient population, it is crucial for the program to be diverse in its exposure. This poster presentation shows how New York University College of Dentistry (NYUCD) stepped beyond the boundaries and developed a successful program that provides care and serves as a good teaching model. Methods: At NYUCD, students have the opportunity to comprehensively treat a wide range of patients. D4 students are required to engage in five to six days of rotations in a clinical environment specially created to directly treat patients with a variety of special needs due to disability, age, and medical and psychosocial issues. In addition, D4 students are encouraged to apply to a very competitive Elective Honors Program in Special Patient Care. Students experience all phases of general dentistry in which modifications meet individual treatment challenges. In addition to the clinical rotation, students participate and are graded in didactic interactive lectures, online evaluations, case-based presentations, and critical assessment of the literature. Results: Anonymous course evaluations comprising 2/3 of the class assessed course content, instructional methods, instructors, active learning, and learning environments. More than 87% of these students assessed the course as excellent. Conclusion: Developing a successful program for patients with special needs is key to minimizing students’ apprehension associated with treating this patient population, whose need for dental modifications can be challenging without the appropriate knowledge. These results reflect how faculty commitment changed the dynamic of a very demanding course.

P-054. CAD/CAM Pedagogy Process Redesign Toward the Single-Sitting Restoration
Sharon C. Siegel, Steven Kramer, Kimberly Deranek, Nova Southeastern University

Educational Research
This research follows prior survey research in which a significant discrepancy was identified regarding the outcome success measures between dental schools (n=62) and practitioners (n=10) regarding CAD/CAM indirect restorations (CAD/CAM/IR). Dental schools focused primarily on quality standards, while practitioners also emphasized efficiency measures. The expectation is that dental schools’ pedagogy focus is on quality oral health outcomes. Dental schools’ missions are to develop capable practitioners, but if practitioners also depend on process efficiencies to support single-sitting restorations, then new dental graduates may not have the necessary efficiency for private practice. The investigators’ hypothesis was that pedagogy could be redesigned to accomplish efficiency (single-sitting restorations) without compromising current effectiveness outcomes. The aim of this study was to test the impact of efficiency considerations in CAD/CAM pedagogy on students at Nova Southeastern University College of Dental Medicine (NSU-CDM). Methods: After NSU-CDM IRB approval (2016-56-NSU) was obtained, students were randomly assigned to control and research groups (n=30 per group). The control group was taught using traditional methods (lectures and simulation lab demos), while the research group was taught using lean methods, a flipped classroom leveraging video training, and 4x design practice. Cycle times of the CAD/CAM/IR processes (preparation, scan, and design) and oral health quality were collected and analyzed. Results: The research group demonstrated faster preparation times for CAD/CAM crowns (p<0.0001) and onlays (p<0.0001) than the control group. The research group also designed crowns and onlays significantly faster (p=0.0035) than the control group. There was no significant difference (p=0.5428) between groups with the scanning process. Regarding oral health measures, both groups performed quality preparations with average grades of 92-94%. Conclusion: Faster preparation times performed by the research group, taught using the CAD/CAM redesigned pedagogy process, were consistent with a two-hour appointment goal (single-sitting restorations). Insignificant differences in scan times may be a result of the research group’s performing six scans in the mannequin head versus the control group, which scanned on the desktop. Future research plans will follow CAD/CAM clinical efficiency for the two groups.

Poster P-055 was deleted.

P-056. Choosing Dental Career Paths by Assessing Competitiveness of Match Programs
Ellen Lee, Brian Chin, Paul S. Lee, Kevin Lin, New York University

Educational Research
Dental school graduates need to determine their career paths beyond graduation. Most graduates will consider the path of doing a postdoctoral general dentistry program or a specialty program. The aim of this study was to evaluate the competitiveness of match programs in dental residency programs. Methods: Data were collected for the years 2007-16 for five residency programs: General Practice Residency (GPR), Advanced Education in General Dentistry (AEGD), Oral and Maxillofacial Surgery (OMS), Pediatric Dentistry (PED), and Orthodontics (ORTHO). Data were collected for Dental Anesthesiology (ANES) for 2011-16 since this program joined the match in 2011. The collection of data included the number of applicants participating in the match, the number of positions offered, the number of positions filled, unmatched applicants, and unfilled positions. Results: There was an increase in applicants over the nine-year period for AEGD (6%), GPR (3%), and PED (3%) programs. The number of applicants for ORTHO (0.3%) and OMS (1%) programs was relatively constant over the nine years. Of the six residency programs, GPR offered the most positions to the applicants who matched (87%). However, GPR programs filled the least number of positions (77%). ORTHO (54%), PED (59%), and OMS (57%) programs offered the least number of positions out of the applicants who matched. However, of the positions offered, those positions were filled at the highest rate. Conclusion: The number of
positions per applicant was a measure of competitiveness. According to the growth rate of applicants over the nine-year period, there were more dental students applying to AEGD, GPR, and PED residency programs. There was an increase in the number of applicants and positions offered for GPR programs. One possible reason for this is because some states such as New York have a residency requirement. While there was also an increase in the number of applicants for PED, the positions offered remained constant, making it the most competitive among the residency program. In terms of positions offered, ORTHO, PED, and OMS programs were the most competitive residency programs.

P-057. A Quantitative Comparison of SED and URM Applicants in DDS/DMD Admissions: Data to Consider for Race-Blind vs. Race-Conscious Policies
Emil Chuck, Case Western Reserve University

Educational Research

Admissions practices at the undergraduate and professional school level have recently been subject to legal scrutiny. Recent U.S. Supreme Court decisions and state referenda/legislation have motivated higher education administrators to seek race-blind tools and procedures to mitigate or eliminate race-conscious consideration to craft a matriculating class. Beginning with ADEA AADSAS 2015, applicants to dental schools were independently assessed regarding their socioeconomic circumstances to assign a parental employment/occupation (SED) score. At this time, admissions offices and dental schools have not yet reached a consensus on the use of this information in admissions decisions. The aim of this study was to perform a quantitative analysis on the specific applicant pool for a private university. Methods: Mid-range and decile analysis of GPA, DAT scores, and total experience hours was performed for all applicants, those self-identified as underrepresented minorities (URM) in dentistry (10.9% of applicants), and those who had low parental SED scores (1 or 2 for both parents, 21.8% of applicants). Results: On GPA and DAT scores, SED applicants were more similar to the entire applicant pool’s metrics than to URM applicants, and applicants considered both URM and SED had metrics similar to URM candidates. Conclusion: These data may provide some insight into how the sole use of the SED E/O score rather than self-reported race/ethnicity in admissions selection could assist or hinder dental schools in achieving their mission-oriented goals for inclusion and diversity.

P-058. Comparing Lab Grades With and Without Haptic Simulation Practice in Dental Education
Zeina Al-Salhi, Emily Springfield, University of Michigan

Educational Research

The aims of this study were to determine whether haptic simulation practice, in addition to typodont practice, improved student performance on practical lab exams or increased the pace at which students attained mastery of crown preparations; determine the impact of haptic simulation practice on students’ knowledge, experience, and confidence in completing crown preparations; and gather students’ opinions on the use of haptic simulation. Methods: The study took place during DENT 621 Fixed Prosthodontics in the summer of 2016 at one U.S. dental school. This D2 course comprises four practical exams in which students must prepare a typodont tooth to receive full gold, ceramic, and porcelain-fused metal crowns. Students were assigned time frames in which to practice with the haptic trainer on each practical. Students’ self-assessment ability of dental students from different countries. The aim to underestimate. It has been also shown that gender and personality traits have a tendency to overestimate themselves and higher performing students have a relation between students’ self-assessment skills and their learning experience, and confidence, as well as their opinions about using the trainer, were measured before and after the course via electronic survey. Results: The results suggested that the haptic practice correlated with slightly better performance on lab practicals: the average score on all practicals of the 45 self-selected students who had haptic practice was 95.6%, and was 93.1% for the 61 non-practitioners. Improvements were more pronounced earlier in the semester; by the end of the semester, performance between students who had used the simulator and those who had not were very similar. With only one simulator, student practice was spread across the entire semester, which resulted in some confusion among students about when they should practice, and many

students ended up not using the simulator at all. This may have resulted in some self-selection bias. Ideally, the experiment would be repeated with an increased number of simulators, so more students could practice early in the semester and simulator practice would be a required, graded assignment so all students participated. Conclusion: Moderate improvements to student performance were seen with extra practice on the haptic simulator. It would be beneficial to confirm the results by repeating the study with more tightly controlled parameters.

P-059. Comparing the Fitting Accuracy and Microleakage of Copy-Milled Aluminous Oxide and Zirconia Oxide Ceramic System Using Self-Adhesive Resin Cement: An In Vitro Study
Aatish Shah, Dr. Syamala Reddy Dental College; Jimmy Shah, Western Kentucky University

Educational Research

The aim of this in vitro study was to compare the fitting accuracy and microleakage of copy-milled aluminous oxide ceramic and zirconium oxide ceramic system luted using self-adhesive resin cement. Methods: Twenty freshly extracted noncarious maxillary premolars, embedded in resin block, were randomly divided into two groups: Groups A and B. Teeth in Group A were prepared to receive aluminous oxide copings and numbered A1 to A10. Teeth in Group B were prepared to receive zirconium oxide ceramic copings and numbered B1 to B10, with all copings fabricated by copy milling. A single operator performed all tooth preparations for full coverage crowns in a standardized manner. Impressions of the prepared specimens were made by single step technique with polyvinyl siloxane material. Stone dies were made from each impression. On the dies, the copings were fabricated with resin pattern and subjected to scanning using a touch probe manual scanner for copy milling using Ziecon CAM system. Copings were then luted onto their respective prepared tooth specimens using resin cement and were sectioned buccolingually into mesial and distal half to assess the microleakage in the similar manner using stereomicroscope and analyzed using image analysis software (Lynxbiols). Results: The marginal fit evaluated for Zirconia copings fabricated by copy milling showed better marginal fit than aluminous oxide ceramic copings, but were all well within the clinically acceptable limit (120μm). The microleakage scores for aluminous oxide copings also showed significantly higher scores than those of aluminous oxide ceramics. Conclusion: Of the aluminous oxide ceramic copings and zirconia copings fabricated by copy milling, the aluminous oxide copings showed statistically significant greater marginal discrepancy than the zirconia copings; however, all were within the clinically acceptable range. As a result, the microleakage was also statistically greater for aluminous oxide copings than the zirconia copings.

P-060. Comparison of Self-Assessment Ability of U.S. and Japanese Dental Students
Hiroyasu Kanetaka, Masahiko Kikuchi, Keiichi Sasaki, Tohoku University; Cliff Lee, Harvard School of Dental Medicine; Hiyasu Kanetaka, Masahiko Kikuchi, Keiichi Sasaki, Tohoku University

Educational Research

Self-assessment is a critical skill for health professionals. Because of the importance of this ability, competence in self-assessment is a component required by most health education regulatory bodies, including the Commission on Dental Accreditation (CODA). Studies have found a relation between students’ self-assessment skills and their learning outcome. Previously, it has been shown that lower performing students have a tendency to overestimate themselves and higher performing students to underestimate. It has been also shown that gender and personality traits play a role in self-assessment. To the investigators’ knowledge, however, there have been no studies on how cultural background might affect the self-assessment ability of dental students from different countries. The aim of this study was to compare dental students’ ability to self-assess their preclinical procedures in the U.S. and Japan. Methods: Dental students (105 students from Classes of 2016, 2017, and 2018) at Harvard School of Dental Medicine completed preclinical practical assessments for Class II amalgam and Class III composite procedures during their operative dentistry course. The students self-assessed their performance, and three independent faculty members graded their work using the same criteria.
as students. At Tohoku University in Japan, 51 dental students (AY 2015-16) participated in comprehensive multidisciplinary preclinical practical examinations. The students self-assessed their performance using the same rubrics as faculty members used for grading. For both schools, an average faculty score was calculated, and the difference between the student score and the faculty score was determined to examine the student’s ability to self-assess. Scores from each school were statistically analyzed and compared between the schools. Results: At both schools, the lower performing students were more likely to overestimate their performance, while the higher performing students were more likely to underestimate it. It was of great interest that, overall, students at Harvard tended to overestimate their performance, while students at Tohoku tended to underestimate their performance. It is possible that cultural differences between these two regions resulted in psychological tendencies similar to that of personality traits. Further investigation with more dental schools from the U.S. and Japan needs to be performed for more conclusive results.

P-061. Comparison of Two Manual Toothbrushes in Effectiveness of Plaque Removal: A Pilot Study

Ruth E. Conn, Donna W. Morris, University of Texas at Houston; Thomas Prihoda, Beatriz Hicks, Emelda Hernandez, University of Texas Health Science Center at San Antonio

Educational Research

This pilot study compared the effectiveness of plaque removal of two manual toothbrushes: a novel toothbrush and a control reference toothbrush. First-year dental hygiene students were used as subjects. Following the study, the students were able to learn about the methods, statistical analysis, and results of the study. Methods: 38 students who met the criteria consented to participate and were randomly assigned to one of two groups. For familiarization, the students were given both study toothbrushes eight days prior to data collection to use on alternate days for two minutes twice daily. The students refrained from any oral hygiene procedures for 24 hours prior to data collection when a baseline plaque score was recorded using the O’Leary Plaque Control Record. Next, timed brushing was supervised by a research assistant, using a split mouth design, followed by a post-brushing plaque score. Subjects completed a qualitative survey. All plaque scores were recorded by the same examiner blinded to group assignment. Pre- and post-brushing scores were compared. Results: In the comparison of overall plaque scores, no significant differences were found between the two brushes or when comparing all interproximal surfaces, all smooth surfaces, and left vs. right sides. Both brushes performed better on the mandible. The control brush was slightly more effective than the novel brush in the mandible (p=0.0222) and on lingual (p=0.0169) surfaces. The results of the survey found that the subjects significantly favored the novel brush. Conclusion: Both brushes were effective although the reference brush was slightly more effective in plaque removal than the novel brush in the mandible and on lingual surfaces; however, the novel brush was preferred by the participants.

P-062. Assessing the Reliability of a Clinical Faculty Evaluation Instrument

Natalie Y. Jeong, Zuhair Natto, Mary-Ellen Marks, Matthew Finkelman, Nadeem Karimbux, Tufts University

Educational Research

Clinical education is the core of the dental school curriculum. Students, faculty, and administrators all recognize the critical role that clinical instructors play in the teaching clinic. The aim of this study was to investigate the internal consistency of students’ ratings of clinical instructors using a newly developed evaluation instrument. Methods: A clinical faculty evaluation instrument utilizing students’ perspectives and domains of clinical teaching was developed based on students’ perspectives on effective clinical teaching collected in a focus group meeting. The 11-question instrument was based on the medical school model from the Stanford Faculty Development Program, which defined the components of effective clinical teaching as 1) establishing a positive learning climate, 2) control of the teaching session, 3) communicating goals, 4) promoting understanding and retention, 5) evaluation, 6) feedback, and 7) promoting self-directed learning. In 2015, a pilot survey was conducted with fourth-year dental students, who were asked to evaluate three instructors whom they felt to be strong role models and three instructors who could benefit from constructive criticism. The faculty members were from four departments: comprehensive dentistry, operative dentistry, prosthodontics, and periodontology. After the pilot survey process was completed successfully, in 2016 all third- and fourth-year students were invited to evaluate faculty members from six departments: endodontics and pedodontics and pedodontics in addition to the initial four. Results: Between January and March 2016, 2,475 surveys were collected. Out of 402 students, 224 responded, for a response rate of 55.72%. Of the instructors evaluated, 68.41% were full-time faculty, and 31.59% were part-time faculty. The component and domain of evaluation did not vary by department, gender, or full-time status. The mean correlation between items (Cronbach’s alpha) for the questionnaire overall was 0.94, indicating strong internal reliability. Conclusion: Evaluating the effectiveness of clinical teaching has implications on many fronts. Effectiveness should be considered when promoting or offering merit raises to faculty. Moreover, individual instructors will benefit from feedback as a way to identify shortcomings on which they could improve. Considering the impact of learner feedback, it is critical that the assessment instruments in place be reliable.

P-063. Creating a Personalized Learning Plan: Self-Assessment as a Learning Tool

Michelle Quirke, Pamela Rettig, Lisa Maxwell, Indiana University

Educational Research

The aim of this study was to create a Personalized Learning Plan (PLP) using student responses from the self-assessment scaling survey created for first-year dental hygiene students in their Clinic I course. Methods: A student self-assessment survey on instrumentation skills was developed using Miller’s Pyramid of Clinical Competence. A convenience sample of eight dental hygiene students who had completed H219 Clinic I participated in focus groups during June 2016. The focus groups were convened to collect qualitative feedback to determine if instructional and assessment strategies used during the preclinical (didactic and clinical) course prepared students to self-assess their skills along Miller’s Pyramid of Clinical Competence. Focus group responses were aggregated and analyzed. Results: Several themes emerged from the focus groups. Students reported that didactic instructional materials and one-on-one clinical practice supported their clinical skill development. Completing the survey indicated students were able to comprehend the dental hygiene terminology used to self-assess their scaling skills. Most students reflected that they could perform instrumentation skills without assistance. However, a weakness emerged from the focus group that was supported by the quantitative data: students’ desire for increased one-on-one instruction time with faculty to improve their ability to adapt the toe-third of an instrument to a tooth, either on a typodont or a live partner. Among the respondents, 50% indicated this as the highest priority area in which to receive additional instruction. The students also indicated it would be beneficial to receive calibrated faculty feedback along with more experience with live partners in their preclinical education. Conclusion: A PLP was created from quantitative and qualitative data collected on the student self-assessment survey. Based on the focus group feedback, the authors are developing the faculty feedback checklist to increase internal calibration across faculty, which will strengthen the PLP.

P-064. Cultural Adaptability of Dental Hygiene Program Directors in the U.S.

Kelly T. Williams, Old Dominion University

Educational Research

The aim of this study was to administer the Cross-Cultural Adaptability Inventory (CCAI) and a survey questionnaire to a randomly stratified sample of dental hygiene program directors in the U.S. The CCAI evaluated measures of cross-cultural adaptability including emotional resilience, flexibility/openness, perceptual acuity, and personal autonomy. The directors were also surveyed on their years of service as a program director, extent of diversity training, and to what extent their organization identified diversity as part of its strategic goal. Data were analyzed utilizing frequencies, percentages, means, and logistic regression.
Results: Of the 250 directors invited to participate, 94 completed the survey, for a 38% response rate. There was no significant relationship between years of experience as a dental hygiene program director and emotional resilience, flexibility/oppeness, perceptual acuity, and personal autonomy. There was no significant relationship between institutional strategic planning and emotional resilience, t(89)=1.48, p=0.14 >0.05, flexibility/openness, t(89)=-0.6; p=0.95 >0.05, perceptual acuity, t(89)=-0.62, p=0.49 >0.05, and personal autonomy, t(89)=0.26, p=0.80 >0.05. There was a statistically significant relationship between diversity training among program directors and the areas of emotional resilience, F(1, 91)=6.94, p=0.01 <0.05, flexibility/openness, F(1, 91)=7.32, p=0.01 <0.05, and perceptual acuity, F(1, 91)=5.3, p=0.02 <0.05; and rejected the relationship in the area of personal autonomy, F(1, 91)=1.33, p=0.25 >0.05. Conclusion: The study confirmed that the surveyed dental hygiene program directors adapted well and demonstrated tolerance cross-culturally. The study also found that the majority of colleges and universities whose administrators participated in the supported diversity through their strategic plans, which may influence the cross-cultural competence of dental hygiene program directors. This study illuminated an understudied aspect of dental hygiene academia, which is that of a largely female gendered profession, its effect on personal autonomy of dental hygiene educators, and its influence on the development of leadership within the dental hygiene profession.

P-065. Dental Education Beyond Boundaries
Mary Lynn Froeschle, University of Nebraska Medical Center; Wendy S. Hupp, University of Louisville; Jeanne C. Sinkford, American Dental Education Association

Educational Research
The Enid Neidle Scholar-in-Residence program offers unique opportunities for dental educators to concentrate on issues affecting women faculty. To date, 22 women have completed the fellowship. The aim of this study was to collect feedback from these scholars regarding the program’s benefits, strengths, weaknesses, and continuous quality improvement. Method: A survey was developed, tested, and designated IRB-exempt by the University of Nebraska Medical Center Institutional Review Board. The survey and cover letter were sent to all previous Enid Neidle scholars. Results: Of the 21 scholars successfully contacted, 17 returned surveys for an 81% response rate. All respondents did not answer all questions. During their fellowship, the majority of the respondents had been in dental education at least six years and in their current position as clinical faculty for three to five years. Most of the respondents were assistant professors on a clinical track. Their median age range was 45-51 years with 71% white, 23% black, and 6% Hispanic. Of the 17 respondents, 13 were currently in dental education, 11 of these at their original institution. Nine of the respondents listed their current positions as administrator and rank as associate professor—both an increase from the original scholars. Three scholars were currently professors; no original scholars were professors. The majority of the respondents (71%) felt that the objectives of the program were met at the highest level. All respondents felt the objectives were met. The program experience was said to be most beneficial on a personal basis, moderately beneficial to the scholar’s institution, and highly beneficial to ADEA. The program’s greatest strength was reported to be the gender focus and the opportunity to concentrate on selected issues affecting women faculty. Cost reimbursement and promotional information about the program were identified weaknesses. Of the respondents, 13 indicated they had recommended other candidates, ten had published results, and 12 had presented their information. Written comments reflected program values: collaboration with ADEA staff, contact with other fellows, career advancement experiences, and the many amazing strengths of the program. Conclusion: These results suggest that the Enid Neidle Scholar-in-Residence program has been successful in addressing issues facing women faculty. The majority of these scholars have remained in dental education and advanced in their careers.

P-066. Dental Students’ Perspectives on Career Planning and Advising Services
Kari Volkman-Carlson, Sara N. Johnson, Keith A. Mays, Madeline Staats, Scott Lunos, University of Minnesota

Educational Research
The Commission on Dental Accreditation (CODA) Standard 4-6 requires student services “to provide career information and guidance as to practice, postgraduate, and research opportunities.” Career advising literature largely bases administration best practices on undergraduates’ needs: program indecision, major changes, and retention. Dental schools’ predefined curricula and high retention may render those career concerns of lesser relevance to professional students; therefore, advising methods must differ. The aim of this study was to conduct a needs assessment to understand dental students’ career planning concerns, information deficits, and preferences for receiving guidance. Methods: The IRB determined this study exempt. An 81-item survey (Likert scale and multiple choice questions) was administered to 399 dental students from the current dental classes at the University of Minnesota. Questions covered demographics, orientation toward career planning, preparedness, advising sources, information deficits, and advising preferences. The survey, administered via email, remained open two weeks, with one reminder one week before close. Results: 175 students responded to the survey, for a 43.9% response rate. Regarding prioritizing career planning, 40% of the respondents considered it occasionally, 28% considered it constantly, 21% recently began considering it, and 12% were not currently prioritizing it. Among the respondents, 85% knew what they planned to do after graduation, 71% knew how to achieve those goals, and 54% felt prepared to start careers. Regarding advising sources, the respondents consulted peers (95%), practicing dentists/alumni (92%), family and friends (86%), faculty (75%), student groups (41%), and staff advisors (29%). Regarding information deficits, the responding students felt uninformed about reading/negotiating contracts (55%), conducting job searches (46%), and marketing their skills (34%). These students preferred individual advising services over small or large group sessions, with the following preferences: schedule advising as needed (86%), integrate advising into academic requirements (77%), unscheduled/walk-in (73%), and email (67%). Well-prepared students positively correlated with reporting adequate resources to make informed decisions (r=0.50) and negatively correlated with having difficulties finding time for career planning (r=0.14). Conclusion: These results suggested several indicators about dental students’ career planning perspectives, indicating that formalizing one-on-one advising (in-person, not online support) and reducing key knowledge deficits may enhance student career preparedness.

P-069. A Survey of Incivil Behaviors in the Dental Hygiene Clinical Setting
Lynn Tolle, Ann Bruhn, Tara Newcomb, Gayle McCombs, Old Dominion University

Educational Research
Evidence suggests incivility in colleges is a growing concern and impedes learning. The aim of this study was to compare dental hygiene students’ and faculty perceptions of uncivil behaviors in the clinical setting as a way to promote awareness and foster improved clinical learning. Methods: The IRB-approved survey was made available online to a convenience sample of 75 dental hygiene students and 24 faculty members. The survey instrument included two demographic items, one open-ended question, and two quantitative questions. Participants used a four-point Likert scale to indicate agreement with the degree to which ten behaviors were considered uncivil in the clinic and report how often they occurred. Results: All students and faculty members invited to participate in the survey did so, for a 100% response rate. Most faculty members (83%) and students (78%) agreed that challenging faculty credibility and dismissing patient concerns were behaviors of incivility. Two-thirds agreed that eating or drinking in clinic (66% faculty; 72% students) was uncivil, and most agreed that arriving late (75% faculty; 76% students) was more of a concern than leaving early (63% faculty; 59% students). Faculty members perceived some clinical behaviors to be more uncivil than did the students, such as working on non-clinical assignments during clinic (faculty 83%;
students (61%) and being unprepared (83% faculty; 71% students). All ten listed behaviors had been observed by faculty and students over the past 12 months at least one to three times. The most frequently reported behavior was students’ being unprepared although more students (51%) than faculty members (26%) reported observing this in the past 12 months. Arriving late, using a computer for social media browsing, and challenging the instructor’s credibility were all reported as occurring more than three times over the past 12 months by most participants. Making offensive gestures was the least frequent behavior observed by both faculty and students. Conclusion: Results from this study suggest uncivil behaviors in the clinical environment are a problem and frequently occur. Fostering awareness of uncivil or disruptive behaviors is critical in order for educators to develop effective ways to target the problem and promote optimal teaching and learning.


Crown lengthening is often necessary but not considered or performed. Failure to perform crown lengthening can lead to encroachment upon the biologic width, resulting in inflammation and attachment loss after restoration placement. The aims of this pilot survey were to 1) understand factors faculty members at the University of Detroit Mercy School of Dentistry (UDMDSOD) consider when deciding whether to recommend or perform crown lengthening and 2) determine the rationale for crown placement without crown lengthening when indicated. Methods: In September 2014, an IRB-approved online survey was distributed to the faculty at UDMDSOD. Demographic information and data relating to faculty crown lengthening were collected and analyzed. Results: A total of 151 faculty members were sent surveys; 62 (41%) surveys were completed. Of the respondents, 54 (87%) referred patients for crown lengthening once a month. Factors considered most often when deciding whether to do crown lengthening were crown-root ratio (92%), bone levels on adjacent teeth (92%), caries (87%), furcation involvement (86%), biologic width (84%), esthetics (79%), periodontitis (77%), and ferrule (77%). Factors considered least often were mobility (66%), attached gingiva (63%), and root proximity (61%). When asked about components of biologic width, 56 (90%), 48 (77%), and 31 (50%), selected epithelium, connective tissue, and gingival sulcus, respectively. Also, 54 (87%) felt that removal of soft tissue alone was insufficient, five (8%) that it was sufficient, and three (5%) did not know. When crown lengthening was needed but not performed, 44 (71%) said the patient wanted no surgery, 38 (61%) cited procedure cost, 32 (52%) reported health-related factors, and 24 (39%) said the procedure would make no significant difference. 12 (19%) selected other reasons, and nine (15%) reported time constraints. Conclusion: The majority of the responding faculty members recognize the need for crown lengthening even when the crown was placed without the procedure. The main obstacles to crown lengthening were patients’ declining surgery and finances. A larger survey is needed to further explore reasons why crown lengthening was not recommended or performed.

P-071. Documenting Medications in the Electronic Dental Record: Dental Students’ Perceptions and Self-Reported Behaviors Wesley K. Burcham, Laura M. Romito, Bruce D. Gitter, Indiana University Educational Research

Complete and accurate documentation of patient medications facilitates appropriate treatment and helps students integrate pharmacological and biomedical science knowledge into clinical care. The aim of this study was to assess dental students’ perceptions and behaviors regarding medication history documentation in the aXUm electronic dental record. Methods: Following Indiana University Institutional Review Board approval (#15032118727), a ten-item paper survey to assess medication history-taking behaviors and perceived barriers to complete drug documentation was developed and piloted with dental students in the Class of 2015. Following modifications based on pilot data, in fall 2015, all third- and fourth-year dental students (D3 Class of 2017, N=125; D4 Class of 2016, N=85) were invited to complete the anonymous survey. Survey data were entered into a spreadsheet for analysis. Results: Overall response rate was 90.6%; 187 completed surveys were returned (D3 82.4%, N=103; D4 98.8%, N=84). In total, 64.2% agreed or strongly agreed that medication history was important and useful in enhancing pharmacology knowledge, while 90.4% felt it helped improve their understanding of patients’ medical conditions. The D4s were more likely to value its role in the latter (p=0.0236). Among the respondents, 56% perceived that aXUm’s format aided in medication documentation. Overall, 49% reported consistently reviewing patient medications with faculty during clinical encounters. In total, the most frequently reported resources for looking up drug information during clinical encounters were Lexicomp (53.5%), Google (27.2%), and Epocrates (23.5%). D4s were more likely to report using Epocrates (p=0.0415) than the other sources. Respondents believed that a complete medication history should include drug indication (79.6%), dose (75.9%), frequency (74.9%), correct spelling (67.7%), impact on oral health/care (62%), and proper generic or trade name (56.1%). The barriers to accurate and complete medication documentation most frequently cited by both groups were patients’ not knowing/recalling their medications (73.7%), and aXUm software issues (16.5%). Conclusion: Most of these dental students perceived patient medication documentation was important. However, this was tempered by the moderate percent of students who did not appreciate the significance of many elements of a complete medication history. More needs to be done to improve the ease with which the patient medication history is accurately documented and to maximize its use in patient care and student education.

P-072. Does PAT Predict Preclinical Success in Dental School? Michele Schultz-Robins, Kenneth Markowitz, Shuying Jiang, Rutgers School of Dental Medicine Educational Research

The aim of this study was to determine if scores on the Perceptual Aptitude Test (PAT) portion of the Dental Admission Test (DAT) predicted which dental students would require remediation in preclinical courses teaching restorative dentistry at Rutgers School of Dental Medicine. The goal was to determine if students entering dental school with low PAT were at risk for remediation. Methods: IRB approval was obtained for this retrospective cohort study, which included a chart review of the Rutgers School of Dental Medicine graduated classes 2010 through 2015 academic records (approximately 300 student records). The following information was collected from each student: undergraduate GPA, undergraduate science GPA, DAT scores (including PAT scores), grades in preclinical operative I and II, and grades in preclinical fixed prostodontics. Results: There was a decrease in the predicted odds of a remediation of Preclinical Operative I Lab. A one-unit increase in the PAT average was associated with a 24% decrease in the predicted odds of a remediation of Preclinical Fixed Prosthodontics Lab. A one-unit increase in the PAT average was associated with a 32% decrease in the predicted odds of a remediation of Preclinical Operative II Lab. For all three courses, remediating students had significantly lower mean PAT scores than passing students. Conclusion: By early identification of students who may be at risk and implementing appropriate supports, the school may be able to reduce if not resolve the need for remediation.

P-073. Effect of an Online Learning Module on Communication Skills Chris Rice, Bonnie Branson, Melanie Simmer-Beck, JoAnna Scott, University of Missouri-Kansas City Educational Research

The aim of this study was to quantify differences in student performance on a communication competency exam after completion of an online instruction module. Methods: Two consecutive classes of dental students beginning their third year at the University of Missouri-Kansas City (UMKC) were the test subjects (n=105 and 106, respectively). Both classes took a communication skills competency exam during the summer semester. One class (control group) took the exam without any prerequisite, while the other class (experimental group) was given an online module (MedEdPortal # 9049) to complete prior to the exam. Student scores (maximum possible score=51) were compared, failure
rates were compared, and student evaluations were compared. This project was approved by UMKC IRB protocol #14-557. Results: The mean communication skills competency exam score for the control group was significantly lower (45.2±4.8) than the experimental group's mean score (46.4±3.5) (p=0.035). There were significantly fewer exam failures in the experimental group (n=3, 2.8%) than in the control group (n=12, 11.3%) (p=0.016). Student evaluations of the competency exam were significantly more favorable for the experimental group on overall satisfaction (p=0.027) and how well the experience added to their communication skills (p=0.034). Conclusion: The results showed that student scores, failures, and student evaluations improved significantly with the introduction of the online learning module. These results provide support for the continued use of the online training module in preparation for the communication competency exam. Funding for this study was provided by UMKC School of Dentistry Faculty Research Grant #1501.

P-074. A 12-Year Survey on VitalBook Usage at NYU College of Dentistry
Elizabeth M. Maas, Andrew I. Spielman, New York University Educational Research
Digital textbooks are often replacing printed copies as a way to reduce production and storage costs and enhance use and search capabilities. In 2001, the New York University (NYU) College of Dentistry introduced a digital reference library, the VitalSource Bookshelf. The aim of this study was to determine students' perspectives on the value of VitalBook to their dental education experience. Methods: From 2005, the college annually surveyed senior students on their opinion, use, and perspective on the VitalBook (VB). This study reports the results of students surveyed between 2005 and 2016. Students were asked three questions: Was the VB a good investment? Would you use it after graduation? Would you recommend the VB to other students? Results: This study reports the results of 4,105 students surveyed between 2005 and 2016. The average response rate was 95.3%. Overall, these results indicated that students had a split opinion on the VitalBook. The results showed that, on the first question, the majority opinion in 2005 was negative. Over the next five years, the opinion shifted toward a persisting tie between opinions. To the second question, after an initial negative response, the opinion in 2006 shifted to the majority intending to use it after graduation. That positive trend peaked in 2012 and persists today albeit at a lower positive level. To the third question, the majority did not want to recommend VitalBook. That opinion shifted toward a positive majority after four years but reversed again after nine years. Currently, a slight majority would not recommend it. This study was supported by funds from NYU College of Dentistry to AIS.

P-075. Engaging Dental Students in Community-Based, Interinstitutional, Interprofessional Education
Gerald Davis, Jacinta Leavell, Chante Stubbs, CHERIE Farmer-Dixon, Consuelo Wilkins, Meharry Medical College Educational Research
Although interprofessional education (IPE) has increasingly been integrated into health professions programs, administrative and logistical barriers can restrict the scope and reach of new IPE initiatives. As such, many existing IPE programs rely heavily on interactions between only two or three health professions in traditionally clinical settings. Increasing professional diversity of team composition and expanding contexts for IPE activities can enhance students’ interprofessional learning. The Meharry-Vanderbilt Alliance IPE Faculty Collaborative developed a community-based, interinstitutional IPE program meant to expose students to a wide array of health professions, including dentistry, and to encourage them to engage in teamwork outside of clinical settings. The program aimed to 1) increase students’ preparedness for professional collaboration, 2) enhance students’ understanding of professional roles, 3) increase students’ understanding of interprofessional competencies, 4) bridge academic resources and communities’ lived experiences, and 5) make a positive impact on the local community. The aim of this study was to assess the effects of the program. Methods: 30 students from ten health professions programs, including four students from Meharry Medical College’s School of Dentistry, were divided into six diverse teams and paired with partnering community organizations. Student teams, community organizations, and those they served worked collectively to identify community priorities and create practical, sustainable solutions to community needs. Students and community partners also participated in a series of training and team-building activities meant to foster open communication, dispel professional stereotypes, including stereotypes related to underserved communities, and expose students to interprofessional competencies. Interprofessional competencies were measured using the Interprofessional Socialization and Valuing Scale (ISVS) at baseline, mid, and post program. Student satisfaction was measured using a short survey. Results: The students’ ISVS mean rank scores increased significantly from baseline scores (z=-2.93, p=0.003). Satisfaction surveys indicated 91.7% (n=22) of students who completed the program would recommend this program to other students, and qualitative feedback suggested the program improved students’ understanding of social determinants of health. Conclusion: Engaging dental students in community-based, interinstitutional/interprofessional IPE can aid them in learning about and understanding health disparities, while also giving them an avenue to hone team-based skills and dispel professional and community stereotypes.

P-076. Enhancing Student Learning and Skill with Dental Bonding Utilizing a Shear Bond Strength Test
Marc Hayashi, University of California, Los Angeles Educational Research
The demand for adhesive dentistry has risen in recent times. This shift in demand has generated much discussion regarding the abilities and limitations of dental bonding. As this topic can be confusing to even the most experienced professionals, one can understand the potential difficulty in grasping the concepts and principles of adhesive dentistry as a student. The University of California, Los Angeles, School of Dentistry conducted a voluntary workshop for third- and fourth-year dental students that utilized the Ultrastester (Ultratrend Products, Inc.) as a way to demonstrate to students the principles of adhesive dentistry. With this unit, students were given instant feedback (in MPa) regarding their shear bond strength achieved to extracted teeth. This feedback allowed us to immediately identify students’ translation of understanding to clinical execution. It also provided us with an assessment tool to determine if students’ self-ratings of their understanding of the bonding process improved with the utilization of the Ultrastester. The aim of this study was to assess the value of the Ultrastester. Methods: 88 third- and fourth-year dental students were asked to voluntarily enroll in a Shear Bond Strength Workshop. Each workshop consisted of an average of 12 or 13 students, during which a brief lecture was provided covering various aspects of bonding agents. Students were then asked to prepare one specimen as they do currently for composites, a second one following manufacturer’s instructions closely, and a third with a clinical variable. Students tested the shear bond strength of their samples with the Ultrastester unit and were given personalized feedback on their technique as necessary. Students then completed a brief survey that assessed their perceived confidence levels pre and post workshop. Results: There was a significant difference in the mean scores of students’ self-ratings before (M=7.19, SD=1.38) and after (M=9.73, SD=1.37) the workshop, suggesting that when students performed the shear bond strength exercise with the Ultrastester, the mean scores of their self-ratings in performing dental bonding increased.

P-077. Accuracy of an Assessment Clinic at a Midwest U.S. Dental School
Joseph Franco, John Shiner, Creighton University Educational Research
Dental schools may utilize an Assessment Clinic to screen potential patients for acceptance. The Creighton School of Dentistry Assessment Clinic not only screens patients through a cursory exam and the ordering of appropriate radiographs by a faculty member but also attempts to match the accepted patient with specific dental needs to dental students lacking in those particular needs. The aim of this study was to evaluate the accuracy of the assessment exam versus the comprehensive oral exam and treatment plan conducted at a later date. If there was a strong correlation noted on the assessment exam and the actual treatment plan, then this model could benefit other dental schools in matching student needs to patient needs. Method: 498 assessment forms
were evaluated; of those, 302 actual treatment plans were matched to those patients. A spreadsheet was used to evaluate the assessment form. The spreadsheet broke down the patient needs as Restorative (Class I, II, III, IV), Endodontics (anterior/posterior), Periodontics, Crowns (anterior/posterior), Complete Dentures, Partial Dentures, Bridges (anterior/posterior), Oral Surgery, and Implants. The same criteria were used to evaluate the actual treatment plan formulated after a comprehensive exam performed by students. Results: The assessment forms and actual treatment plans were statistically evaluated, and a significant concordance was found between the assessment exam and actual treatment plans. The highest concordances of the categories were 75.2% (Class III, IV restorations), 94.4% (anterior endodontics), 81.5% (periodontics), 79.5% (oral surgery), 81.5% (anterior crowns), 93.4% (complete dentures), 96.4% (anterior bridges), and 93.7% (implants). Conclusion: Using a faculty member to do a cursory exam, reading radiographs and marking appropriate patient needs on an assessment form was found to be a successful precursor of actual patient needs following a comprehensive oral evaluation and treatment plan. This method also allowed dental students lacking in particular dental procedures to be matched to patients with those same dental needs.

P-078. Evaluation of a Flipped Classroom IPE Workshop for International Dentists  
Xi (Anna) Chen, Robin Fox, Mahvash Navazesh, University of Southern California  
Educational Research

A 2016 interprofessional education (IPE) workshop using flipped-classroom pedagogy was conducted with a group of international dentists (IDs) at the Herman Ostrow School of Dentistry of the University of Southern California. The IDs (n=33) were enrolled in an advanced standing program, joining the DDS students in D3. The aims of the study were to assess if the IDs had previous knowledge about IPE; if the workshop improved their knowledge of IPE; and what IPE components needed future reinforcement. Methods: The IDs were required to review materials prior to the workshop, including a hypothetical case of a patient with complex dental and medical conditions, and information on the scope of practice of eight health professions (HPs): dentistry, dental hygiene, medicine, physician assistant, pharmacy, occupational therapy, physical therapy, and social work. During the workshop, the IDs initially discussed the clinical case. Subsequently, they observed faculty members from the eight HPs collaboratively discuss management of the patient. Anonymous pre- and post-workshop questionnaires were given. Both questionnaires asked the same multiple-choice questions, with two additional open-ended questions on the post-workshop questionnaire. Each pair of questionnaires was marked with a random number for individual comparison of pre- and post-workshop responses. An IRB waiver was received. Results: 84% of IDs reported previous IPE knowledge, and 95% agreed that the workshop improved their knowledge of IPE, and what IPE components needed future reinforcement. Methods: The IDs were required to review materials prior to the workshop, including a hypothetical case of a patient with complex dental and medical conditions, and information on the scope of practice of eight health professions (HPs): dentistry, dental hygiene, medicine, physician assistant, pharmacy, occupational therapy, physical therapy, and social work. During the workshop, the IDs initially discussed the clinical case. There were statistically more females in the pharmacy and PA cohorts. There were statistical differences in perceptions of e-professionalism on five of the 16 scenarios. Specific differences were most often between osteopathic medicine and the other cohorts. Conclusion: This study found health professions students had similar perceptions of e-professionalism. Of the four cohorts, osteopathic medicine students appeared less conservative in their approach to e-professionalism than the other cohorts.

P-080. Examining Productive Failure as a Teaching Method in Dental Ethics  
Karen Tam, Pima Community College  
Educational Research

Recent studies found benefits to learning in the process of struggle, negotiation, and persistence with complex problems, especially when students experience failure. Productive Failure (PF) is an instructional design based on the premise that learning can occur when students struggle and fail in their problem-solving effort. The aim of this pilot study was to examine the effects of PF instruction compared to Lecture and Practice (LP) on moral dilemmas and the extent to which PF instruction helped students learn skills in transferable problem-solving. Methods: IRB approval was obtained for the study. Second-year dental hygiene students from a community college were randomly assigned to either PF or LP instruction. Prior to instruction, students took the Defining Issues Test-2 (DIT-2) online as a pretest and posttest. In groups, PF students solved a complex ill-structured moral dilemma without instructional scaffolds up until an instructor-led consolidation. In contrast, LP students received a lecture first and then practiced in groups on a well-structured problem with strong instructional scaffolds. The following day, all students individually worked on another moral dilemma that included a different concept to solve. Results: A total of 21 students enrolled in the study. However, only nine students completed the DIT-2 posttest that provided for a matched comparison in the analysis of effectiveness of productive failure instruction. The analysis did not show significant differences on moral reasoning (p=0.06) and transfer of knowledge (p=0.58), but the effect size on students’ posttest scores was high (d=0.76). This noticeable effect suggests that, as a result of the PF intervention, the acquisition of new thinking led students to approach the problem in a more sophisticated moral way of thinking despite unsuccessfully solving the first problem, which was central to PF instruction. Conclusion: Even though the sample size was small, these findings suggest that PF design enhanced the students’ ability to understand complex principles of ethics. Students attended to the dilemma with more thought and ideas. As this was a pilot study, the author identified modifications needed in the instructional design that will help strengthen the feasibility of a full-scale study.

P-081 was deleted.

P-082. Expanding Competency-Based Education Boundaries Through a Formative Feedback Application  
Sandra M. Farah-Franco, Brent Fung, Hubert K. Chan, Alexander Lee, Western University of Health Sciences  
Educational Research

Formative feedback is central to establishing competence in a dental program that strives for competency-based education (CBE); formative feedback is defined as information communicated to the learner that is intended to modify the learner’s thinking or behavior for the purpose of advancing the learner towards competence. The aim of this study was to develop and refine an effective method of longitudinal assessment through comprehensive real-time formative feedback with a user-friendly digital application. Methods: A longitudinal, mobile-based health professional formative feedback system (iFF) was developed and deployed for use in the student comprehensive care clinic (N=117) over a seven-week
The calibration

Geraldeli, Saulo Geraldeli, Patricia N.R. Pereira, Deborah A. Dilbone, Gordan, Marc E. Ottenga, Jean-François Roulet, Maria G. Caraballo, Alex J. Delgado, Susan S. Nimmo, Nader Abdulhameed, Valeria V.

warranted to delineate correlations between EQ-i 2.0 and P-MEX. The study showed significant correlation between the EQ-i 2.0 and P-MEX mean scores for the study cohort and was not a predictor of P-MEX mean scores for the study cohort. EQ-i 2.0 did not correlate significantly with P-MEX mean scores for the study cohort. The regression analysis for the EQ-i-2 and P-MEX mean scores showed weak correlation. EQ-i-2 did not have a significant correlation with the P-MEX mean. The study showed a significant correlation between the EQ-i 2.0 and P-MEX mean scores for the study cohort.

A total of 375 P-MEX evaluations were completed with a minimum of six evaluations per cohort member. The majority (60.7%) were completed with patient present in CCC, 12.1% without patient present in CCC, 12.1% with patient present in CO, and 0.2% without patient present in CO. The P-MEX mean for the cohort was M=3.25 (SD=0.33) out of 4.0. The EQ-i-2 did not have a significant correlation with the P-MEX mean. The regression analysis for the EQ-i-2 and P-MEX mean scores showed weak predictability (F (1, 48)=2.3, p=0.13), with an R2=0.05. Conclusion: The EQ-i-2 did not correlate significantly with P-MEX mean scores for the study cohort and was not a predictor of P-MEX mean scores for the study participants. The study showed significant correlation between the EQ-i-2 subscale Self-Actualization and the P-MEX. Further investigation is warranted to delineate correlations between EQ-i 2.0 and P-MEX.

Educational Research

Beliefs and practices regarding preclinical and clinical teaching of removal of carious tissue during cavity preparation vary widely among dental school faculty members. A lack of objective methods and scarce translation of evidence-based knowledge from research to teaching to clinical practice are likely influential. The aims of this study were to assess teaching practices used by the faculty at one U.S. dental school and the impact of a single faculty calibration session on the teaching of removal of carious tissues. Methods: 15 operative dentistry faculty members responded to electronic surveys before and after the calibration session. Information was collected about the use of specific terminology, techniques, dental instruments/materials, and treatment planning related to removal of carious tissues. During the calibration session, evidence-based literature was reviewed and discussed. Results: The calibration session resulted in greater consensus among faculty members regarding the use of terminology (demineralized enamel and dentin, carious dentin, affected dentin, and stepwise excavation) and depth of carious lesions as a clinical determinant of the amount of carious dentin being removed in cavity preparations (60% vs. 86%). There was also greater agreement that sound/hard dentin margins were required at preparations for best performance of adhesive restorative materials (36% vs. 71%). However, marked differences were observed concerning the use of hardness, color, and moisture as criteria to assess satisfactory removal of carious dentin. The post-calibration survey indicated a tendency towards leaving leathery dentin at the cavity floor of shallow lesions and leathery to soft dentin in deep lesions rather than excavating to hard dentin. Regardless of the calibration, partial caries removal was the treatment of choice for an asymptomatic vital tooth with a deep carious lesion. Conclusions: Calibration led to improved consistency in beliefs regarding teaching of removal of carious tissues. Evidence-based caries management aligned with criteria should be used to calibrate dental school faculty members.

P-085. Frequency of Intraoral Imaging at Insertion of Implant-Supported Restorations at an Academic Dental Institution

J. Alec Power, Bruno Azevedo, Michael J. Metz, Bryan Harris, Wei-Shao Lin, William Scarfe, University of Louisville

Educational Research

Published imaging guidelines suggest that intraoral radiography be performed at specific stages of dental implant treatment including surgical placement of the implant body, abutment insertion, prosthesis (crown) placement, and periodically after completion or when symptomatic. At academic dental institutions various phases of implant treatment are often performed by multiple operators with variable experience and expertise. Therefore, a high compliance with this imaging guideline is desirable to ensure quality control and optimize clinical outcome. The aim of this study was to establish the frequency of intraoral imaging at the time of insertion of implant-supported restorations at University of Louisville School of Dentistry. Methods: After IRB approval (14.1215) of the study was obtained, patients on whom an implant-supported, single unit, fixed restoration was placed were identified from the electronic health record over a four-year period. Type of prosthesis retention (cement vs. screw) and discipline responsible for crown placement were recorded. Bitewing (BWx) or periapical (pa) images taken at the time of prosthesis placement were accessed and reviewed. Overall radiographic frequency according to modality was tallied and compared (p≤0.05). Results: 269 patients had 425 implants restored with single unit crowns (74% cement-retained, 26% screw-retained). Only 61% (n=259) of the implants had images taken at the time of prosthesis placement. More implants had a pa image (38%, n=163) than BWx image (23%, n=96) at the time of crown delivery (X2=42.03, p=2.77, p=0.45, p=0.01). Conclusion: More than a third of the implant-supported restorations examined in this study were not imaged at the time of insertion. Both BWx and pa radiography was used to image crown placement, and a greater percentage of cement-retained prosthesis were imaged at time of insertion than screw-retained. Specific imaging protocols should be implemented across disciplines to standardize teaching strategies for clinical faculty and to ensure quality control.
P-086. Horizontal and Vertical Student Teams in a Group Practice Model
Khánh Chu, Mai-Ly Duong, Robert M. Trombly, Arizona School of Dentistry & Oral Health

Educational Research
In 2014, the Arizona School of Dentistry & Oral Health clinic consisted of four vertically integrated Comprehensive Care Units (CCUs). Each CCU consisted of 20 vertical “Group of Two” teams with one D4 and one D3 student working together to complete the treatment of patients in a shared pool. In 2015, teams were reconfigured into a “Group of Four” model, creating horizontal integration with two D4 and two D3 students. This change was intended to improve the clinic experience by facilitating efficient patient scheduling and management and promoting peer mentorship and group communication. These integrated dental teams within a Group Practice Model were designed to facilitate student learning and completion of patient-centered care and improve clinical learning experiences through peer mentors and group communication skills. The aim of this study was to assess the effect of the new model on students’ clinical experience. Methods: A 16-item survey was distributed in fall 2015 to the D4 students, who had experienced the old model as D3 students and participated in the new model as D4 students. The voluntary survey asked students to indicate their perspectives on their experience with both models. Results: 53.3% (40/75) D4 students responded to the survey. Of these respondents, 77.5% reported an increase in clinical essential experiences; 62.5% reported the new model allowed more flexibility in scheduling and greater effectiveness in completing treatment plans; and 45.3% stated that communication about patient care improved in the new model. Finally, 55.1% reported that the new model gave them more insight into patient care management in a group practice rather than a single provider practice. Conclusion: These findings suggest the students perceived that the Group of Four model improved their clinic experience by increasing clinical essential experiences and completion of planned care. This was achieved by providing access to a larger patient pool, flexible scheduling opportunities, and peer mentorship. The students also indicated that in their dental teams they developed improved peer communication and patient management skills, which could better prepare graduates as they enter a dental landscape with an increasing number of group practices.

P-087. Human Factors Approach in Developing a Dental Trauma Clinical Decision Support Tool
Xuan Lam, Jung-Wei Chen, Loma Linda University

Educational Research
Previous studies have found that many dentists have inadequate or uneven knowledge in treating dental trauma. Human factors engineering is a field that incorporates multiple disciplines such as psychology and anatomy to understand how people perform under various circumstances. A human factors approach recommends relying not strictly on memory but utilizing support tools in the form of guidelines, checklists, and protocols. The development of a clinical decisions support tool that follows these concepts may aid in improving knowledge in the management of trauma to the primary dentition. The aim of this study was to assess a clinical decision support tool (CDST) designed to improve dental trauma knowledge among novice clinicians. Methods: Print and electronic versions of the CDST were created using recommendations from guidelines and the dental literature. Dental students (N=85) and dentists (N=47) were given a multiple-choice pretest and posttest to assess their dental trauma knowledge before and after using the CDST. After taking the pretest (a preliminary timed test), the participants were randomly assigned to receive no CDST (control group) or a print or electronic CDST (intervention groups) and were asked to complete a second timed test (posttest). At the conclusion of the process, the participants completed another survey. Test scores, survey responses, and time required to complete each test were recorded. Results: The pediatric dentists scored significantly higher than the dental students on the pretest (8.77±0.96 vs. 7.05±1.53, respectively) and the posttest (8.40±1.17 vs. 6.65±1.54, respectively) in both the control and intervention groups (p<0.001). No significant differences were found between the pretest and posttest scores for the intervention groups. The participants’ survey responses indicated favorable opinion of the CDST. Conclusion: Both the pediatric dentists and the dental students reported favorable opinions of the CDST. There was equivalent performance between the control and intervention groups for both paper and electronic formats. Additional research on the design and development of the CDST may help improve its utility.

P-088. Advocacy Training in Dental School Predicts Pediatric Dentists’ Willingness to Advocate for Community Water Fluoridation
Vinodh Bhooopathi, Anna Vishnevetsky, Jennifer Mirman, Temple University

Educational Research
“Advocacy” means to speak out on behalf of a program/population and is involved in active promotion of a cause or principle. For health care professionals, advocacy is not only a moral responsibility, but an ethical and professional one. Community water fluoridation (CWF) is a population-based approach that reduces dental caries among all population groups. CWF is under constant threat; however, dentists can play a lead role in sustaining municipal water fluoridation efforts by advocating for CWF at community and state levels. Because advocacy is a skill, there is a need for advocacy-related training programs to train dental students and dentists to be better advocates. However, integrating advocacy training into dental curricula is a topic of discussion. There is not much evidence to show a positive association between practicing dentists’ exposure to public health advocacy-related training in dental school and their willingness to advocate for CWF. Therefore, the aim of this study was to assess whether dentists with training in public health advocacy during dental school would be more willing to advocate for CWF than those not trained during dental school. Methods: A 21-item pretested survey was emailed to approximately 5,300 pediatric dentists who were active members of the American Academy of Pediatric Dentistry. Results: Approximately 77% of the respondents were willing to advocate for CWF at community and/or state levels. Approximately 44% of those responding to this question reported that they were trained in public health advocacy either during predoctoral or postdoctoral education. Some reported being trained in advocacy during their pediatric dental residency (OR: 2.7, 95% CI: 1.47-5.08) and others during their predoctoral and postdoctoral education (OR: 4.3, 95% CI: 2.33-7.98).

P-089. Agreement Between Faculty Evaluation and Student Self-Evaluation in a Clinical Endodontic Setting
Samantha H. Roach, Keith A. Mays, University of Minnesota

Educational Research
It is fundamental that learners develop a realistic appreciation of their strengths and weaknesses through self-appraisal of performance during formative experiences. All too frequently, novice learners are challenged to apply criteria that would lead to an appropriate assessment similar to faculty members. To this end, the Commission on Dental Accreditation (CODA) standards state that “graduates must demonstrate the ability to self-assess, including the development of professional competencies and the demonstration of professional values and capacities associated with self-directed, lifelong learning.” Ensuring that learners are gaining this skill requires an analysis of how well they are performing tasks and assessing compared to faculty graders. The aim of this study was to evaluate the level of agreement between student and faculty assessments in an endodontic course. Methods: Exemption from oversight was granted by the University of Minnesota IRB for this retrospective analysis of agreement between faculty and student assessment in a clinical endodontic course. 100 assessments that included a student self-assessment and a matched faculty assessment were randomly selected from 584 completed root canal cases. These assessments were completed by both D3 and D4 students. 11 endodontic faculty members completed the faculty grading. The forms were de-identified prior to data collection. The assessment criteria consisted of 13 categories, with four grading levels: satisfactory, minimally acceptable, marginally substandard, and critically deficient. Results: Six of the 13 grading categories demonstrated agreement between student and faculty assessments. There was substantial agreement for enamel outline (K=0.528, p=0.0001), canal shape (K=0.612, p=0.0001), and obturation length control (K=0.612, p=0.0001), moderate agreement for dentinal outline (K=0.528, p=0.0001), and others during their predoctoral and postdoctoral education (OR: 4.3, 95% CI: 2.33-7.98).
P-090. Improving Communication and Feedback in Dental Hygiene Clinical Courses
Anna Matthews, Maureen Archer-Festa, Susan Nilsen-Kupisch, Maria-Elena Bilello, Joycelyn Dillon, New York City College of Technology Educational Research
To provide opportunities for continuing education in educational methodology in the New York City College of Technology’s dental hygiene program, the investigators began a series of annual workshops focusing on research-based educational approaches towards improving student learning and increasing faculty calibration. The aim of this study was to evaluate the change in faculty members’ written feedback practices following the workshop that introduced strategies to improve communication and feedback in clinical dental hygiene courses. Methods: In May 2015, the authors began a study (IRB#2015-1206) that analyzed faculty members’ written feedback provided to students in their grading books in the second-semester clinical dental hygiene course DEN1200L, including number of positive comments and negative comments/explanation of the clinic grade. Numbers of comments were calculated as percentages of the total number of opportunities for feedback (number of students multiplied by the number of clinical session per semester). To incorporate goal-targeted written feedback in students’ grading books, the daily clinical grading form was redesigned to provide space for instructors to write detailed feedback to students. Faculty members were encouraged to follow-up on comments from previous sessions to improve written communication and carry over among instructors and to increase students’ responsibility for reviewing and following up on instructors’ guidance. In May 2016, the number of positive and negative comments and the number of goal-targeted written feedback comments (defined as detailed written guidance to improving specific aspect of student clinical practice) were calculated and compared to 2015. Results: There were 2,000 and 1,533 opportunities for feedback in spring 2015 and 2016, respectively. The number of positive comments increased from 339 (16.9%) in 2015 to 460 (30.03%) in 2016. The number of negative comments/patient reduction rate increased from 533 (26.6%) to 620 (40.4%). There were 314 comments (20.5%) defined as goal-targeted written feedback in 2016. Conclusion: These results suggest that the faculty members were receptive to incorporating goal-targeted written feedback into their evaluation of students’ performance. The overall number of written comments increased from 2015 to 2016, showing improvement in written communication with students and among instructors.

P-091. Integrating an HIV Knowledge, Attitudes, and Behavior Approach Throughout the Continuum of Dental Education
Steven Toth, Michael Cappuccilli, Jill York, Nicholas DePinto, Emily Sabato, Rutgers School of Dental Medicine Educational Research
Successful outcomes of interventions in education and performance improvement involve more than simply academics. Previous research suggests that learning should include three domains: knowledge, attitudes, and behavior (KAB). The aim of this study was to apply the KAB approach to the U.S. Health Resources and Services Administration (HRSA) Community-Based Dental Partnership Program (CBDDP) for undergraduate, predoctoral, and postdoctoral students in order to measure not only knowledge gains, but the heightening of learner attitudes and the impact of knowledge and attitude on behavioral change. Methods: With a growing body of KAB research that suggests this design has profound potential as well as profound utility, KAB was applied to the CBDDP, the major goals of which are to increase access to oral health care for clients with HIV in areas that remain underserved and to increase the number of dental providers capable of managing the oral health needs of clients with HIV through community-based service learning experiences.

The integration of the KAB model into the service-learning experience has three components: preparation, action, and reflection. Results: Rutgers School of Dental Medicine developed an educational approach that combined learning objectives with community service through the creation of a Ryan White Program Orientation, a required community service project, a formal didactic lecture series, a clinical rotation through a community dental clinic, a pre- and a post-experience survey, and a reflective assignment. Since 2002, when funding was first received for the CBDDP, 13 undergraduate, 874 predoctoral, and 66 postdoctoral students have participated in the service-learning experience. Knowledge scores, attitude changes towards persons with HIV, and clinical and behavioral practices were measured and observed through implementation of this program and use of the KAB methods. Conclusion: These results suggest that the KAB approach was a promising method for examining changes and isolating the outcomes that lead to instructional improvement in dental education.

P-092. Integrating Biomedical Foundations in Dental Education Through Clinical Cases
Andrew I. Spielman, New York University; Noam Tamir, Healthcare Learning Corporation Educational Research
Integrating foundational knowledge into patient care is essential in dental education—a need particularly relevant in light of the new Integrated National Board Dental Examination (INDBE) in the U.S., to be rolled out in 2020. The aim of this study was to assess the effectiveness of 40 educational online modules currently in use at New York University (NYU), which present key concepts from a range of basic sciences in the context of a common medical condition and oral symptoms. Eventually, 61 modules covering major organ systems and key medical conditions will be generated. Several U.S. and European schools have started to use these modules. Methods: For the past three years, 40 modules were gradually made available to 375 first-year and 375 second-year dental students at NYU. The modules—professionally prepared, 40-50 minute units—incorporated patient scenarios; short relevant sections on the anatomy, histology, cell biology, physiology, pathology, and pharmacology of the disease/organ in question; and interprofessional and oral health management of patients. Each section was reduced to a few minute-long take-home messages, using images, animations, videos, tables, and tests. Sections were hyperlinked to relevant resources. Students were tested for achieving the learning objectives. The modules were part of courses offered in all four dental school years and were linked chair-side during patient care. Results: All the first-year students’ scores improved by ~30% when aggregate before and after tests were compared. For the second-year students, the change between pre- and posttests translated into a 20–25% improvement. Over 85% of the students said they found the modules useful; 14% found them not useful. Nearly all (95%) reported the modules were usable, while 5% found the program user interface difficult to use. Among the students, 67% indicated they were likely to review the module again, with 33% unlikely to do so. Qualitative feedback from 574 students showed 67% positive feedback, 7% negative, and 14% technical issues or suggestions. The modules can be used in flipped-classroom education (like Khan Academy) or as a comprehensive OSCE exam. Conclusion: These results suggest that the students found these modules useful for integrated learning to supplement the curriculum.

P-093. Integrating Social Workers to Maximize Financial Assistance for Patient Care
An internal financial assistance grant program, called Smile Forward, was created at the Arizona School of Dentistry & Oral Health clinic in 2006 to decrease the financial gap for disadvantaged patients. Although successful in assisting many deserving patients in the clinic, the grant program was not designed to address other possible coexisting barriers to care. The program did not have requirements for the timely use of financial assistance, nor for timely reallocation of unused funds, compromising the efficient use of limited resources. In 2014, social workers were recruited to be part of
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the treatment care team, working closely with students and patients to address barriers to dental care and to assist in planning and implementing an improved monitoring system. Integration of social workers into the financial assistance program was designed to increase patient compliance with completion of planned dental treatment and efficiently utilize financial resources to support patient-centered care in the clinic. The aim of this study was to evaluate this program. Methods: A patient chart review of systemic recipients in the 2013 and 2014 fiscal years was performed to evaluate the impact of the involvement of social workers. The parameters reviewed involved patient case completion, length of time to complete treatment plans, and monetary value of services provided. Results: In 2013, prior to the integration of social workers, 52% of the recipients had completed their treatment, compared to 70%, afterwards. The length of time to complete treatment was shorter in 2014 when compared to 2013. However, the monetary value of services did not increase from 2013 to 2014. Additionally, 22% of the recipients were not compliant and did not use their award by the deadline. These funds were identified and redistributed to help other patients. Conclusion: These results suggest that integrating social workers into the dental team can maximize limited resources and provide access to care for vulnerable populations. Social workers can play a vital role in helping students identify barriers to patient care and help to determine viable solutions for their patients’ benefit.

P-094. Interactive OSCE Board Prep Exam: Survey of Users
Blaine M. Cleghorn, Dalhousie University

A mock OSCE exam website was launched in 2011 to assist dental students in preparing for the Canadian National Dental Examining Board (NDEB) OSCE exam. The exam format has an extended match format with up to 13 possible answers, some of which have more than one correct answer. The site has a total of 60 questions. The aim of this study was to assess the mock OSCE exam website through an Opinio survey of users over one year. Methods: An Opinio survey was sent out to all users of the website from May 5, 2015, to May 6, 2016. The survey was sent to 1,005 users, who took a total of 4,899 tests. The survey contained seven questions and allowed for comments to be submitted. Results: A total of 266 users returned surveys for a response rate of 26.5%. Most respondents were DMD4/DDS4 or QP students (89.4%); and 58.3% were students in Canadian dental schools. Most respondents (84%) visited the site one to five times. Over 88% of the respondents used the site to prepare for the Canadian NDEB OSCE exam, and 80% were either mostly or very satisfied with the site. Over 90% of the respondents reported that the site was user-friendly. Most of them wanted to see more questions on the website. User comments included the following: “This resource is extremely helpful!! Thank you!!”; “I feel that it was very useful tool for my OSCE studies. I think that if I can have more questions it would be better”; and “The material is amazing. Adding more questions would be perfect for any learner.” Conclusion: These results suggest that users found the mock OSCE exam website to be user-friendly and a valuable study aid in preparing for the NDEB OSCE exam. The users surveyed also overwhelmingly requested additional questions be developed, using more of the NDEB question and answer templates.

P-095. Interprofessional Education: The Impact of Oral Health
Jeffrey T. Jackson, Kimberly Siberlne, Erik Black, Micaela B. Gibbs, Virginia J. Dodd, Abhimola Adewumi, University of Florida

The health professions graduate programs (HPGS) at the University of Florida incorporate interprofessional education through participation in the Interdisciplinary Family Health (IFH) course during students’ first year of enrollment. The IFH participants work in small teams to address systemic and oral health barriers and improve overall health outcomes for local families in the area. The aim of this study was twofold: to evaluate oral health attitudes (OHA) and readiness for interprofessional collaboration (RIPC) among these graduate students and to assess how the presence of a dental faculty member and/or dental students or an oral health issue in the IFH course impacted OHA and RIPC among HPGS students. Methods: For the academic year of 2015-16, 729 students enrolled in the IFH course and were invited to participate in the study. Participants completed questionnaires before and after the IFH course to evaluate OHA and RIPC. An eight-question subscale from a validated oral health metric was used to assess OHA. A modified Readiness for Interprofessional Learning Scale was used to assess RIPC. Results: A total of 506 students from eight HPDS (medicine, nursing, pharmacy, dentistry, veterinary medicine, physical therapy, health administration, and clinical health-psychology) agreed to participate in the study. The participants’ overall OHA scores increased significantly during the IFH course. Conclusion: These findings suggest that, despite a small but significant improvement in OHA scores through participation in IFH, strategies to influence oral health awareness may be benefited by discipline-specific targets. Future research will utilize a more sensitive tool to further explore readiness for interprofessional collaboration among these health professions graduate students.

P-096. Investigating the Learning Preferences of Dental Students and Faculty Members
Olga Matveeva, Donnie Poe, Deborah Woo, Lynn Beck-Brallier, Phil Buchanan, University of the Pacific

Dental educators face a continuous challenge of teaching students in ways that best support how they prefer to take in and give out information when learning is the goal. Aligning teaching methods with the learning preferences of dental students should be a common goal for educators. Neil Fleming, a New Zealand educator, developed a VARK questionnaire in 1998, designed to investigate learning preferences of people. VARK is an acronym for four modes of learning: visual, aural, read/write, and kinesthetic. A fifth mode called multimodal represents a combination of two or more modes. The aim of this study was to compare the learning preferences of dental students with the learning preferences of faculty members who teach them. Methods: Following IRB approval from the University of the Pacific, the researchers employed the subscription service of vark-learn.com. Through the service, questionnaires were sent online to three classes of dental students and to dental faculty members at the Arthur A. Dugoni School of Dentistry. Participation was online, voluntary, and anonymous. Results: 145 students (35% response rate) and 50 faculty members (23% response rate) responded to the survey. Reported preferences of the dental students closely matched the VARK database of 147,362. The results of the faculty members deviated only slightly from those of the students and from the VARK database. Both sets of respondents indicated low preferences for visual and auditory modes. The student results for read/write, kinesthetic and multimodal were almost identical to the VARK database. Faculty results indicated a slightly stronger read/write preference. Both groups exhibited a closer match to preferences reported in the VARK database than with those reported in six prior studies that used self-scored questionnaires that were not generated online. Conclusion: This study found evidence that moderate similarity existed between how these dental faculty members gave out information and how the dental students preferred to take in information. Achieving alignments between students and faculty is critical in achieving a productive and enjoyable learning environment.

P-097. Is the Interview-Based Bench Exam a Predictor of Student Performance?
Krithika Baskaran, Clifton M. Carey, Elizabeth Towne, University of Colorado

Foreign-trained dentists have a wide variety of educational and practical experiences. Part of the candidate application to the University of Colorado’s Advanced Standing International Student Program is an interview and bench exam. The bench exam includes an amalgam preparation, a crown preparation, and a wax exercise. This bench exam helps evaluators understand the technical abilities of a candidate. During the first semester in this program, students take an extensive preclinical restorative dentistry course that has three practical examinations. The aim of this three-year retrospective study was to compare the bench scores with practical exam performance to determine if the bench performance was a predictor of the practical exam performance. Methods: De-identified scores for the bench and practical exams were converted to percent scores
P-098. LEAD Program’s Impact: Decrease in Students’ Repeating/Remediating DS1/DS2 Courses
Juanita Lozano-Pineda, Vidal Balderas, Birgit Glass, John Littlefield, University of Texas Health Science Center at San Antonio

Educational Research
Since 2014, the University of Texas Health Science Center at San Antonio School of Dentistry’s Hispanic Center of Excellence, sponsored by the U.S. Health Resources and Services Administration, has provided a three-week summer enrichment program for dental students (LEAD 4, 5, 6). LEAD aims to strengthen and retain underrepresented minority (URM) students. The goal of LEAD 4 is to prepare students for the rigors of dental school life and facilitate the transition from college to dental school. The sessions include mini-courses in histology, gross anatomy, biochemistry, and dental anatomy, as well as study and testing skill development. Hand skill development in restorative dentistry, periodontics, community-based clinical sessions, and radiographic interpretation of LEAD 5 facilitate the transition to the DS2 year. Baseline data were established by determining the number of students who repeated/remediated a DS1 or DS2 course. Methods: LEAD 4 and 5 assist URM students through participation in pre-matriculation, preclinical, clinical, and mentorship activities to enhance academic performance. The aim of this study was to determine if the LEAD 4 and 5 programs had an impact on reducing the number of URM students who repeated/remediated a DS1 or DS2 course. Results: In the LEAD 4 and 5 programs, 27.8% of URM students reported not repeating or remediating a DS1 or DS2 course during the 2010-13 period. This was compared to the baseline period of 37.38% for non-LEAD and 18.37% for non-LEAD students. The data for 2014 indicated 3/37 (8.1%) for LEAD and 3/31 (9.7%) for URM students. All 2014 LEAD participants were URM students. Conclusion: These results show that the LEAD 4 and 5 Summer Enrichment Programs have decreased the percentage of URM students who repeated/remediated a DS1 or DS2 course.

P-099. Learners’ Preference for IPE Pedagogy in D1 and D2
Mahvash Navazesh, Robin Fox, Xi (Anna) Chen, University of Southern California

Educational Research
A previous publication addressed learner-centered pedagogy and the integrated clinical and biomedical sciences DDS curriculum of the Ostrow School of Dentistry of the University of Southern California. Following a learner-centered approach, a 2016 survey assessed student preference for the delivery mode of IPE curriculum in D1 and D2. The aim of this study was to compare learners’ preference for small-group learning (SGL) vs. a case-based faculty panel presentation (CFPP). Methods: D1 students (n=130) attended an IPE Day that included six health professions: dentistry, dental hygiene, medicine, pharmacy, social work, and nursing. Students were assigned to small groups with one member from each profession. Students discussed the scope of their professions and reviewed a video about communication barriers within an interprofessional team. A year later, the same students (D2) all together attended a presentation by nine faculty panelists representing the six health professions plus occupational therapy, physical therapy, and physician assistant. Students observed how faculty members discussed management of a patient with complex dental and medical conditions. An anonymous survey was conducted immediately following the IPE. The survey consists of six multiple-choice questions and two open-ended questions. The questions asked students which delivery mode was more effective in helping them understand the concepts of team communication and collaborative practice, and why. An IRB waiver was received for the study. Results: 64% of the DDS students favored CFPP, 25% preferred SGL, and 11% reported no preference. Overall, 85% of the students agreed that CFPP was an effective format to learn about IPE. They reported that the CFPP helped them better understand the dentist’s ability to make a contribution (80%), better express ideas and concerns (82%), and listen to others (84%) on an interprofessional team. The 89 comments received indicated that CFPP was preferred because it was led by experts, offered different perspectives on a dental case, and provided examples of interactions of an interprofessional team. Those who favored SGL reported that it provided more interactive engagement. Conclusion: These students perceived that CFPP with SGL as an adjunct effectively provided foundational IPE. Scheduling among multiple professions remains a challenge.

P-100. Preferred Learning Methodologies of Dental Hygiene Students in Radiology
Shelly A. Withers, Dwight D. Rice, Loma Linda University

Educational Research
Radiology is one of the most challenging subjects dental hygiene students encounter. Educators strive to create course materials that will enhance student learning and retention. Having an understanding of students’ preferred learning methodologies can aid faculty members in preparing meaningful materials for their courses. The aim of this study was to determine the learning methodologies preferred by first-year dental hygiene students in radiology. Methods: Retrospective IRB approval was obtained for this study. 42 first-year dental hygiene students in the 2013-14 academic year were asked to participate in a brief introductory survey regarding their preferred methodologies for learning and retaining information. The survey asked students to select items they perceived to be most helpful from a list of such items as discussion, group activities, use of technology, and student presentations. There was no option to write in other items not on the list. Students were instructed to indicate their primary preference, and then their secondary preference. Results: The 34 responding students overwhelmingly selected visuals and diagrams (92.9%) as being most helpful for their learning and knowledge retention, followed by group activities (66.7%) and the use of technology (64.3%). Around half of the class also selected discussions (54.5%) and creating models (47.6%). In contrast, the least frequently selected learning activities were individual activities (28.6%), writing activities (11.9%), and student presentations (7.1%). Conclusion: Knowing the learning preferences of individual students and the class as a whole can aid instructors in preparing appropriate learning materials. This information is especially useful for challenging courses such as radiology. In this study, at least 64% of the students reported that their learning and knowledge retention were aided by the use of visuals and diagrams, group activities, and technology.

P-101. Using Critical Appraisal Tool in Pediatric Dentistry Journal Club
Samah Omar, Janet G. Bauer, Afisan Matin, Jung-Wei Chen, Loma Linda University; Amanjot Bains, University of California, San Diego

Educational Research
Evidence-based methodologies and modules have been integrated into Journal Clubs to improve dental residents’ skills in critically appraising the published literature. However, there are no consensus or universal recommendations on how to achieve these goals or to implement
P-102. Use of Digital Dentistry Technology in Simulation Laboratory to Improve Student Learning Outcomes
Bernard R. Hurlbut, University of Nevada, Las Vegas

Educational Research

The use of CAD/CAM scanning and analysis has been found to be ineffective in improving student outcomes on practical examination scores. The aim of this study was to determine if use of this technology in a simulation course would improve second-year dental students’ outcomes on practical examinations. Secondarily, the purpose was to explore the value of this technology for future investment. Methods: During the first-year operative dentistry course, students were offered the opportunity to learn how to use the CAD/CAM scanner with prep analysis software. In the subsequent year, students used this technology to assist in completing their preps and restorations. Aggregate grades for the previous year’s student performance in the course (fall 2014) were subsequently compared to aggregate scores from the current class performance (fall 2015). Additionally, an electronic survey was distributed to all current students to assess their perceived value of the technology. Results: Overall, students’ performance improved in the current year’s course from that of the previous fall 2015 course. 37 students improved their practical scores by one letter grade following training and practice using this technology. Over 90% of the students (n=63; 91.3%) who responded to the survey found the technology useful and said it helped in the learning process, with 71% (n=48) reporting it was very or extremely important to have trained faculty members assist in the learning process.

Conclusion: While prior research has not provided clear evidence that CAD/CAM technology significantly improves student outcomes in prep and restoration practical exam scores, the preliminary results of this study found that it did help improve these students’ performance. Further investigation is needed to determine whether there were statistically significant improvements in student learning in the area of prep and restorations in a simulation setting.

P-103. Use of an ePortfolio Assessment System for Developing Reflective Practitioners
Aram Kim, Nina K. Anderson, Sang Park, Harvard School of Dental Medicine

Educational Research

Although there are many advances in the health sciences, the assessment of health professions students has often remained stagnant as multiple-choice exams continue to predominate. Active learning, by contrast, stimulates higher order thinking, problem-solving, and critical thinking skills while providing feedback to both students and teachers. Self-assessment skill through reflection is an important component of active learning as it encourages students to explore values that are not easily measurable, such as motivation and attitudes. The aim of this study was to evaluate the effectiveness of a newly implemented electronic portfolio (ePortfolio) assessment program to help students develop self-directed learning and reflection skills in clinical education. Methods: The self-assessment module utilizing an ePortfolio system was implemented at Harvard School of Dental Medicine in 2014. The system was comprised of self-assessment on clinical program progressions, clinical journals, and case presentations. An emphasis was placed on the process of student learning to complement the existing comprehensive patient care assessment model. The ePortfolio student self-assessment skills and self-learning plans were captured during the initial patient care experience in year three of predoctoral education. Faculty assessments of students were compared to students’ self-assessments at two times during the course of the year. Results: As students progressed through the clinical program, the student self-assessments corresponded more closely to faculty assessments. Furthermore, although not found to be statistically significant, the weaker students showed a tendency to assess themselves more favorably than the stronger learners. Conclusion: A portfolio assessment system can evaluate competencies not easily captured by traditional assessment measures. It provides the opportunity to assess knowledge gaps and identify concerns that may interfere with learning. Development of higher level cognitive skills through the new pedagogical model emphasizes learner-centered teaching and could ultimately promote reflective learners who will continue to learn throughout their profession. This new learning methodology can be a useful tool in measuring non-traditional competencies and provide an opportunity for students to become reflective learners.

P-104. Tobacco Cessation Treatment Education for Dental Students Using Standardized Patients
Jacqueline A. Singleton, Ruth M. Carrico, John A. Myers, David A. Scott, Richard W. Wilson, Celeste T. Worth, University of Louisville

Educational Research

The aim of this study was to determine if there was a difference in attitudes, perceptions, and knowledge between dental students who received a tobacco cessation treatment (TCT) lecture and practice sessions with standardized patients (SPs) and those who received a lecture only. Methods: Dental students in an introductory clinical course at one dental school were invited to participate in the study by completing a pre and post questionnaire. The pre questionnaire was administered to all students who attended the lecture and were invited to participate in the study, a total of 94 from the two groups (96%) provided two linkable questionnaires for analysis. In the results, training with lecture and SPs increased the students’ understanding of barriers, subjective norms, perceived skills, self-efficacy, and intentions to provide TCT more than those in the lecture only; however, it did not significantly increase their attitudes and knowledge. Conclusion: The findings suggest that using SPs can be a valuable educational method to promote the provision of TCT by dental students and graduates.

P-105. Understanding the Missing Piece of Student Injury: The Why Factor
Shauna Hachey, Denise Zwicker, Dalhousie University

Educational Research

Percutaneous injuries are a serious concern due to the risk of contracting communicable diseases via blood or saliva. Previous studies have focused on the who, what, when, and where of injuries, but to prevent injury it is important to study why student injuries continue to occur despite all the supervision, education, and caution exercised. The Human Factors Analysis Classification (HFACS) is a framework for determining the cause (the why) of injuries across several industries. This classification system has yet to be adapted to the field of dentistry. The aim of this study was to...
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P-106. Use of a Rubric for Calibration of Faculty Members and a Student Self-Assessment Tool
Se-Lim Oh, Leila Liberman, University of Maryland Educational Research

Although the importance of self-assessment is highlighted by the American Dental Education Association Commission on Change and Innovation in Dental Education, a self-assessment has not been introduced to dental students in periodontics courses at the University of Maryland School of Dentistry. A new rubric was developed for the second-year students to evaluate their periodontal instrumentation. The aim of this study was to calibrate faculty members and to compare scores between students and faculty evaluations before implementing the new rubric as a self-assessment tool for the second-year students. Methods: An exemption from IRB (HP-00070384) oversight was obtained for the study. Third-year students volunteered to participate in two calibration sessions: 20 students in the first and 12 students in the second calibration session performed periodontal instrumentation on typodonts. The same three faculty members evaluated each student in the two calibrations. All students submitted self-assessments at the end of the calibration sessions. Results: Regarding faculty reliability, the ICC was 0.75 at the first and 0.97 at the second calibration. For the first calibration, two evaluators were pooled to compare the scores from the students since their correlation was found to be strong (r=0.8). The mean of three faculty members’ evaluations was used for the second calibration to compare the scores. The student-faculty agreement was r=0.4 (moderate) at the first calibration and r=0.01 (weak correlation) at the second calibration. The score from the students was significantly higher than that of the faculty members at the second calibration (p=0.028).

Conclusion: This study found that the reliability among faculty members was strong. However, a weak correlation was observed between students’ self-assessment and faculty evaluation. This finding reflects that the faculty members comprehended the rubric clearly, while the students’ understanding of the rubric was poor. Therefore, the faculty should help the students improve their understanding for the purpose of self-assessment and their ability to evaluate their work.

P-107. Transitioning to Clinic: Diving In Versus Sliding In
Yun Saksena, Sarah Pagni, Tufts University Educational Research

Transitioning to clinical training may be daunting in a comprehensive care clinic since one’s first procedure may be anything. Greater stress may affect work quality. How might standardized milder entry affect students? The first procedures of the study indicated a significant increase in the rate of student injuries over the 13-year period. To better understand why this trend was occurring, the investigators developed questions based on the HFACS framework and adapted them to the Faculty of Dentistry’s student injury report. This framework provided information on organizational influences, supervision, preconditions for unsafe acts, and detailed information on the unsafe act. Conclusion: To prevent injuries in the clinic, it is important for dental schools to determine the cause of these injuries. Questions based on HFACS were developed in this study, and the authors intend that the questions will be incorporated into the student injury report for the first time in the Faculty of Dentistry at Dalhousie University. Future research will determine the effectiveness of the new reporting protocol in identifying the causal risk factors for injuries.

P-108. The Role of a Life Course in Promoting Higher Forms of Learning in Dental School
Clare C. Law, Minh Tran, University of California, Los Angeles Educational Research

The faculty at University of California, Los Angeles, School of Dentistry recently implemented a first-year introductory course (GDA101: Life Course) exposing students to life course theory and topics in learning and personal development. The expectation was that early emphasis on affective skills would accelerate the acquisition of critical thinking, problem-solving, and independent learning skills. The aims of this study were 1) to determine whether students’ affective skill acquisition increased with implementation of the introductory course and 2) to determine whether students’ cognitive, psychomotor, and affective skills increased during the course of their dental education. A questionnaire administered one year ago asked students to assess their value for educational activities emphasizing higher level cognitive, psychomotor, and affective skills. The second part of the study assessed changes in these skills subsequent to enrollment in the Life Course and during the four years of dental school. Methods: Incoming and continuing dental students responded to a questionnaire asking them to assess their progression on the continuum of learning domains in Bloom’s taxonomy. Continuing students were also asked to compare their current self-assessment to their status one year ago.

Incoming dental students responded regarding their assessment of changes before and after completing GDA101. Results: Results demonstrated a sustained level of value for educational activities in all three domains of Bloom’s taxonomy for first-year students completing the Life Course, but an overall negative association between dental school year (1-4) and perceived need for educational activities increasing the level of sophistication in cognitive, psychomotor, and affective skills. Conclusion: These results suggest that the value of educational activities increasing the level of sophistication in cognitive, psychomotor, and affective skills may actually decrease as students advance through dental school.

P-109. Educating the Heart: Exploring the Role of the Humanities in Dental Education
Evelyn Donate-Barrfield, William K. Lobb, Marquette University Educational Research

The medical humanities are defined as an applied, interdisciplinary field that includes “the intersection of medicine and humanistic disciplines develop questions that would aid in understanding the causes of student injury in the dental clinic. Methods: The first phase of this study reviewed Dalhousie Faculty of Dentistry student injury reports collected from 2000 to 2013. Data included the date and time of injury, gender, program of study, type of instrument injury, and location of injury. Following the analysis of the injury reports, the investigators determined the need to study why student injuries occurred. In the second phase of the study, the investigators developed questions appropriate for the Faculty of Dentistry’s student injury report based on Diller’s (2014) HFACS framework. Results: The first phase of the study indicated a significant increase in the rate of student injuries over the 13-year period. To better understand why this trend was occurring, the investigators developed questions based on the HFACS framework and adapted them to the Faculty of Dentistry’s student injury report. This framework provided information on organizational influences, supervision, preconditions for unsafe acts, and detailed information on the unsafe act. Conclusion: To prevent injuries in the clinic, it is important for dental schools to determine the cause of these injuries. Questions based on HFACS were developed in this study, and the authors intend that the questions will be incorporated into the student injury report for the first time in the Faculty of Dentistry at Dalhousie University. Future research will determine the effectiveness of the new reporting protocol in identifying the causal risk factors for injuries.
such as philosophy, religion, literature, and the fine and performing arts,”
according to the National Library of Medicine. The social sciences and
bioethics are also often considered to be part of the medical humanities.
Medical humanities courses are common in medical schools, but there is
no corresponding curriculum offered in dental schools, despite dentistry’s
desire for educational outcomes that could be enhanced by studying the
humanities (i.e., outcomes such as valuing patient-centered care, creating
humanistic environments for learning, and facilitating enhanced critical
thinking skills.) Curricular content from the humanities can address these
important educational goals and are consistent with dentistry’s aspirational
goals for the profession. Recently, Verner, Apelian, and Bedos called for
dental educators to provide narrative dentistry programs. The aim of this
study was to examine their call within the broader context of the medical
humanities. Methods: A selected review of the content and goals of medical
humanities programs was conducted, along with a description of current
elements in dental curricula that reflect content appropriate for the dental
humanities. Results: Elements necessary for customizing a curriculum for
dentistry were identified along with suggestions for incorporating new
activities into existing dental curricula. Conclusion: Dental education’s
move towards patient-centered, humanistic, holistic, culturally responsive,
and professionally responsible care has set the stage for the development
of dental humanities activities in dental curricula. Critical reviews of
corresponding curricula in medicine can help dental educators customize
an appropriate set of activities for dentistry.

P-110. The Relationship Between Personal Qualities and
Academic Performance of Oral Health Students in Sydney,
Australia
Kimberly Mathieu Coulton, University of Sydney

Educational Research
The selection of students for dental schools in the United States, Australia,
and Canada frequently combine entry exam results with secondary
methods, such as interviews or personality measures. Previous research has
found that certain personality traits can effectively predict the professional
behaviors and academic performance of dental students. The University of
Sydney’s Bachelor of Oral Health (BOH) degree course selects students
based on a three-tiered admissions process, the first of which is the
Personal Qualities Assessment (PQA), a four-part exam that measures
mental agility and personal qualities, such as empathy, self-confidence,
conscientiousness, and resilience. Only those applicants who are successful
on the PQA are invited to take part in the second stage, Multiple Mini-
Interviews (MMI). Thereafter, an Admissions Score is calculated based
on the MMI scores and the applicant’s Australian Tertiary Admissions
Rank (ATAR). Although the admissions process seems to be effective in
selecting students who are capable of successfully completing the BOH
course, this has not been confirmed through research. The aim of this study
was to determine the effectiveness of the admissions process, in particular
the PQA, in predicting the professionalism and academic performance of
students in the BOH course. Methods: Data for a total of 215 participants,
in two subsets, were included in the study, representing all students
admitted to the BOH course between the admission years 2006 and
2013. The data for the study included individual PQA component scores,
academic results, and demographic information. Results: Findings for both
subsets showed positive correlations between mental agility and first-year
life science (biological science) marks. Additionally, those applicants who
scored in the top 30% for self-confidence were 2.7 times more likely to
perform in the top third of their cohort in clinical performance. A negative
correlation was found between narcissism and first-year communications
scores. Conclusion: These results support the possibility that use of a
personality measure in the admissions process of dental schools can predict
the subsequent academic performance of students.

P-111. A Comprehensive Summary of Services and Resources
Provided by Librarians in Support of Dental Schools in the
U.S. and Canada
Elizabeth Stelhrecht, University at Buffalo; Richard McGowan, New York
University; Irene M. Lukber, Virginia Commonwealth University; Nena
Schvaneveldt, Rosebud University of Health Sciences; Susan Arnold,
West Virginia University; Elisa Cortez, Loma Linda University; Rebecca
O. Davis, University of Southern California; Michael Kronenfeld, A.T.
Still University of the Health Sciences; Nicole Theis-Mahon, University of
Minnesota

Educational Research
Many academic dental institutions have library services and librarians
available to their constituents, but often a lack of awareness prevents
these constituents from taking full advantage of these services. The aim
of this study was to summarize the library services and resources that
support dental education and research. This summary will demonstrate
trends in dental librarianship as well as services and resources that can be
adopted to serve the needs of dental education programs. To date, there
has not been a comprehensive summary of these services. Methods: An
environmental scan was carried out to take inventory of services that
dental librarians provide. The study population consisted of librarians
who work in dental libraries or college/university libraries that serve
dental programs. The librarians surveyed were from institutions with a
Commission on Dental Accreditation (CODA)-accredited DMD/DDS
program. Currently, there are 76 such programs in the U.S. and Canada.
A questionnaire was distributed via email to the identified librarians.
Follow-up phone interviews were conducted when necessary. Results: The
results show that the majority of dental programs have a dedicated
librarian or library liaison providing clinical, educational, and research
support through a variety of approaches. Examples include evidence-
based dentistry instruction, research and grant support, collaboration on
systematic reviews, service on curriculum committees, and involvement
in the accreditation process. Conclusion: Librarians perform a variety of
services that enhance dental education and research. Librarians provide
beneficial services and resources for faculty, staff, and students. Increasing
awareness and utilization of available services and resources in the dental
community can facilitate research and complement dental education.
The results of this study can provide librarians in dental institutions
support to their constituents. The service models cited here can be adapted
dental schools across North America.

P-112. The Perspectives of Dental Hygiene Administrators
and Faculty on Interprofessional Education
Cristina Casa, Farmingdale State College of New York

Educational Research
Today’s health care system implements an interprofessional approach to
patient care. Accordingly, health professions education is responsible for
efficiently preparing students to enter this workforce. Interprofessional
education (IPE) has been proposed as the means for doing so. Dental
hygienists are lacking components of collaborative practice groups,
which may be a direct result of limited shared teaching and learning.
Administrators and faculty are accountable for the development and
facilitation of interprofessional plans; however, challenges threaten the
success of such efforts. There is a distinct lack of data assessing these
educators’ perspectives. Therefore, the aim of this study was to document
the viewpoints of this population about the value of IPE. Knowledge
gained can be used to increase collaborative educational opportunities,
overcome attitudinal impediments, boost IPE buy-in, and assist dental
hygiene in remaining relevant in an ever-changing health care field.
Methods: This study received IRB approval, and informed consent was
obtained from all participants. A mixed methodology design, with a survey
and a focus group interview, was implemented. The survey was comprised
of four demographic questions, 28 Likert scale items assessing attitudes
towards IPE, and two close-ended questions gathering information
about the basis for viewpoints and the use of interprofessional pedagogy.
Likert scale items were used, with permission, from Dr. Curran. Focus
group questions concentrated on attaining an in-depth understanding
of perspectives. Results: 224 dental hygiene administrators and faculty
members in the Northeast region of the U.S. were invited to complete
the survey; the response rate was 40.6%. From this population, four
faculty members participated in the focus group. Mean scores for Likert
scale items determined perspectives: 26 scores were greater than 3.00,
indicating favorability. Statistical analysis confirmed that IPE was expected
to foster teamwork and communication, increase awareness about other
propositions, and offer clarity about patient problems. The focus group members unanimously voiced positive feelings about collaborative education, expressing a strong desire to become more familiar with it. Conclusion: Overall, this study found that IPE was perceived as a viable strategy for improving professional, student, and community needs. The interests and concerns expressed in this study can be used to move IPE initiatives forward.

P-113. The NEO Personality Inventory-3 as a Predictor of Academic Success in Dental Hygiene
Debra Friesen, Colleen Whitt, Graham Stacey, Loma Linda University Educational Research
Understanding the capacity and characteristics of students is essential to positive academic outcomes. Developing strategies for teaching success can be complex and depends on the educator and the understanding of the learner. This study utilized the Neuroticism-Extraversion-Openness Personality Inventory-3 (NEO-PI-3) to identify correlations among dental hygiene national board pilot exams, a senior year exit objective structured clinical examination (OSCE), and service-learning hours earned. The aims of this study were to explore the relationship between academic outcomes and various personality traits measured by the NEO-PI-3; evaluate the usefulness of the NEO-PI-3 as a contributing tool in a dental hygiene baccalaureate program; and assess the association between personality and academic performance. Methods: The study (#5160332) was approved by the Loma Linda University Institutional Review Board and utilized deidentified archival data from 28 dental hygiene students in the baccalaureate program at Loma Linda University. The data from two dental hygiene national board pilot exams included parts A and B from first and second attempts (taken two months later). Additional data evaluated were senior exit OSCE and service-learning hours earned by each student. Noncognitive indicators were measured using the NEO-PI-3 administered as a part of a senior clinic seminar course (pass/fail). The assignment provided each student with a personality overview for personal growth. Results: The data utilized—reported as mean (M), standard deviation (SD), and range (R) low-high—from school records were scores on two national board pilot exams: first attempt part A (M=49.29, SD=6.115, R=36-64); part B (M=41.36, SD=3.965, R=32-46); second attempt taken approximately two months later part A (M=79.57, SD=9.871, R=61-103); part B (M=22.57, SD=2.673, R=17-27). Additional data evaluated were senior year exit OSCE (M=11.79, SD=2.132, R=7-15) and number of service-learning hours earned (M=116.59, SD=46.194, R=62-222). There was a significant correlation between both academic outcomes and service attributes with personal characteristics. Conclusion: This pilot study can serve as a helpful guide for future research. Its findings confirmed the need to include noncognitive indicators and their academic impact on future pedagogy strategies for faculty.

P-114. The Impact of Student Providers on Patient Care in Community-Based Dental Clinics
Keith A. Mays, Meghan Maguire, Paul D. Schulz, University of Minnesota Educational Research
According to the Commission on Dental Accreditation (CODA) standards, it is essential that dental students have experiences at external community-based clinics during their dental education. The University of Minnesota has worked with external partners to provide its students with community-based dental education (CBDE) in urban and rural settings, with a focus on treating underserved populations. Over the last 15 years, the program has expanded its impact within the state, by increasing the number of sites and rotation length. The aim of this study was to evaluate the impact that student providers had when providing care in community-based clinics. Methods: This was a retrospective analysis of patient care provided at community-based clinics. The Division of Outreach maintains a database of student activities, patient encounters, patient demographics, etc. This study descriptively analyzed student patient encounters for a three-year period, primarily focusing on stages of life treated, ethnic diversity, and the encounter types. Results: Students provided care to a broad category of racially and ethnically diverse patients: American Indian 11%, Asian 3%, Black 13%, Hispanic 23%, Caucasian 47%, Other 2%. Conclusion: Training dental students in CBDE give them an opportunity to provide care for an ethnically diverse patient pool. At the same time, dental student providers play a significant role in providing primary care for diverse and underserved populations.

P-115. Patient Complaints: From Lemons to Lemonade
Janine Fredericks-Younger, Marissa Handelman-Yellin, Jill York, Rutgers School of Dental Medicine Educational Research
Across health care disciplines, patient complaints are a common occurrence and are oftentimes recorded and reviewed as part of quality improvement programs. As an intermediate step in an ongoing research project to improve the patient care experience at Rutgers School of Dental Medicine (RSDM), the aim of this study was to categorize patient complaints to more accurately pinpoint areas of complaint and direct appropriate corrective action plans. Methods: For this study (IRB Pro20160000790), the research team analyzed patient complaints reported to the RSDM Office for Clinical Affairs from July 1, 2011 to June 30, 2016. Over this five-year period, 313 complaint occurrences were reported by 247 unduplicated patients. Using the newly developed RSDM-Patient Complaint Taxonomy (RSDM-PCT), two calibrated examiners organized and coded the complaints and assessed each occurrence for having single or multiple issues. Results: Of the 313 complaints made, 394 issues were identified. Overall, 58.6% of complaint occurrences were categorized in the Clinical Domain and 41.4% in the Operations Domain. Similarly, each category was evenly represented, ranging from 12.2% to 21.3%. Coding in the subcategories, however, yielded diverse results, and select subcategories were highlighted. Of note, Policy (17.0%) and Bureaucracy (11.9%) subcategories in the Operations Domain, as well as the Treatment Delays (11.2%) and General Dissatisfaction (11.2%) subcategories of the Clinical domain, were most frequently coded. Conclusion: Offering perspective into the patient care experience, patient complaints should serve as predominant factors in developing meaningful corrective action plans. The results of this study made it evident that common areas of complaint, including the operational issues of financial policy and institutional bureaucracy, needed to be addressed. Within RSDM, students are the primary patient care providers and have the most frequent interactions with patients. As such, students who are more well versed in clinic policy and patient management would be more effective clinicians and could assist their patients in negotiating the dental school environment; therefore, an enhanced clinic orientation was created reviewing current protocols and SOPs. Ultimately, by educating students on areas identified as problematic, coupled with good clinical skills, school administrators hope there will be a reduction in the number of future complaints.

P-116. Treatment Planning EHR and the Virtual Patient: Transitioning from Simulation to Reality
Martine Mandracchia, Da Yung Yeo, Lucretia A. Depaula-Cefola, New York University New Program
Treatment planning is among the most critical and challenging skill sets for dental students to master. It is not easily measured or quantifiable, as the outcome of treatment can only be evaluated after the fact. The teaching of treatment planning has improved with the implementation of simulation labs in dental schools, in which a virtual patient is utilized. A virtual patient consists of a typodont, a fictitious medical and dental history, x-rays, and a chief concern. A monitor with patient data is located at every student’s chair. Students plan treatment on the same patient and arrive at similar treatment plans. Transitioning from the sim lab to actual patient who can be treatment planned with or without the patient present. A virtual patient consists of a typodont, a fictitious medical and dental history, x-rays, and a chief concern. A monitor with patient data is located at every student’s chair. Students plan treatment on the same patient and arrive at similar treatment plans. Transitioning from the sim lab to actual patient who can be treatment planned with or without the patient present. As novice students, the latter is preferable because mistakes made on patient who can be treatment planned with or without the patient present. For novice students, the latter is preferable because mistakes made on patient who can be treatment planned with or without the patient present. The electronic health record (EHR) allows the student to document all pertinent data and create a virtual patient that the student can treatment plan without the patient present. This poster will demonstrate how utilization of EHR helps to transition students from sim lab to actual patient who can be treatment planned with or without the patient present. For novice students, the latter is preferable because mistakes made on patient who can be treatment planned with or without the patient present. As novice students, the latter is preferable because mistakes made on patient who can be treatment planned with or without the patient present. The electronic health record (EHR) allows the student to document all pertinent data and create a virtual patient that the student can treatment plan without the patient present.
P-117. Development and Evaluation of Medical Screening in the Dental Setting
Anetta Bitouni, Paul Hoffmann, Daniel Jones, Andreea Voinea-Griffin, Baylor College of Dentistry; Jeffrey Chaffin, ATSU

New Program

The goals of this new program were to educate future dentists on interprofessional partnership, screening patients for diabetes, hypertension, tobacco use, and obesity in the dental setting, and tracking the number of referrals and the number of patients who were actually following up with a physician as needed. Methods: The project took place at the NDSCM community clinic between October 2015 and April 2016. Risk screening questionnaires concerning diabetes, hypertension, tobacco use, and obesity were developed and implemented in the health records of screening patients. Dental providers were surveyed concerning the questionnaires as well as their knowledge after attending interdisciplinary seminars. The number of providers completing the questionnaires, the number of patients referred for further evaluation, and the number of patients actually returning for a follow-up appointment was noted. Results: Starting January to April 2016, 82% of all dental professionals completed at least one health risk questionnaire. Of these providers, all completed the survey concerning the applicability of the health questionnaires. The majority found the questionnaires appropriate and not time-consuming. Of the individuals attending the interdisciplinary seminars, 45% were found to have their knowledge increased concerning issues related to diabetes, cholesterol, blood pressure, and diet. Of the patients found to be at risk for the diseases of interest, only 5% followed up with the appropriate specialist. Conclusion: This project found that screening for common diseases in the dental office was feasible and well perceived. It also showed that well-constructed interdisciplinary care seminars can be beneficial and that case management and coordination were essential for health risk screenings to have an impact on patients’ welfare.

P-118. Developing an IPE Curricular Framework
Susan Long, Melissa Efurd, Claire S. Tucker, University of Arkansas for Medical Sciences

New Program

Using a five-pillar model, interprofessional education (IPE) and interprofessional collaborative practice (IPCP) have been integrated throughout the entire patient care, education, research, and service mission at the University of Arkansas for Medical Sciences (UAMS). The result is the establishment of a Triple Aim culture that incorporates IPE competencies to improve patient care, improve population health, and reduce cost of care. This poster will 1) describe a three-phase curriculum that incorporates the Triple Aim and guiding principles for IPE across novice, intermediate, and advanced stages of learning and practice; and 2) describe the application of the Triple Aim IPE curriculum to a variety of learners, practitioners, and community partners. Method: A 12-member IPE Steering Committee worked interprofessionally to design a longitudinal curriculum that incorporates a series of IPE learning and practice activities grounded in Triple Aim tracks. It was presented to the curriculum committee/faculty assembly for each college and approved as a campus-wide graduation requirement for all students. Results: A three-phase curriculum (exposure, immersion, and competence) with seven core activities designed to create relevant learning elements for interprofessional groups of students at novice, intermediate, and advanced levels was developed. The curriculum aligns with competency development in each academic program and requires approximately 30 contact hours. Curriculum incorporates elements of the Triple Aim, IPEC domains, patient-and-family-centered care concepts, health literacy, social determinants of health, and health economics. The curriculum was piloted in spring 2015 and implemented as a graduation requirement for all 2,800 UAMS students in fall 2015. Conclusions: The UAMS Triple Aim curriculum minimizes the need for schedule collaboration, provides faculty development opportunities for teaching and practice-based responsibilities, and allows each college to individualize curriculum to meet accreditation standards. Faculty development is provided interprofessionally and is developed by faculty equipped to assist with the three Triple Aim curriculum phases. This curriculum structure is broadly applicable to health science centers of any size and composition.

P-119. Using Educational Technology to Design a Virtual Station-Based Clinical Competency Assessment
Jayzona A. Alberto, Jorge Godinez, Western University of Health Sciences

New Program

This poster will present the full implementation of electronic technology when designing and administering an OSCE or station-based assessment; explain the streamlined exam development process and minimization of resource utilization such as paper, faculty, and staff time, and classroom or clinic space; and showcase reports and student progress tracking on specific learning outcomes and competencies. Methods: The Western University of Health Sciences College of Dental Medicine moved from a paper format to a hybrid of paper and computer and finally to an electronic/virtual format. Faculty buy-in was the first step of the implementation process. Staff from the Office of Academic Affairs explained the advantages of using educational technology for OSCEs or station-based assessments as well as the bonus benefits of enhancing the dental student experience. Next, faculty and staff collaborated to set the logistics of the assessment, including method of question creation and collection, structure of the examination, and features from the assessment software. All features are utilized for an OSCE or station-based assessment, but two of the most popular features include video and 3D PDF attachments. The final step of the process entailed generating exam-specific reports, which was a capability that was never an option when administered on paper. Results: The use of educational technology for OSCEs and station-based assessments resulted in a more robust assessment of students’ clinical knowledge, skills, and performance. In the past, these types of assessments were logistically complex and required weeks of planning to run smoothly. The administration of virtual assessments has proved to be tremendously beneficial for this dental school, addressing issues with planning, creation, proctoring, grading, and reporting outcomes and competency levels. Conclusion: In order for dental education to come full circle with virtual reality and adaptive learning, the assessment of student learning should also be administered with educational technology. Western University of Health Sciences College of Dental Medicine continues to integrate innovative solutions into everyday processes, exploring novel and creative ideas that improve processes and outcomes for the college and the future of dental education.

P-120. Experiences and Assessments of the LEAD 2 Predental Program
Matthew Jones, Juanita Lozano-Pineda, Vidal Balderas, William D. Hendrixson, John D. Jones, University of Texas Health Science Center at San Antonio

New Program

The University of Texas Health Science Center at San Antonio School of Dentistry has a pre dental program called the LEAD program (Learning Enhancement for Achievement in Dentistry). The purpose of this program is to provide information, develop interest, and educate college-level students about dentistry. Through LEAD, qualified and interested students can be identified and recruited to dentistry. The experiences and assessments of the LEAD program will be described. Methods: There are three separate LEAD programs in which college-level students participate: LEAD 1 (summer after college year 1), LEAD 2 (summer after college year 2), and LEAD 3 (summer after college year 3 getting ready to apply to dental school). LEAD 2 includes mini courses in microbiology, anatomy,
and physiology; DAT preparatory course; information technology skill enhancement with hands-on workshops; ethics and dental professionalism sessions; and a clinical preceptorship with dental practitioners. A post program assessment was completed at the conclusion of each course. Results: The post program assessment indicated strong agreement in LEAD 2 questions. LEAD 2 participants enjoyed sharing lectures with DS1 and DS students. Some said that the DAT Kaplan course offered was the most helpful because they could improve their DAT score from the course. Many of the students enjoyed the clinical and waxing activities. Overall, the LEAD 2 participants enjoyed the anatomy course because they found the instructor taught the subject well and was enthusiastic. In general, participants viewed the faculty members as being great supporters who wanted the LEAD 2 participants to succeed. Comments on faculty addressed their enthusiasm and willingness to help and being amazing and extremely helpful. Conclusion: Most comments about the experiences of LEAD 2 from the participants were very positive. However, there were suggestions for improvements that can be made in future programs. The LEAD 2 participants wished for more time waxing, more clinical activities, more time interacting with dental students, more time on the dental application, and more time at the clinic building. The participants described their overall experiences with LEAD as being great, good program, a very memorable experience, fantastic program, and they greatly appreciated the hard work from staff and faculty.

P-121. Grand Rounds: A Successful and Important Tool in Dental Education, Self-Reflection, and Delivery of Quality Patient Care
Ann M. Nasti, Euane Newen, Stony Brook University

New Program
At Stony Brook University, the student-centered curriculum focuses on the development of skills that oral health care professionals need for the practice of health care in the 21st century: skills in diagnosis and treatment planning, self-reflection, self-assessment, collaboration, and self-directed lifelong learning. The purpose of Grand Rounds is to introduce D1, D2, D3, and D4 dental students to an interdisciplinary approach to dental care and help them recognize their strengths and identify the skills, knowledge, and values they need to independently master to become a general dentist.

Methods: From the diagnosis and treatment planning phase through the execution of patient care, the students are part of a multidisciplinary team (general dentists, specialists, auxiliary personnel, lab technicians, and scheduling and financial coordinators) delivering oral health care to selected patients. Approximately 162 students are divided into 27 groups with six students per group. A patient is selected in advance who has a complicated medical and dental history with extensive multidisciplinary needs. Each group sees the patient every week for four weeks. Approximately ten groups per month are part of this rotation/selective.

Results: The Grand Rounds experience is an effective learning tool that provides students with the following benefits: willingness to express uncertainties and limitations relevant to his or her practice of dentistry and pursue information and help necessary to practice safe and effective patient care; identifies tension between personal and professional goals; and reconciles clashes between professional responsibilities and personal needs.

Conclusion: The challenge is to create a system of promoting, implementing, and documenting competence that maximizes individual accountability in a team environment with the support of other external sources, such as faculty mentor feedback. The expected outcome is that, through understanding, education, and cooperation, the learning curve will be decreased. Student satisfaction and success will be enhanced, and superior patient care will be rendered as a result of learning in a collaborative environment.

P-122. Teaching Clinical Communication Skills to Dental Students Using High-Fidelity Simulation
Carly McKenzie, Ken Tilashalski, Dawn Peterson, Marjorie Lee White, University of Alabama at Birmingham

New Program
Previous research has found that communication skills are crucial in the development of satisfactory provider-patient relationships. High-fidelity simulations are preferable to didactic instruction for teaching interpersonal and communication skills. Simulations improve clinical communication by increasing self-confidence, bettering self-efficacy scores, and reducing anxiety. A program was introduced to improve dental students' clinical communication of treatment options. D2 students’ ability to present treatment options had been previously evaluated by an instructor playing the role of a patient. Assessment results indicated a substantial percentage of students missed key components, namely, risks, benefits (30 points and estimated cost (27%). As a result, a high-fidelity simulation was added utilizing standardized patients (SPs) to help students develop presentation skills. Methods: All D2 students simulated a patient appointment in the school’s emergency clinic. Five SPs were employed over two days with six “appointments” per day. The simulated appointments, subsequent debriefing session, and completion of assessments took approximately 1.25 hours. The simulation included initial patient interview, medical history, presentation of patient to attending faculty, and treatment option presentation. Radiographs and clinical exam were not included. Students formulated treatment options based on symptoms reported by the patient during the interview. Results: Assessments included SP evaluation and student self-assessment of clinical communication skills. Upon completion, SPs and students compared evaluations. This individualized feedback occurred prior to the group debriefing conducted by the attending and behavioral sciences faculty. Following debriefing, D2 students evaluated the simulation exercise itself. The SPs evaluated the content of the treatment option presentation more negatively than did the students, and the students generally self-rated more negatively than the SPs when evaluating clinical communication style. Assessments indicated an effective learning exercise. Longitudinal effect will be evaluated via fourth-year clinical observations. Conclusion: Assessment data showed positive student attitudes towards the simulation. Students reported the experience to be realistic, challenging, and enjoyable. They rated the simulation as a valuable learning experience that prepared them for patient care while improving communication skills. This activity has proven to be a valuable addition to the dental curriculum in advancing clinical communication with patients.

P-123. Development of a Formalized Humanism Program in Dental Education
Kim Fenesy, Jeanette DeCastro, Freda Zackin, Emily Sabato, Rutgers School of Dental Medicine

New Program
Rutgers School of Dental Medicine (RSDM) has a long-standing commitment to humanism and professionalism in dental education. In 2014, RSDM sought to formalize its humanism program to further illustrate the school’s commitment to developing dentists who are committed to patient-centered care in an environment of mutual respect, cooperation, and collaboration. This poster describes how RSDM developed this formalized program as well as how it is evaluated. Methods: In late 2012, RSDM developed a humanism program—the content of which was woven into the program in professionalism established in 2012. The five goals of the humanism program are to 1) promote and ensure an atmosphere of professionalism, humanism, civility, and respect; 2) promote professionalism and demonstrate humanism outwardly in all student, staff, and faculty interactions with the community; 3) fulfill the academic mission of instilling professionalism in its graduates; 4) enable early identification and counseling of individuals with deficiencies in these areas; and 5) recognize exemplary professional and humanism conduct. All RSDM faculty, staff, and students can be evaluated, positively or negatively, for humanism and professionalism through use of RSDM’s Professionalism Form. The school also conducts a Quality of Work Life (QWL) survey every three years, which has questions identified as measuring humanism within the school. The survey has a 1-5 scale with 1=strongly agree, and 5=strongly disagree. Results: Faculty, staff, and students received the QWL survey in fall 2015. The mean score for humanism questions was similar across populations. The mode was 2 (agree) on all questions for faculty and staff; the mode was 1 or 2 for 90% of the questions for students. Conclusion: The results of the 2015 QWL survey indicate that a humanistic environment is being established at RSDM. The school must maintain its strong commitment to humanism through dedicated programming, policy enforcement, and teaching
by example and should seek to continually improve the perception of humanism by the faculty, staff, and students. The QWL survey will be repeated in 2018 to evaluate the environment and the results of efforts to improve the climate of humanism.

P-124. Content and Methodology of Predoctoral Geriatric Dentistry Teaching in Europe
Anastassia Kossioni, National and Kapodistrian University of Athens; Gerry McKenna, Queen’s University Belfast; Frauke Müller, University of Geneva; Martin Schimmel, University of Bern; Jacques Vanobbergen, Gent University

The aim of this study was to explore the content and methodology of predoctoral geriatric dentistry programs amongst European dental schools. Methods: An electronic questionnaire was developed with closed and open-ended items, including information on the prevalence, the educators, the content, and the teaching methodology of geriatric dentistry programs. An email with a hyperlink to the questionnaire was sent to the deans of 216 dental schools in 39 European countries. The deans were asked to either complete the survey themselves or forward the link to faculty members with knowledge of geriatric dentistry teaching at their schools. Repeated reminders or telephone calls were used for nonrespondents, and personal networks were used to identify potential contact persons. The study was approved by the Athens Dental School Ethics and Research Committee (280A12015). Results: 121 dental schools from 29 countries responded to the survey by August 2016 (response rate 56%). Geriatric dentistry was included in the predoctoral curricula of 86% of responding schools and was compulsory in 68%. The course was mainly offered for senior students and was interdisciplinary in 27.3% of the schools. Dental educators participated in all courses, followed by physicians, psychologists, and nurses. Instruction was conducted as an independent course in 40% of the responding schools; when embedded in other disciplines, these were mainly prosthodontics (31%). The most common topics covered were medical problems in old age, xerostomia, prosthodontic management, and caries risk assessment. Lectures were the most common teaching technique (69%), followed by small group seminars (27%). The most common types of educational material used were scientific articles (48%), printed textbooks (44%), lecture notes (40%), and e-learning material (21%). Clinical training was offered at 64% of the schools, within the dental clinic alone (49%), and/or in outreach locations (40%). Conclusion: Amongst the responding European dental schools, there was an increasing number that teach geriatric dentistry at the predoctoral level with significant variations in content and methodology. Dissemination of the European College of Gerodontology predoctoral curriculum guidelines may help to increase the prevalence and improve the status of geriatric dentistry teaching in Europe.

Karl Woodmansey, Saint Louis University

Educational Research

The aim of this study was to survey predoctoral endodontic educators in the U.S. and Canada regarding their programs’ use of extracted human and simulated plastic teeth. Methods: In August 2014, with approval of the University of the Pacific IRB, a hyperlink to a web-based survey consisting of 27 questions was emailed to 67 predoctoral endodontic directors of U.S. and Canadian dental schools using a list provided by the American Association of Endodontists. Results: 40 directors submitted surveys (60% response rate). The findings were varied. When asked “In your school’s preclinical endodontic laboratory curriculum, what type of teeth are used by students for simulation exercises: (select one),” 16% reported using human teeth, 16% reported using plastic teeth, and 26% reported using both types of teeth. When asked “If your students use extracted human teeth for laboratory simulation exercises, do your students have an adequate supply of these teeth?,” 70% reported having an adequate supply, and 30% reported an inadequate supply. When asked “If there are patient shortages, are simulation exercises using extracted teeth or plastic teeth accepted as substitutes for clinical experiences?,” 56% reported permitting substitution, while 44% did not. In an open comments section of the survey, several respondents cited their use of extracted human teeth as the most realistic simulation of live patients. Some respondents preferred using simulated teeth for standardization between students and for examination purposes. Another reported influence is the fact that all regional licensing board examinations, except the Western Regional Examination Board (WREB), utilize plastic teeth. Several respondents cited the ethical issues of using extracted human teeth that may not have been expressly donated with approval or informed consent for such educational uses. Others spoke of the infection control issues related to the use of human teeth. Conclusion: This study found that, depending on the program, predoctoral endodontic educators currently utilize both extracted human teeth and simulated teeth composed of various polymers. The directors of these predoctoral endodontic programs appeared to have a variety of reasons supporting their choice of teeth.

There are no Posters P-126 and P-127.

Presented on Monday, March 20, 2017, 10 am-12:00 noon

P-128. Perceived Barriers to Faculty Research in a Health Science Center
Richard Ballard, Louisiana State University Health New Orleans; Joseph Hagan, Texas Children’s Hospital; Paul Armbruster, Louisiana State University Health New Orleans

Educational Research

The aim of this study was to investigate perceived barriers to research among faculty members at a public university health sciences center and faculty member characteristics related to those barriers. Methods: Following IRB approval, a cross-sectional, 15-question electronic survey was distributed via SurveyMonkey to all full-time faculty members of three schools (Dentistry, Nursing, and Allied Health) in a public university health sciences center. Multiple statistical analyses were performed to evaluate various parameters. Results: The response rates were School of Nursing 33%, School of Dentistry 17%, and School of Allied Health Professionals 23%, which represented a statistically significant difference across schools. The majority (58%) of faculty respondents identified “Lack of time for me to do research” as the single largest barrier, followed by “Lack of financial or other resources to facilitate research.” Respondents in the School of Dentistry had significantly higher “Personal Relevance of Research” scores than those in the School of Allied Health Professionals and School of Nursing. “Personal Relevance of Research” scores of the male faculty were significantly higher than the females’ scores. The female faculty agreed significantly more that “Lack of time for me to do research” hindered research activity than did the males. “Lack of time for me to do research” was significantly lower for respondents in the School of Allied Health Professionals compared to those in the School of Dentistry and School of Nursing. Respondents on the research track had significantly lower overall satisfaction with opportunities to engage in research than those on the clinical track. Conclusion: This study found lack of time to do research to be the largest perceived barrier to faculty research at a public university health sciences center. This study’s finding that research resources represent a significantly greater barrier to research than personal relevance of research indicates that faculty members generally believe research is important to their careers but they lack adequate resources to be productive in research. Given the importance of health-related research to public health quality, efforts should be made to protect faculty members’ time and to provide the resources necessary for conducting meaningful research.

P-129. Perceptions of Uncivil Behavior by Faculty Members in an Academic Dental Institution
Richard Ballard, Louisiana State University Health New Orleans; Joseph Hagan, Texas Children’s Hospital; Paul Armbruster, Suzanne Fournier, Janice A. Townsend, Louisiana State University Health New Orleans

Educational Research

The aim of this study was to identify which faculty behaviors were perceived as uncivil by students and faculty members in an academic dental
P-130. Teaching Self-Assessment to Second-Year Dental Students
Marybeth Shaffer, University of Louisville

The development of students’ self-assessment skills in dental education is critical. Graduates must demonstrate the ability to self-assess, a program requirement as well as a Commission on Dental Accreditation (CODA) standard. Even though most educators agree with the importance of students’ learning to self-assess, there is little information on the formal or systematic training of students on how to adequately self-assess. Rubrics can be vague and appear subjective especially early in students’ development. Grading rubrics can give extensive latitude to faculty interpretation, and variance can be wide between faculty members as well as students. Studies have noted that the better performing students tend to underrate themselves and that the poorer performing students tend to overrate themselves and, in general, students score themselves higher than their faculty evaluators. This inconsistency suggests the importance of implementing self-assessment training for students. The aim of this study was to develop and evaluate a tool to improve the self-assessment skills of early second-year dental students. Methods: A grading rubric for Introduction to Clinical Dentistry II second-year students at one U.S. dental school with measurable criteria was developed. The criteria for the technical component were based on the ADEX criteria. Faculty members were calibrated, and measurement with a periodontal probe was required before issuing a grade. A lecture was given simultaneously given to students and faculty on self-assessment after the faculty members’ inaugural implementation using interactive i-clickers and slide examples of expectations and areas were below acceptable. Class aggregate scores were reported prior to use of the new rubric, after introduction of the new rubric, and following the student and faculty calibration lecture. Results: The class average increased following implementation of the rubric with measurable criteria. Faculty members’ consistency when using i-clickers appeared to gain momentum with each slide. Conclusion: With use of the new rubric, these early second-year students appeared to better align their assessments with faculty assessment that had been standardized with measurable criteria.

P-131. Evaluation of a Summer Enrichment Program to Facilitate Clinic Transition for Third-Year Dental Students
Juanita Lozano-Pineda, Vidal Baldaras, William D. Hendrickson, John Littlefield, Jeff Hicks, University of Texas Health Science Center at San Antonio

Educational Research

Since 2014, the University of Texas Health Science Center at San Antonio (UTHSCSA) School of Dentistry’s Hispanic Center of Excellence, sponsored by the U.S. Health Resources and Services Administration, has provided a three-week summer enrichment program for dental students (LEAD 4, 5, 6). The LEAD project aims to strengthen the health care workforce and retain underrepresented minority students. The aim of this study was to evaluate the effectiveness of LEAD 6, the focus of which is to facilitate students’ transition to the third-year clinic. Methods: LEAD 6 included a National Board Dental Examination (NBDE) prep course and focused on clinical navigation including electronic health record (axiUm) components and clinical expectations, diagnosis and treatment planning, clinical prosthodontics, eight clinical sessions of comprehensive exams and preventive care services, and required entries to the electronic record. The three-week LEAD program was conducted at the UTHSCSA School of Dentistry and an affiliated community-based clinic (San Antonio Christian Dental Clinic) by faculty and dental student tutors enrolled in the Teaching Honors Program. At the end of the program, students evaluated the experience on a survey with response options from 1=strongly agree to 5=strongly disagree. The program evaluation was based on Kirkpatrick’s four level hierarchy of training program outcomes: reaction, learning, behavior, and results. Results: 13 of the 15 participants completed the survey. At the reaction level, students’ average scores on program component helpfulness were as follows: axiUm overview 4.15, clinic sessions 4.92, diagnosis and treatment planning 4.15, chart audits 4.46, temporary fabrication 4.15, lab prescriptions 4.54, and clinic expectations/how to prepare and organize for clinic 4.69. At the behavior outcome level, 13 of the 15 (88%) LEAD 6 participants passed the NBDE Part I. Conclusion: These results suggest that the Hispanic Center of Excellence LEAD 6 enhanced these dental students’ confidence in their preparedness for clinical experiences.
rubric compensates for minimal critical errors by establishing a systematic approach in determining competence.

P-133. Dental Hygiene Students’ Perceptions of the Health Education Systems, Inc. Exam as a Method to Prepare for the NBDHE
Kristeen Perry, Susan Jenkins, MCPHS University
Educational Research
The aim of this study was to retrospectively evaluate dental hygiene students’ perceptions and satisfaction with the Health Education Systems, Inc. (HESI) examinations, administered during the final semester of their program as a method of preparation for the National Board Dental Hygiene Examination (NBDHE). Methods: The study used a mixed-methods research design. A survey instrument was developed based on the literature. It contained 19 pre questions and seven post questions relating to the following areas: demographic characteristics and students’ perceptions of their preparedness and level of satisfaction with the HESI materials. The survey was administered to a purposive sample of dental hygiene students (n=29) at Forsyth School of Dental Hygiene, MCPHS University. The pre survey was conducted after participants completed four HESI examinations: Exit Exam 1 and three specific topic exams. The post survey was conducted after completion of the NBDHE. IRB approval for the study was obtained from MCPHS University. Results: Qualitative and quantitative data were collected utilizing SurveyMonkey. Qualitative data collected from the open-ended survey questions were analyzed and coded by the researchers to capture common themes. The thematic analysis revealed an overarching theme that the respondents were satisfied with the HESI exams as a method to identify content areas they did not know and as a review for content previously learned. However, the majority of the participants believed the HESI exams needed improvement with content and remediation to be a more useful tool to prepare them for taking the NBDHE. Additionally, 36% of the participants agreed or strongly agreed that the HESI exams aided in their preparation for the NBDHE, while 48% were either dissatisfied or strongly dissatisfied with the HESI exams as a board preparation instrument. Conclusion: Findings from this study showed the students were somewhat satisfied with the HESI exams for dental hygiene; however, they would supplement the exams with additional study materials. Further research is required to determine the need for improvements to the HESI exams to improve students’ satisfaction and preparedness.

P-134. Students’ Perceptions of the Flipped Classroom Approach for Caries Detection and Radiographic Interpretation of Dental Materials
Randall L. Vaught, Tarin T. Williams, Jolene R. Zirnheld, University of Louisville
Educational Research
Dental educators are constantly faced with adapting their teaching styles and practices to meet the demands and challenges they face to ensure that students are prepared for a career in dentistry. With the differing learning styles of students and their desire for interactive technology, traditional in-class lectures may no longer be as effective. Faculty members wanting to modify how they present course material are looking for effective ways to engage students both in and out of the classroom. The aim of this study was to implement a flipped classroom model on the topic of caries detection and to obtain students’ feedback on the effectiveness of this type of learning style. Methods: The study design consisted of a Likert scale survey and the opportunity for students to provide written feedback or suggestions. The survey was approved by the IRB and was administered to 109 D2 students enrolled in the Introduction to Clinical Dentistry II course. All questions were developed to get student feedback on the in-class exercises and assignments and to determine their perceptions of the effectiveness of this approach. Results: Student feedback on the flipped classroom approach overall was very positive. The results of the survey showed that 77% agreed that the flipped classroom was more engaging than the traditional classroom. When they were asked to rate the flipped experience using a scale of 1-5 (5=highest), the mean overall rating was 4.3. In addition, 89% of the respondents either agreed or strongly agreed that the in-class assignment and cases helped them to learn the course content. Conclusion: The flipped classroom model for the caries detection lecture was perceived to be a positive and effective experience by the majority of the students who completed the survey. The researchers will continue to develop this type of educational model as well as begin looking at whether this type of learning improves student performance.

P-135. Self-Assessment of Ergonomics Among Dental Hygiene Students Utilizing Photography
Brian B. Partido, The Ohio State University
Educational Research
Due to postural demands, dental professionals are at high risk for developing work-related musculoskeletal disorders (WMSDs). The identification of ergonomic interventions has been suggested to help reduce the prevalence of WMSDs. However, the interventions must overcome dental clinicians’ unsatisfactory ergonomic awareness and clinical application of recommendations. One way to improve ergonomic awareness is through self-assessment. Currently, no research exists that shows whether improvements in students’ ergonomic self-assessment result in improved ergonomic scores. Therefore, the aim of this study was to determine whether the accuracy of ergonomic self-assessment and ergonomic scores among dental hygiene students improved as a result of feedback involving photography and self-assessment. Methods: The IRB approved this study (#2016H0239). The study involved a randomized control design, and subjects were assigned to one of two groups. All subjects were photographed and completed ergonomic self-evaluations using a Modified-Dental Operator Posture Assessment Instrument (M-DOPAI) at weeks 1 and 4 without viewing the photographs. During weeks 2 and 3, all subjects completed ergonomic self-assessments using the M-DOPAI, but members of the intervention group used photographs to aid with their ergonomic self-assessments. The students’ pretest and posttest photographs were evaluated for ergonomic scores using the consensus of three faculty evaluators. Results: At the pretest, a weak correlation that was not significant was found (r(1)=0.371, p<0.05) between students’ and faculty members’ scores; at the posttest, a strong correlation that was not significant was found (r(1)=0.888, p<0.05). The mean on the students’ pretest was 18 (sd=1.00), and the mean on the their posttest was 21 (sd=5.29). No significant difference between pretest and posttest was found (t(2)=–1.134, p<0.05). Conclusion: Based on the preliminary data, the accuracy of the students’ ergonomic self-assessments, based on the faculty assessments, improved whereas the students’ ergonomic scores declined. This method of utilizing photographs goes beyond the boundaries of typical formative feedback by allowing students to improve their self-assessment skills and potentially improve their ergonomic scores.

Elizabeth M. Scott, Dianna M. Arriaga, University of Texas at Houston
Educational Research
The aims of this study were to retrospectively evaluate dental hygiene students’ ability to visualize concepts and assess feedback on digital scanning software in single unit, indirect preparations; derive the effectiveness of digital imaging on dental students’ ability to visualize concepts and assess feedback on single unit preparations; and determine the feasibility of incorporating digital scanning software into the preclinical dental curriculum. Methods: The participants completed a pre- and post-course survey regarding their levels of confidence in completing single unit crown preparations and attitudes about CAD/CAM technology. The participants completed one crown preparation on typodonts, which was graded and used as a control. The participants completed three practice sessions, attended a Planmeca tutorial, and used scanners to self-evaluate. During the final session, they completed a crown preparation using no digital scanners. Results: The mean scores of three graders increased after Planmeca practice sessions (p<0.05). There were significant differences between the pre- and post-surveys on the following measures: digital imaging software’s images being helpful in visualizing typodont teeth (p<0.0313); a decrease in variations between faculty evaluations when digital scanning software was used (p<0.0039); and increased confidence
in preparing single unit restorations on patients in clinic (p=0.0625).

Conclusion: Due to tooth size, visualization is challenging for dental
students. This study found that digital imaging improved visualization
and enhanced perception and manipulation of three-dimensional spatial
relationships. Scanning software enlarged preparations, increasing
visualization of undercuts, tapers, and uneven margins. The Planmeca
software system enhanced characteristics such as 360-degree rotation,
magnification capabilities, and reduction guides. As a result, students
visualized the entirety of their preparations in a magnified view and
better appreciated the detail and precision needed for successful indirect
restorations. Despite a limited number of participants, the study was
conclusive in establishing the effectiveness of digital imaging software in
enhancing learning concepts of single unit restorations. Students were able
to comprehend the spatial relationships of a crown preparation design and
cognitively understand the relationship of line of draw, undercuts, taper,
axial, and occlusal reductions. Additionally, there were noted enhancements
in faculty evaluations, discussions with students, and calibration.

P-137. Dental Hygiene and Nursing Students: Opportunities to Influence In-Patient Oral Health Outcomes

Amanda Reddington, Lorinda Coan, Susan Seicb, Emily Holt, University of Southern Indiana; Angela Srood, Deaconess Hospital; Lillybeth Cassel, St. Mary’s Medical Center

Educational Research

The aims of this study was to assess an interprofessional education (IPE)
event designed to improve understanding of professional roles, foster
an appreciation of interprofessional communication, impart values for
evidence-based daily oral care for all patients, and apply knowledge
regarding oral health to systemic disease links while caring for patients
in acute care settings. Methods: Students from the University of Southern
Indiana’s dental hygiene and nursing programs participated in a hospital-
based interprofessional pilot learning activity (IRB approval 770065-1).
This activity is designed to enhance communication and teamwork skills
between disciplines and increase oral health outcomes for acute care
patients in dedicated educational units. Prior to the IPE event, students
participated in TeamSTEPPS training as an introduction to collaborative
care. At the hospital, dental hygiene and nursing students were paired and
assigned a patient. Collaboratively, they reviewed the medical history and
developed an individualized oral health assessment plan based on the
patient’s needs. Bedside, the pair completed the Oral Health Assessment
Tool, adjusted the prepared plan as appropriate based on actual findings,
and then provided oral hygiene care and presented necessary oral
guidance and general health recommendations to the patient. Referral to other health
professionals was also an important part of the collaboration. Results: Evaluation of the IPE activity included students completing a written reflection survey and the Interprofessional Collaborative Competency Attainment Survey (ICCAS). The reflection survey themes showed that the activity generated an appreciation of the roles for each profession, developed a sense of value for interprofessional collaboration, provided an authentic means to acquire skills necessary to care for the oral health of acute care patients, and created a heightened awareness of viable dental hygiene workforce options in hospital settings for both student professions. The ICCAS results demonstrated an improvement in application of TeamSTEPPS principles evidenced by an increase in scores in most categories represented in the post-event survey tool. Conclusion: These results suggest that this ongoing, clinically based interprofessional learning activity increased medical and dental knowledge among the partnered pairs and their confidence in professional communication, as well as demonstrating the need for oral health care professionals in an acute care setting.

P-138. Reflective Exercises Added Little to Increase Student Test Performance in a Basic Medical Science Course

Tobias K. Boehm, Western University of Health Sciences

Educational Research

Biomedical sciences education for dental students should encourage
development of critical thinking skills, which require the ability to self-
assess individual learning needs. Reflective exercises can be used to drive
this type of self-assessment, and dental students can learn these skills
during biomedical science education. Since reflective exercises encourage students to seek out new information, the aim of this study was to determine if reflective exercises in a first-year basic medical science course improved achievement of learning objectives as measured through test performance.

Method: The IRB determined the study was exempt from oversight (protocol #16/IRB-045). This retrospective study evaluated achievement of learning objectives, as measured by pretest/posttest scores and course grades of first-year dental students (N=69, N=68, respectively) who took a system-based course on blood and lymphatic tissues in 2015 and 2016.

Didactic methods utilized in both years included lectures, case-based learning exercises with clinical cases, and literature reviews. Unlike the 2015 course, the 2016 course also used mandatory reflective exercises for teaching purposes. These exercises included reflective pop-up questions in class, a reflection assignment, and a case-based reflection paper. Grading was based on performance on a midterm and a final multiple-choice exam, attendance, and either class participation in 2015 or completion of reflective exercises in 2016. Students enrolled in the course took a ten multiple-choice-item pretest on selected learning objectives at the very beginning of the class and then the same exact test as a posttest in the last class session before the final exam in both years. Result: Students’ performance on questions testing course learning objectives significantly increased from pretest to posttest (score difference: 3.1-3.6). Conclusion: Reflective exercises in the context of this course did not seem to influence achievement of learning objectives. It is possible that reflective exercises may have other beneficial effects not tested in this study or that the effect of these added exercises is negligible since students may already use reflective skills during case-based learning utilized in this course.

Posters P-139 and P-140 were deleted.

P-142. Predictors of Student Success in a Dental Hygiene Program

Ava K. Chow, Nadine C. Milos, University of Alberta

Educational Research

Optimizing student success in professional programs hinges on selecting
students who are most likely to flourish. Applicants to the University of Alberta Dental Hygiene Program must have at least 30 university credits including specific prerequisite courses which, along with the cumulative grade point average (GPA) and interview score, are used as admissions criteria. However, the value of using prerequisite grades and interview scores to identify candidates likely to be successful in the program has not been determined. The aim of this study was to compare students’ prerequisite course grades and interview scores with in-program GPAs to determine if those parameters were useful in predicting success in the program. Methods: The University of Alberta Research Ethics Board deemed this project to be outside of their mandate as it falls under program evaluation. The admission records of students admitted to the program between 2006 and 2014 were examined. The variables recorded were prerequisite grades for organic chemistry, general chemistry, biology, statistics, sociology, psychology, and English; combined prerequisite GPA; interview score; and cumulative dental hygiene GPA. Results: Neither GPA scale were removed. A p-value of ≤0.05 was established for statistical significance. Results: 315 records were analyzed. Overall success in the program as measured by the cumulative program GPA was moderately correlated with the combined prerequisite GPA (r=0.45, p<0.01). Subject-wise, the cumulative program GPA was correlated with grades in prerequisite organic chemistry (r=0.33, p<0.01) and biology (r=0.38, p<0.01) although those correlations were small. There was no significant correlation between interview scores and the cumulative graduating GPA. Conclusion: Although there were some statistically significant correlations between performance in the program and the prerequisite scores, they were not moderate at best. In particular, the interview scores were found to be of little value in predicting success in the program, suggesting that alternatives to resource-intensive interviews need to be developed.
P-143. Attitudes of Dental Students and AEGD Special Needs Program Graduates Towards Treating Special Needs Populations
Adel Khatib, Ana Karina Mascarenhas, Diane Ede-Nichols, Nova Southeastern University

Educational Research
According to the 2010 census report, approximately 56.7 million non-institutionalized people with a disability reside in the United States. Most studies have focused on students with access to care of the population. In 2000, the surgeon general’s report documented that patients who were medically compromised or had disabilities were at a greater risk for oral diseases. In 2004, the Commission on Dental Accreditation (CODA) adopted Standard 2-24: “Graduates must be competent in assessing the treatment needs of patients with special needs.” The aim of this study was to assess the attitudes of Nova Southeastern University’s predoctoral dental students and graduates of its postdoctoral Advanced Education in General Dentistry (AEGD) special needs (SN) program towards treating SN patients. Methods: Two surveys were administered to NSU dental students and graduates of the AEGD SN program. Each cohort had competed different levels of training in SN. The D1 students had no SN experience; the D2 students had recently completed half their SN didactic course; the D3 students had completed half didactics one year prior and started clinical training; the D4 students had completed SN clinical training; and the AEGD SN graduates had completed one year of exclusive SN didactic and clinical training. The anonymous surveys contained questions regarding students’ opinions and confidence in treating SN patients. Results: A total of 261 predoctoral and 21 AEGD SN program graduates completed the survey. Of these respondents, 81.18% of the students and 95% of the AEGD SN program graduates reported feeling it was their responsibility to treat SN patients. As expected, statistically significant differences were seen in confidence in treating SN patients, with only 47.83% of the responding students reporting feeling competent to 100% of the responding graduates of the AEGD SN program. A statistically significant trend was also seen with increased didactic and clinical training. No differences were seen in future willingness to treat SN patients, with 79.41% of the responding students and 75% of the responding AEGD SN graduates willing to treat. Conclusion: This study found that these predoctoral students felt responsible for treating SN patients and were willing to treat SN patients in the future after graduation, but only more focused training didactically and clinically will give them the confidence to treat these patients.

P-144. Attitudes Held by the Dental Community Toward People with Mental Illness
Jill York, Emily Sabato, Janine Fredericks-Younger, Marisa Handelman-Yellin, Nicholas DePinto, Steven Toth, Rutgers School of Dental Medicine; Vaishali Singhal, Rutgers School of Health Professions

Educational Research
Mental illness refers to a wide range of mental health conditions—disorders that affect mood, thinking, and behavior—and individuals with mental illness require ongoing medical and dental care. Health care professionals tend to hold negative attitudes toward people with mental illness, but little research has been conducted in the dental community. The aim of this study was to identify attitudes toward people with mental illness among students, faculty, and staff in Rutgers School of Dental Medicine (RSDM) and Rutgers School of Health Professions Department of Allied Dental Education (SHP–ADE). Methods: Members of the dental community at RSDM and SHP–ADE were sent the Mental Illness Clinicians’ Attitudes v4 survey (MICAv4) in August 2015 (Rutgers IRB: PRO2015-000-1731). The MICAv4 was developed by King’s College London and used with permission; it is a 16-item scale for assessment of attitudes regarding mental health among students and professionals in any health care discipline. A high score indicates a more negative attitude toward mental illness. Results: Of the 1,065 individuals sent the survey, 295 submitted a response; 17 respondents did not answer one or more question and were omitted from the means comparisons. The average stigma score on the 6-point scale (1=low and 6=high mental health stigma) was 2.53. The lowest stigma score was on the item “It is important that any health/social care professional supporting a person with a mental illness also ensures that their physical health is assessed” (1.56). The highest score was on the item “The public does not need to be protected from people with a severe mental illness” (3.88). Females had a lower mean stigma score compared to males (F=2.46, M=2.67; p=0.0001). Respondents who reported knowing someone with mental illness had a lower mean stigma score (Y=2.48, N=2.69; p=0.001). The difference was not significant for race/ethnic groups (p=0.142), but was significant between the schools’ student, faculty, and staff groups (p=0.005). Conclusion: This study found that the level of mental health stigma varied within the dental education community, presenting opportunities for revisions in student and faculty education to improve patient care.

P-145. Attitudes and Perceptions of U.S. Medical and Dental Faculty Toward Problem-Based Learning: A Comparative Study
Ahmad Abdelkarim, Dorothy Schween, Timothy Ford, University of Mississippi Medical Center

Educational Research
An effective learning method, problem-based learning (PBL) has been widely adopted in medical and dental schools, providing an excellent opportunity for interprofessional education and active student learning. PBL is conducted in small groups in which students become active rather than passive learners. The aim of this study was to assess and compare medical and dental faculty members’ attitudes toward and perceptions of PBL. This quantitative study extends the authors’ previously published qualitative study of implementation of PBL by dental and medical faculty members. Methods: After the study received IRB approval, a survey was conducted with participation by 131 medical and 132 dental faculty members (n=263) from six medical and six dental schools in the United States, respectively. The instrument had ten statements to be rated on a Likert scale (from strongly agree to strongly disagree) and an open comment section. Statistical significance was set at 0.05. Results: In this comparative study, the medical faculty respondents showed significantly higher support of PBL and agreement with its benefits than did the dental faculty members (p=0.05). Both groups agreed that PBL should be used as an adjunct to conventional teaching, acknowledged its advantages, and were aware of its limitations. Conclusion: PBL was supported by both the medical and dental faculty members who participated in this study, but it was more supported by the medical than dental faculty members. Both groups agreed that PBL is a challenging teaching method with significant benefits, yet acknowledged its limitations.

P-146. Association Between Clinical Competency Exams and Didactic Exams in Simulation Endodontic Clinic Course for Second-Year Dental Students at University of New England
Takashi Komabayashi, Mohamed Abouelnaga, Yang Kang, University of New England

Educational Research
Unlike some other health professions education fields, dental education, particularly endodontics, lacks research into the association between clinical competence (hand skills) and the didactic knowledge of students and residents. The aim of this study was to examine such an association, focusing on the possible effects of age and gender. Methods: A cross-sectional study was conducted in the fall 2015 semester in the Simulation Endodontic Clinic course (DDM 6245) at the University of New England College of Dental Medicine. The targeted population included all 63 second-year students enrolled in this 120-hour course. Students were evaluated using two competency exams and two written exams. Competency exam 1 (CE1) and competency exam 2 (CE2) used a manikin and followed Commission on Dental Competency Assessments (CDCA) and Western Regional Examining Board (WREB) guidelines, respectively. The outcome was pass/fail on each exam. The written exams were a midterm exam and a final exam, with outcomes the raw score (score 0-100) on each. The sequence of exams was CE1, midterm exam, CE2, and final exam. The study recorded two demographic variables (age and gender) and stratified students into four groups based on achievement on the competency exams. Results: The statistical analyses showed no associations between primary outcomes on the two competency exams and the demographic variables (age and gender).
P-147. Predictors of Academic Performance in the First Semester of Dental School: Regression Analysis
Emily Sabato, Herminio Perez, Shuying Jiang, Cecile Feldman, LaToia Taylor, Rutgers School of Dental Medicine

Educational Research
The aim of this study was to identify admissions criteria that may distinguish students who may be less successful than others in the first term of dental school. Results of this study may inform the dental admissions process as well as student support services. Methods: This study was approved by the Rutgers IRB (PRO2015001969). 178 student records from the Rutgers School of Dental Medicine classes of 2015 and 2016 were evaluated, and 21 predictor variables were analyzed. Outcome groups were defined as lower performing (bottom 25% class rank after the first term, N=44) and all other students (N=134). Results: Eight predictor variables were significant in the bivariate analysis: Barron’s score (p=0.0004) and DAT Academic Average, PAT, Reading Comprehension, and Science Average. Conclusion: These results suggest that the traditional admissions variables had merit in identifying students who will be successful in dental school. The pipeline program results suggest that this student group may benefit from strong academic advising and services before and during dental school. As pipeline programs are designed, in part, to enhance educational opportunity for underrepresented and educationally disadvantaged students as well as enhance diversity in the profession, it is vital that schools seek to support these students.

P-148. Predictors of Success in Laboratory Courses of First-Year Dental Students
Terence A. Imbery, Mary A. Baechle, Jennifer L. Hankle, Charles Janus, Virginia Commonwealth University

Educational Research
Dental school admissions committees are charged with the formidable task of evaluating and admitting candidates who will succeed both didactically and clinically. The aim of this study was to determine variables and characteristics that may predict performance of first-year dental students in preclinical laboratory courses. Methods: After obtaining informed consent, first-year dental students (n=93) at Virginia Commonwealth University School of Dentistry were asked to voluntarily complete a confidential online survey. The following information was collected from the participants: age, gender, ethnicity, highest obtained scores on Perceptual Ability Test (PAT) and Academic Average (AA) on the Dental Admission Test (DAT), hand and eye dominance, overall college grade point average (GPA), science GPA, non-science GPA, hobbies, and skills and sports involving manual dexterity and hand-eye coordination. Final grades were obtained from course directors in laboratory portions of the Dental Anatomy and Operative Dentistry courses. The IRB granted expedited status for the study (IRB #HM20002312). Results: 72 students completed the survey. Both courses allowed for dropping of the Dental Anatomy and Operative Dentistry courses. The study was supported by the University of New England Scholarship for Teaching and Learning.

P-149. Assessing Calibration Among Dental Hygiene Faculty with New Technology
Angela L. Monson, Trisha Krenik-Matejcek, Brigitte Cooper, Terri Brown, Minnesota State University, Mankato

Educational Research
New technology (Hygiene Instrument Tutor, HINT) is currently in development to provide computerized feedback on dental hygiene instrumentation in a simulation setting. HINT technology uses a magnetic tracking sensor to detect and compare the position, orientation, and motion path of a dental hygiene instrument on a specified tooth surface. Key features include the ability to measure the angulation, adaptation, and centerline angles between the instrument tip and tooth surface. Faculty calibration is a key component of dental hygiene instrumentation instruction; however, calibration is currently limited to subjective evaluation methods. The aim of this study was to evaluate faculty calibration using objective feedback from HINT. Methods: All current faculty members in the dental hygiene department were recruited (IRB approval #946251) for this pilot study. Participants (N=12) completed a brief survey, which revealed a range of 2-37 years’ experience teaching dental hygiene, with half working as full-time educators. The HINT prototype for this study included the Gracey 13 curet and a single flat surface representing the distal-lingual of tooth #31. Faculty members were provided education regarding the three angles measured, and then in a blinded exercise each positioned the instrument as directed with video recording HINT output and instrument placement. Results: When asked to position the Gracey 13 at 70 degrees to the tooth surface (perfect angulation), faculty error ranged from ±0 to ±31 degrees, with the overall mean error ±8.5 degrees. HINT determined there were group differences between full- and part-time faculty, in addition to years of teaching experience (less than five or greater than six) for both angulation and centerline positioning. Using a scale of 1=not valuable to 10=extremely valuable, a mean score of 9.4 was identified when faculty members were asked to rank the value of using digital technology like HINT for faculty calibration. Conclusion: These results suggest that HINT provides a new objective method to determine faculty calibration, enabling programs to identify individuals with instrumentation skills beyond accepted ranges. This new technology will help build consensus among faculty members to identify areas of strength and weakness for further development.

P-150. Applicants’ Perceptions of a Multiple Mini Interview Used in a Dental School Admission Process
Monica Nenad, Sahab Kalamchi, Arizona School of Dentistry & Oral Health

Educational Research
The aim of this study was to determine applicants’ perceptions of a multiple mini interview (MMI) used as part of a dental school admission process at Arizona School of Dentistry & Oral Health (ASDOH). Methods: Using standardized patients and defined MMI scenarios, interviewees responded to three patient-related situations. Applicants met individually in private rooms with a standardized patient for up to five minutes. Immediately after completion of the MMIs, candidates were asked to complete a survey regarding the MMI process and perceptions of their performance in the interviews. Results: 79% of the respondents agreed or strongly agreed that the MMI activity was pertinent to admission at ASDOH, and 83% agreed or strongly agreed that the MMI scenarios were unbiased and fair to all interviewees. Of the respondents, 86% were satisfied or very satisfied with their performance on the MMI portion of the admission interview. Candidates were asked to identify any past experiences that they felt helped them with the MMI process: 97 listed dental experience, 76 noted shadowing, 69 listed other work experiences, and 46 stated volunteering. When asked if there was any type of preparation that could have improved their performance on the MMI, 75 respondents suggested that patient or dental health care experience would have been helpful, and 57 noted that prior MMI practice and knowledge of the scenarios could have improved their performance. When asked for suggestions on how the MMI portion of the interview could be more effectively structured, 98 respondents indicated that no changes were needed, while 26 noted that they would have liked more information about the process or scenarios.
and 17 noted that they wished the standardized patients would have been more responsive. Conclusion: MMIs allow dental school candidates to demonstrate personal characteristics considered desirable in health care providers including empathy and ethical behavior. In this study, the interviewees reported feeling that MMIs were applicable to the ASDOH admission process and were fair and unbiased and that they had performed well in the interviews. Dental schools may consider using MMIs as a component of the interview process to assess characteristics not easily measured by standard assessments.

P-151. Perceptions of Dental Hygiene Faculty About Utilizing Simulation Technology in Preclinical Dental Hygiene Instrumentation

Angela L. Monson, Trisha Krenik-Matejcek, Brigitte Cooper, Minnesota State University, Mankato

Educational Research

Feedback is a critical component of skill acquisition in preclinical dental hygiene instrumentation. New technology is currently in development that utilizes instruments equipped with digital sensors to provide immediate feedback concerning adaptation and angulation between the tooth surface and instrument. The aim of this study was to explore the perceptions and attitudes of dental hygiene faculty members concerning utilization of new technology in teaching preclinical dental hygiene instrumentation. Methods: A convenience sample of dental hygiene faculty was taken at Minnesota State University, Mankato to participate in this study (N=11). A survey was administered to these faculty members following their participation in an exercise with new digital technology that provided immediate feedback regarding instrument adaptation and angulation. The seven-point Likert scale survey contained 13 questions concerning challenges of teaching instrumentation, use of technology to improve teaching methods, maintaining concepts following 1:1 instruction, and incorrect practice when working independently. An open-ended question concerned the most challenging instrument to teach. Results: The majority of these faculty members reported they were open to using technology to improve their teaching methods regarding instrumentation (90.9%) and perceived teaching dental hygiene instrumentation and the need for 1:1 time with faculty to be significantly challenging (90.9%). They reported that students were consistently unable to maintain concepts learned following instruction (72.7%), and they perceived that students who practice instrumentation independently often practice incorrectly and develop poor habits that later need correction (81.8%). These faculty members ranked the value of using digital technology that provides immediate feedback on instrument angulation and adaptation on a scale of 1 (not valuable to 10 (extremely valuable). They had a mean score of 9.1 for teaching basic instrumentation, 8.6 for advanced instrumentation, and 9.4 for remedial instruction. The participants perceived the Gracey 11/12 curet (66.7%) and Gracey 11/12 curet (44.4%) were the two most challenging instruments to teach. Conclusion: Simulation technology is continually being explored for its possible impact in dental hygiene education. Further research is indicated to determine if new technology currently in development could potentially make significant contributions in teaching dental hygiene instrumentation skills.

P-152. An Interdisciplinary Teaching Approach to Improving Dental Students’ Retention of Pharmacology Knowledge

Michael Wells, Adam Persky, James Fiordalisi, Kimberly A. Sanders, Christine Downey, Heidi Ankorsus, University of North Carolina at Chapel Hill

Educational Research

Teaching foundational science courses in a health professions curriculum presents multiple challenges: generating required course content while maintaining clinical relevance; evaluating students’ maintenance of knowledge for subsequent clinical application; and determining students’ confidence in understanding course material. Therefore, the aims of this study were to evaluate the efficacy of pharmacy-generated, pharmacology-relevant clinical pearls (Medication Minutes) on dental students’ short-term and long-term retention and to assess these students’ self-evaluation of understanding the Medication Minutes. Methods: Prior to the study’s commencement, the University of North Carolina (UNC) Institutional Review Board deemed this study to be exempt from review, and students consented to release their assessment scores. 80 second-year dental students in an introductory pharmacology course at UNC School of Dentistry were presented material in a basic science lecture format or Medication Minutes. Short-term retention was assessed using a series of five post-class sessions and non-graded quizzes, each containing four questions: two knowledge-based (one from lecture material and one Medication Minute) and two application-based (one from lecture material and one Medication Minute). Throughout the semester, ten application- based (Medication Minutes) and ten knowledge-based (basic science material) questions were included on exams in a similar context to the quiz-question framing. The primary outcome was long-term retention based on performance through evaluation on an assessment given the following semester. Results: On short-term retention measures, the mean proportion of students answering knowledge- and application-based questions correctly was higher on Medication Minute (M=0.76) than traditional lecture (M=0.58) material (p<0.001). On the in-semester examinations, however, there was no difference in performance. On long-term retention measures, the students performed better on Medication Minute material (M=0.66) compared to traditional lecture material (M=0.34) (p<0.001); this relationship persisted for students who completed less than two quizzes and more than two quizzes. Students were overconfident in their judgments of Medication Minute content asked as clinical questions and underconfident when Medication Minute content was asked as knowledge questions. Conclusion: This study found that teaching and using formative assessments in a clinical context yielded better short-term and long-term retention than teaching in a non-clinical focus. Additionally, the students’ confidence in understanding material was impacted by the manner in which the material was presented versus how it was assessed.

P-153. Liven Up an Implant Curriculum Using Virtual Implant Planning Software

Amy L. Ridall, Robin L. Weltman, Amy R. Gardner, University of Texas at Houston

Educational Research

In teaching today’s learners, educators need to push beyond the boundaries we have created for ourselves and develop a more engaging avenue for students. Advanced technologies such as virtual implant planning (VIP) programs, which manipulate radiographic cross-sectional images generated from cone beam computer tomography (CBCT), may provide a tool to extend the boundaries. The aims of this study were to determine: 1) if predoctoral students were able to manipulate VIP software after limited training; 2) where in the predoctoral implant curriculum VIP would enhance comprehension of implant related principles; and 3) students’ perceptions of the ease of use of the software, confidence in treatment planning implants, and knowledge attained using the software. Methods: Second-year (DS2) and third-year (DS3) dental students were invited to participate in two 1½-hour virtual implant treatment planning training sessions. The students completed a pre-training survey asking their perceptions of confidence in treatment planning single and multiple implant cases and if they had prior clinical or virtual experiences with either of these. The post-training survey inquired about the ease of learning the program, where in the curriculum the students thought it would be best suited, and their knowledge and confidence gained by going through the training. The training culminated with each student’s planning a single implant restoration within the VIP software. Pre- and post-survey responses were compared for the DS2 and DS3 students. The implant treatment plans were scored via a grading rubric, and scores achieved by the DS2 students were compared to the DS3 students. Results: The VIP training significantly increased both DS2 and DS3 students’ perceived confidence in treatment planning implants. The two cohorts scored similarly on the planning exercise. Both DS2 and DS3 students agreed that the educational gain was greater than the difficulty of VIP training. Conclusion: These results suggest that VIP software may provide an interactive tool to explore and comprehend concepts in implantology vertically through the four years of the dental curriculum.
P-154. Longitudinal Competency Evaluation for Dental Students’ Initial Patient Assessment
Christine Harrington, Dawne E. Stefanik, Darryl T. Hamamoto, The Ohio State University

Educational Research
Previously, the Initial Patient Assessment Competency for dental students at The Ohio State University was a single evaluation in spring semester of the third year. The researchers developed a longitudinal evaluation of competence for the Initial patient assessment. The aim of this study was to determine if this longitudinal method was a more valid way to determine competence. If this approach was successful, it could be used as a model for competency evaluations in other disciplines of dentistry. Methods: Throughout the year, students were assigned to evaluate new patients. Initial review of the medical history and a head and neck examination were completed. Each student was scheduled for initial patient appointments over the autumn and spring semesters. The Initial Patient Assessment Competency exam grade was based on a rubric consisting of parameters, each evaluated as pass or fail. Components were noted as critical or non-critical errors. Failure of one critical component or five non-critical components resulted in a failing grade. A minimum of eight encounters, with the student earning a passing grade in at least 80% of the encounters, was required for the student to be deemed competent. Results: On average, students were assigned to evaluate 11.4±1.9 (average/standard deviation) new patients over the two semesters. Due to patients’ failing their appointments, students completed 9.5±1.5 competency exams. 19 of 108 students failed one competency exam. No students failed more than one competency exam. Just over half (10) of the students who failed an exam failed on the first attempt in the autumn semester. Two students failed on their sixth attempt after passing the previous five attempts. Seven students failed on their second to fifth attempt. This longitudinal process revealed that nine students who passed the competency exam on their first attempt failed on a subsequent attempt. A single competency exam would not have identified these nine students. Conclusion: Valid evaluation of students is an ongoing challenge for dental educators. The results of this study suggest that a longitudinal evaluation is superior to a one-time evaluation for determining student competence in a clinical skill.

P-155. Look Sharp! Dental and Oral Health Students Learn Local Anesthetic Techniques Through Online Videos
Melanie J. Hayes, Felicity Crombie, Timothy Probert, University of Melbourne

Educational Research
The use of online technologies can enhance the student learning experience since the current generation of students often access digital educational content and the use of videos allows them to view or replay content at a time and place that is convenient to them. Further, the use of videos enables theory to combine with clinical application and fosters engagement and authentic learning by placing students in realistic clinical scenarios. The availability of dental local anesthesia videos is limited, and many have questionable credibility and/or quality. Traditionally, teaching staff provide a clinical demonstration of local anesthesia technique; however, this is not ideal, as there is restricted visual access for students and it requires a willing volunteer for each demonstration. The development of high-quality videos demonstrating techniques would allow optimal visualization, plus the ability to review the procedure repeatedly. The aims of this study were to develop video resources for dental students to enhance their local anesthesia education and training and improve student engagement and satisfaction with course delivery. Methods: IRB approval was obtained from the University of NSW (Ethics ID: HC15140) and ratified by the University of Melbourne. Five educational videos were developed: armamentarium and safe sharps disposal, maxillary anatomy and techniques, maxillary infiltration patient demonstration, mandibular anatomy and techniques, and mandibular patient demonstration. The videos were provided to oral health and dentistry students through their online Learning Management System and included an online survey following their viewing. Results: Student feedback was overwhelmingly positive, with students reporting that the resources were high quality, learning was more efficient, and they would like more of these resources. Self-reported level of understanding was notably improved after watching the videos. Conclusion: The videos of clinical procedures on local anesthesia appeared to be well accepted by this group of students. Such resources would contribute not only to a flexible curriculum but also sustainability where the clinical techniques are well established in the literature.

P-156. Web-Based Student Assessments of Community-Based Clinical Rotations and Adjunct Faculty
Juanita Lozano-Pineda, John Littlefield, University of Texas Health Science Center at San Antonio

Educational Research
The aim of this study was to collect fourth-year dental students’ assessments of a two-week community-based clinical rotation, which were used to provide feedback to adjunct faculty members. Methods: Via a web-based survey, senior dental students (n=124) assessed their experiences at South Texas Primary Care Clinics after completing a two-week rotation. The assessments were completed from September 1, 2015 through August 31, 2016. Students identified the clinical site and faculty members when completing the survey. The survey consisted of 13 questions focused on instructors, four questions on personnel, and three questions regarding students’ self-assessed benefit from the clinical rotation. Responses were conducted using yes/no questions, a Likert scale (0-4), and comments about the instructors. Feedback and evaluation results were provided to individual adjunct faculty members at affiliated clinical sites at the time the student submitted the web-based evaluation. The program evaluation was based on Kirkpatrick’s four levels of program evaluation: satisfaction, learning, impact, and results. Program components assessed included instructor, personnel, and rotation evaluation. Results: At the satisfaction level, the dental students’ average scores were used to assess the components using excellent (4), good (3), fair (2), poor (1), and N/A (0, not included in calculation). The instructor evaluation’s 13 component responses ranged from 3.77 to 3.93; the personnel evaluation’s four components ranged from 3.57 to 3.75; and the rotation evaluation averaged 3.67 for the benefit derived, with 100% indicating it helped increase efficiency and 96.7% indicating an increase in public health knowledge. Conclusion: These web-based evaluations were useful in having students evaluate the rotation and provide feedback to the adjunct faculty members who supervised them during their rotations.

P-157. Management of Cone Beam Computed Tomography in Endodontic Education Programs
Craig S. Hirschberg, Emily Sabato, Steven R. Singer, Rutgers School of Dental Medicine

Educational Research
Cone Beam Computed Tomography (CBCT) has come into widespread use. Best practices have resulted from interdisciplinary collaboration between the American Academy of Oral and Maxillofacial Radiologists and the American Association of Endodontists, which issued position statements on use of CBCT in endodontics in 2011. The 2015 revision focused on small field of view (FOV) scans in endodontics and lists situations in diagnosis and treatment in which CBCT is considered the “imaging modality of choice.” These recommendations underscore a need for this technology, especially for advanced education programs. Best practices recommend that radiology reports be generated for each volume. This indicates the need for collaborative efforts between endodontics and oral and maxillofacial radiology (OMR). The aim of this study was to determine how other institutions manage collaborations between departments with regards to CBCT technology. Methods: The investigators designed a survey to determine availability of CBCT to endodontic programs in the U.S. and Canada. This survey investigated the degree of collaboration between Departments of OMR and Endodontics regarding administration of the devices and responsibility for reporting information in the volumes. After receiving IRB approval (Pro20150002319), the survey was distributed via email to 81 leaders of endodontics programs. Results: 47 responses were obtained (58% response rate). Of these respondents, 46 (98%) had at least one CBCT unit; 21% had at least two kinds of CBCT machines; and 68% percent have a small FOV unit. 70% of the respondents reported that CBCT was housed in Oral Radiology, and 51% reported that Oral Radiology handled
administration of the CBCT. In addition, 68% required a written radiology report for all or some scans, and 82% of those reports were written by Oral Radiology. Conclusion: The survey indicated a high degree of cooperation in administration and operation of scanners and reporting of information from the scans. Regardless of location of the scanner and its administration, a significant majority of the programs followed appropriate prescription and justification processes, as well as reporting of findings, both pertinent to selection of the scan and incidental findings.

P-158. Medical Improv: Enhancing Dentist-Patient Relationship Skills Using Improvisational Theater Exercises
Craig D. Woods, Minh Tran, University of California, Los Angeles
Educational Research
Medical Improv is the application of improvisational theater techniques to develop interpersonal skills for the doctor-patient encounter. The aim of this study was to assess the effectiveness of a small group participation workshop that utilized principles and exercises from improvisational theater to develop dental students’ skills in effective listening, teamwork, coping with ambiguity, empathy, multi-tasking, handling difficult situations, pattern recognition and reframing, managing emotional content, and recognizing relative status. The effectiveness of the program was assessed through a course evaluation and student reflections. Methods: The selective consisted of five two-hour weekly workshops that included over 30 improvisation exercises. 35 third- and fourth-year dental students participated from fall 2014 to fall 2015. A mixed methods study was conducted by comparing both quantitative and qualitative data side by side to cross-validate and substantiate the results. Data were collected from course evaluations that included responses to 15 Likert scale questions. Themes were qualitatively coded in the reflection essays students submitted during the last session. Direct quotes were captured, and the frequency was calculated at which students mentioned themes of communication skills, empathy, listening, confidence, and resourcefulness. Results: Nearly all students strongly agreed or agreed that they improved in all 15 outcome measures, including the ability to listen, be more observant, interact with patients, and be more flexible and resourceful. Areas in which the positive response was less pronounced were the ability to rapidly assess and evaluate situations and dealing with stressful or ambiguous situations. In the qualitative results, all 35 students mentioned applying specific communication techniques to a clinical setting. The two other frequently cited themes were listening and empathy, which 26 and 20 students cited, respectively. Conclusion: The results suggest that theater improvisation techniques quickly enabled these students to communicate effectively and confidently with their patients. This may be attributable to skills being broken down into basic elements that are practiced repeatedly in multiple exercises. This method reinforces spontaneity and confidence. The students were able to perceive their patients’ emotions and respond empathically. The workshop approach also facilitated teamwork.

P-159. Musculoskeletal Disorders and Working Posture Among Dental and Oral Health Students
Andrew J. Ng, Melanie J. Hayes, Anu Polster, University of Melbourne
Educational Research
The prevalence of musculoskeletal disorders (MSD) in the dental professions has been well established and can have detrimental effects on the industry, including lower productivity and early retirement. There is increasing evidence that these problems commence during training; however, there are still very few studies that investigate the prevalence of MSD or postural risk in student groups. Thus, the aim of this study was to determine the prevalence of MSD and conduct postural assessments of students studying oral health and dentistry. Methods: IRB approval was obtained from the University of Melbourne (Ethics ID: 1543990.1). A previously validated self-reporting questionnaire, derived from the Standardized Nordic Questionnaire, was distributed to first-year and final-year oral health and dentistry students; the primary outcome measure was prevalence of muscle pain. Posture assessments were also conducted during timetabled clinical sessions using the validated tool Branson’s Dental Operator Posture Assessment Instrument. Postures categorized as acceptable, compromised, or harmful. Results: MSD was highly prevalent in all student groups, with 85% reporting MSD in at least one body region. The neck and lower back were the most commonly reported, while not wearing loupes and high levels of stress were predictors of reported pain. The final year dental students had the highest percentage with poor posture (68%), while the majority of students from other cohorts had acceptable posture. Almost all participants presented with poor neck positioning, independent of their overall posture assessment. Conclusion: This study supports the increasing evidence that MSD could be developing in dental and oral health students before the beginning of a professional career. The prevalence of poor posture further highlights the need to place further emphasis on ergonomic education.

Emil Chuck, Case Western Reserve University
Educational Research
Non-traditional postbaccalaureate applicants face significant obstacles when their applications receive preliminary screening in DDS/DMD admissions. In addition to overcoming an academic record that presents lower than desirable metrics, these students often complete postbaccalaureate biomedical science coursework leading to a certificate or graduate degree but are not often considered for interviews. The aim of this study was to examine the aggregate statistical profile of postbac ADEA AADSAS applicants. The 25th, 50th, and 75th percentiles were determined for grade point averages, Dental Admission Test scores, and self-reported hours for dental/health care experience, research, extracurricular/community service, and employment. Special attention was given to postbac applicants from socioeconomically disadvantaged (SED) or self-reported underrepresented minority (URM) applicants. These profiles were compared to the overall applicant pool for the same private university dental school program. Results: Postbac applicants comprised 34.1% of the applicant pool, of which 21.1% were classified as SED and 11.3% URM. Compared to the overall applicant pool, while postbac applicants presented a lower mid-range in cumulative overall and science GPA in their application, they demonstrated performance in postbac-specific coursework GPA that was comparable to traditional applicants’ cumulative science GPA regardless of SED or URM status. The postbacs also self-reported a higher number of employment hours on the ADEA AADSAS application compared to the overall applicant pool. Conclusion: These data (quantitative consideration of employment hours and postbaccalaureate science GPA) could help identify strong non-traditional and diverse applicants for admission for consideration of more qualitative holistic review.

P-161. Patients’ Perceptions of the Importance of Disclosing Medications to Dentists
Kalin Johnson, Joseph Franco, Laura Harris-Vieyra, Diana Ndunda, Creighton University
Educational Research
An accurate medication history allows the dentist to evaluate a patient’s overall health, disease states, drug-drug interactions, and potential effects on dental treatment and oral health. Various factors may lead to obtaining an incorrect medication history, one of which is patients’ not understanding the interactions of medications with dental treatment and not feeling the need to disclose these medications. Many patients perceive over-the-counter (OTC) and herbal/supplement medications as naturally safe and may be even less likely to inform their dentists about these. The aims of this study were to discover the perceived importance and likelihood of patients to disclose their prescription, OTC, and herbal/supplement medications to their dentist. Methods: A voluntary patient survey was administered to patients 19 years of age and older in Creighton University’s Dental Assessment Clinic. The survey questions assessed how many prescription, OTC, and herbal/supplement medications patients took; if they informed their dentist of these medications; and if they felt it was important to inform the dentist about each of these classes of medications. Results: There were 217 surveys completed and evaluated. A total of 60.8%, 71.0%, and 48.9% of patients said they were taking at least one prescription, OTC, and herbal/supplement medication, respectively. The data showed that 75.6%, 69.1%, and 63.6% of the patients thought it was very important to inform their dentists of their prescribed, OTC, and
articles not meeting the screening criterion. The remaining articles were then read in full. The reading was done collaboratively with two of the authors in order to reach consensus. Results: The initial sweeping literature search limited to dental hygiene programs revealed no published quality assurance and/or quality improvement models; indeed, there was a distinct lack of any comprehensive or quality management models. The authors deemed it important to do a scoping review of program quality assurance and quality improvement. The scoping review resulted in no articles studying holistic quality assurance and quality management models in dental hygiene educational programs. Conclusion: This scoping review revealed an absence of quality management models in dental hygiene education. Next steps would be to broaden the scoping review to dental and other health professions education to investigate if such models exist elsewhere. If such models exist, they may be adaptable in part or whole for use in program quality management. To advance program quality, dental hygiene programs must do more than simply meet benchmarks; they need to identify deficiencies and areas for improvement.

P-165. Retrospective Study of Peer Tutoring for Oral Health Students
Sara N. Johnson, Keith A. Mays, Madeline Staats, University of Minnesota
Educational Research

Peer tutoring is often employed by dental schools to provide academic support to students. Prior research has indicated that tutors are important in creating effective learning environments. There is, however, limited literature on cross-year peer tutoring in dental education, and additional research is required for institutions to make evidence-based decisions about implementation. The aim of this study was to conduct a retrospective analysis of cross-year peer tutoring and course pass/fail rates for oral health students. The findings will assist schools in determining potential benefits of creating or continuing a cross-year peer tutoring program. Methods: The IRB determined this study was exempt. The data were coded to blind student identity. Three years (2013-16) of data from a cross-year peer tutoring program that contained courses in which students were assigned tutors were reviewed, along with student success in those courses. There were 130 tutors assigned in lecture courses and 125 in laboratory courses. Students were assigned tutors in five courses in the D1 and D2 years. Academic records were consulted to determine if each student passed the course in which a tutor was assigned. Students who failed the same courses during the evaluation period were reviewed to determine if tutors were used. The data were descriptively analyzed to determine the impact of tutoring on student success. Results: 130 students received peer tutoring in five courses during the three-year period. A separate analysis showed that, during the same timeframe, 75% of students who failed courses did not receive peer tutoring and 25% did receive peer tutoring. 95% of the students who received peer tutoring successfully passed laboratory courses. Conclusion: These findings suggest that peer tutoring is an effective way to provide academic support for students with concerns about course performance. The data suggest that peer tutoring may promote successful completion of courses.

P-166. The Experiences and Challenges of Dental Hygiene Clinicians as They Transition into Clinical Teaching
Robert Smethers, Dianne Smallidge, Lori Giblin, Kristeen Perry, MCPHS University
Educational Research

The aim of this pilot study was to evaluate novice dental hygiene faculty members’ perceptions of their experiences when transitioning into clinical teaching roles. Methods: A phenomenological qualitative pilot study was performed using focus groups comprised of three to four novice faculty members in face-to-face semi-structured interviews. The study, conducted at MCPHS University Forsyth School of Dental Hygiene, was approved by the institution’s IRB committee and awarded exempt status. In the focus group interviews, study participants were asked open-ended questions regarding the experiences and challenges they encountered as they entered the clinical teaching setting. Results: Participants (n=17) were mostly female (n=16) with one male. All held a bachelor’s degree in dental hygiene. Their clinical teaching experience ranged from one to five years. The thematic analysis performed on the interview data revealed emergent
themes regarding successful strategies and challenges these faculty members encountered as they entered their teaching roles. Strategies they found to be helpful during the transition into clinical teaching included the opportunity to shadow experienced faculty, availability of resources such as textbooks and course materials to aid faculty in teaching, and orientation sessions held prior to each semester. Challenges identified by the younger faculty members (≤52 years of age) included feeling students did not take them seriously due to their age. The older faculty members (≥45) found it valuable to relearn the materials, with one participant stating, “I had forgotten terminology after twenty years, . . . but it was good to go back and be at the student level again.” Conclusion: The themes that emerged from the study provide increased understanding of the challenges and effective strategies these novice faculty members experienced as they transitioned from clinical practice. This knowledge may aid in developing effective approaches and programs for novice faculty members as they enter clinical teaching roles. The study limitations (i.e., small sample size and single study location) suggest the need to conduct additional research to further identify strategies to help novice faculty members as they transition into clinical teaching.

There is no Poster P-167.

P-168. Making Safe Moves: Interprofessional Peer Learning with Physical Therapy and Dental Students
Venita J. Sposetti, Kim Dunleavy, University of Florida

New Program
A program was designed to recognize the importance of mutually appropriate interprofessional educational experiences; describe a method of interprofessional learning meeting two sets of professional curricular objectives; discuss the benefits of active learning and peer teaching/learning/evaluation experiences; and apply strategies to identify opportunities for interprofessional educational experiences at academic dental institutions. Methods: Interprofessional education barriers include the need to provide mutually relevant experiences for all professional groups as well as the logistical challenges of curricular organization, accreditation standards, and time limitations. Active learning techniques have been advocated for adult learners to promote motivation and engagement. In this new program, dental students (n=93, year 1) and physical therapy (PT) students (n=66 year 1 and n=69 year 3) participated in the learning experience. The PT students taught small groups of dental students about transfers to the dental chair for patients with assistive devices, including wheelchair. The PT students developed materials and practiced communication skills with other professionals. The dental students gained practical exposure to transfer principles and techniques. All the students completed a de-identified survey with Likert-style and open-ended questions after the experience. Results: All students rated the learning experience positively (85% very good or excellent). The dental students reported feeling confident they could transfer a patient safely (80% very good or excellent). Both dental and PT students valued the opportunity for peer learning (53% “most effective aspect of class”) and said they felt that participating in the clinic was relevant and essential, improved their confidence, and promoted a sense of accomplishment. The students noted the interprofessional experience was motivating (93% somewhat or highly motivating). Conclusion: This interprofessional one-on-one experience was motivating to both groups of students, and the dental clinic environment was authentic and challenged problem-solving. The opportunity to meet curricular objectives for both groups and organizing the practical experience a semester in advance addressed some of the barriers to interprofessional education. Active peer teaching experiences that are mutually beneficial like this one may be feasible, address some of the usual barriers, and provide valuable opportunities for interprofessional educational experiences. Communication between those responsible for program curricula is key to identifying opportunities for students to learn about, with, and from each other.

There is no Poster P-169.

P-170. Lowering the Boundary of Student Dentist Clinical Inefficiency
George E. Bunnell, Brian J. Kenyon, Sig H. Abelson, University of the Pacific

New Program
One way to improve the fiscal sustainability of dental school clinics is to increase student dentist clinical productivity. However, student dentists are novice practitioners who work slowly and inefficiently compared to experienced providers. To address this issue, a voluntary clinical time management system was implemented at the University of the Pacific Arthur A. Dugoni School of Dentistry in one of the eight group practices. Student dentists used the system for selected direct, indirect, and removable procedures and completed an evaluation form rating the overall experience. Methods: Clinical time management forms were created for direct, indirect, and removable restorations, which delineated the individual steps necessary to complete each procedure. The student dentist recorded an estimated and actual time used for each procedure step. Upon completion of the dental treatment, the data were analyzed to determine any area of possible improvement in operator efficiency. The clinical time management experience was rated in terms of time estimation improvement, time coordination improvement, stress relief, and timing improvement. Each category was rated on a scale of 4=very positive, 3=moderately useful, 2=acceptable, 1=ineffective, and 0=negative. Results: 14 student dentists participated in the implementation of the clinical time management system and completed an evaluation. The average rating for time estimation improvement was 3.80; time coordination improvement was 3.44; stress relief was 3.21; and timing improvement was 3.86. Several unsolicited positive comments were provided by the student dentists about the time management system regarding improvements in their speed, self-assessment, setting of goals, and preparation for a procedure. Conclusion: All four clinical time management system evaluation categories were rated as either moderately useful or very positive. The preliminary conclusion is that the clinical time management system has the potential to significantly improve student dentist productivity and to better prepare them to be more efficient providers after graduation. This year’s goal is to expand the clinical time management system to all eight group practices and to develop electronic versions of the forms. The investigators are confident that complete implementation of the system will contribute to the fiscal sustainability of their dental school clinic.

P-171. Variations in Abnormal Temporomandibular Disc Positions and Morphology
Edwin L. Christiansen, Kenneth Abramovich, Dwight D. Rice, Loma Linda University

New Program
A teaching library of serial, abnormal temporomandibular joint (TMJ) cadaveric photographs displaying malpositioned articular discs was created to serve clinical and didactic dental faculty members tasked with introducing dental students to TMJ disorders and their relationship to masticatory dysfunction and patient well-being. Methods: Unpreserved cadaverous (n=6) were imaged using laser-guided X-ray computed tomography (CT) to minimize error (x, y axis) orienting specimens in the scanner gantry. Scanning completed, each specimen was serially cryosectioned at ≈1.5 mm thickness in one of four anatomic planes: parasagittal, paracoronal, paraxial, and off-axis coronal. This process maximized display of the TMJs and adjacent, associated masticatory muscles. Color digital photographs of each tissue section were made by Loma Linda Medical Center’s Chief Medical Photographer or Loma Linda University. Results: Cryosectioning yielded approximately 20 sections per specimen. Three specimens were sectioned sagittally, one coronally, one in off-axis coronal, and one axially. Duplicate photographs of each section permitted annotation of specific structures in one photo and maximum anatomic display in the other. Conclusion: This high-resolution compendium of detailed, colored, educational photographs constitutes a learning library of five abnormal and one normal TMJ that may serve to enhance TMJ didactics. Pre- and postdoctoral students will value the range and complexity of disc-specific disorders that constitute a large portion of TMJ disorders.
P-172. Utilizing the Lunch and Learn Setting to Educate Dental Students on the Advantages of Private Practice
Fabiola Milord, Patrick L. Bivona, Adam Schiff, New York University
New Program
With continuing changes in dental practice, dental students are often not given sufficient education on the nuances of the private practice setting as a career choice. A series of presentations were designed to educate students on the advantages of private practice as a career choice and address such topics as financing, location, hiring personnel, patient acquisition, and the benefits of organized dentistry. Methods: Faculty members known to have started and owned private practices were invited by the student leadership of the Dental Economics Club at New York University College of Dentistry to offer a series of Lunch and Learn lectures to students from the D1-D4 classes. Eight sessions were held with approximately 35-40 students at each session. The Lunch and Learn setting was seen as the best option as to not impose on students’ didactic, preclinical, or clinical hours. The lectures consisted of informal talks by faculty members who discussed their personal experiences. Results: The students who attended were curious about the possibilities available to them with regards to private practice as a career choice. Questions from the students centered mainly on the autonomy of decision making, legal matters, financing, and different private practice models. Most students questioned why they had not been exposed to this information much earlier in their dental education. Conclusion: Due to time constraints and a full curriculum, students have a limited number of hours devoted to education regarding career and career choices. Details about the private practice model and issues of practice management may be lost in the myriad of other educational needs. Students need to be educated on all career choices including the private practice model, so that they have all the information necessary to make the right decision for them.

P-173. Beyond Interprofessional Boundaries in Teaching Dental Students Oral and Systemic Health
Hermione Perez, Emily Sabato, Kim Fenesy, Jeanette DeCastro, Siddhi Shah, Nam Hoang, Rutgers School of Dental Medicine
New Program
Learning communities in dental education were developed as a tool to foster a humanistic and interprofessional atmosphere while promoting a positive educational experience. The objective of the learning community program (“Houses”) at Rutgers School of Dental Medicine (RSDM) is to create a positive learning environment supportive of inclusiveness and wellness, which supports the students’ academic experiences. Methods: The director of student and multicultural affairs worked with student leaders from the Class of 2016 to develop the framework for the Houses in 2013-14, adapting the Vanderbilt School of Medicine model. The program seeks to promote student identification and engagement within RSDM, strengthen students’ relationships with classmates, students in other class years, and faculty; and enhance student academic performance and support scholarly activities. House activities include social events to promote a sense of community within the class. “Big-little brother/sister” matches are established between classes to enhance the students’ connections and facilitate mentorship among students in the didactic, preclinical, and clinical curricula, as well as enhance the familiarity of first- and second-year students with the clinic setting. In the first-year courses, Houses are integrated into the curriculum, providing consistent student groups across courses and clinical experiences. The students remain in the same House through graduation, providing continuity and helping to establish networks throughout the classes. Results: In August 2014, the program commenced. Verbal feedback from the students has been extremely positive. RSDM’s 2015 Quality of Work Life survey, completed one year after the program was implemented, found students reported satisfaction with their relationship with students in their class and other classes (mean of 1.86, mode of 1; and 1.92, mode of 2, on scale from 1=very satisfied to 5=very dissatisfied). Conclusion: The Houses program at RSDM has been successful in its first two years. The implementation of the Houses has served as a tool for students to build professional relationships with their peers while promoting wellness and humanism. Further detailed evaluation into the program’s impact, benefits, and challenges should be completed annually to refine the program. The next Quality of Work Life survey will also assess potential environmental improvements in 2018.

P-175. Utilizing Business Intelligence to Optimize Predoctoral Clinics
Romesh P. Nalliah, Kelly N. Miller, Stephen J. Stefanac, University of Michigan
New Program
The University of Michigan School of Dentistry created an electronic Faculty Request System (FRS) to enable students to remain with their patient and call faculty members electronically. Previously, students left the cabiel to form lines behind faculty members, which could take as much as 50 minutes per three-hour session. In this new program, dashboards were created using Tableau Business Intelligence software to analyze data acquired from FRS. The objective was to highlight some of the business intelligence findings that will be relevant to other schools. Methods: Dashboards were created from the charts and graphs. Line charts were used to analyze daily, weekly, monthly, and yearly trends. Line histograms were used to analyze peak periods, weekday, request type, and discipline requested. Box plots were used to analyze weekdays and session utilization. Stacked bar graphs were used to track trends in the number of appointments. Scatter charts were used to identify under- and overutilized faculty members. From these graphs, two types of dashboards were created: live and summary. Results: The investigators discovered trends that they did not know existed but warranted intervention. First, they found time from initial check-in with faculty members to final check-out was two hours and 15 minutes, which is much less than the three-hour clinic time. Since students frequently run late, average start time was analyzed; it was found to be 18 minutes after the start of the clinic session. Hence, students were discovered to be running late because they started late. Processes are being implemented to aid students starting on time including pre-ordering equipment. The data also revealed periods of high and low student and faculty activity. Knowing the downtimes enabled the investigators to develop a pilot in which clinic start times are staggered to ensure demand for faculty is a smooth curve rather than one with peaks and troughs. For the first time, a live view of faculty activity across all four predoctoral dental clinics was possible. This real-time data provided the ability to adjust faculty distribution mid-session. Conclusion: By leveraging the data of the FRS, the school’s leadership can analyze trends to make data-driven operational decisions. Doing so will improve the patient, faculty, and student experience.

P-176. Maintaining a Patient-Centered Philosophy among Health Care Professionals: A New Approach to Dental Students Oral and Systemic Health
Lorieta A. DePaula-Cepola, Maria P. Rodriguez Cardenas, Angela M. De Bartolo, Kenneth L. Allen, New York University
New Program
Maintaining a patient-centered philosophy among health care professionals warrants an interdisciplinary learning program. It is essential for dental students to develop interprofessional relationships that enhance comprehensive treatment of patients. The Teaching Oral and Systemic Health (TOSH) program presents a teaching module for educators to facilitate interprofessional education in the dental school. Methods: New York University College of Dentistry students and faculty participate in the TOSH program to experience a team approach to patient care. Students from the medical, dental, and nursing schools examine a patient in a simulated clinical setting at Bellevue Hospital. Each student demonstrates his or her respective role in the comprehensive exam. The dental student performs an extraoral and intraoral exam; the medical student performs a cardiac evaluation; and the nursing student assesses the respiratory status of the patient. Each student has 15 minutes to demonstrate his or her specific clinical examination of an actor patient to the other members of the team. Once the teaching student finishes his or her demonstration, the learning student has ten minutes to practice what he or she has learned. Each simulation facility is equipped with a two-way mirror and intercom. Faculty members observe and confer with the students via headphones and microphones. After the students complete their exercises, the faculty member enters the simulated clinical
exam room and facilitates a debriefing whereby the students exchange ideas with respect to improving team performance. Results: Each student contributes his or her specialty training in the formulation of a diagnosis and treatment plan for the standardized patient. An appreciation of the other professions with respect to each student’s own profession is developed in a team-based approach. Conclusion: In this program, dental students are trained as members of an interprofessional team. An interdisciplinary learning experience improves the dental students’ ability to assess a patient’s needs. When students become practitioners, it will be crucial for them to have an open dialogue with respected colleagues of other health professions. The TOSH program fosters collaboration between dentists and other health care professionals in delivering multidisciplinary and comprehensive care.

**P-177. Beyond Boundaries of Obstetrics and Oral Health: Impact on Patient Care**

Melanie E. Mayberry, University of Detroit Mercy; Bernard Gonik, Wayne State University; Robert M. Trombly, Arizona School of Dentistry & Oral Health

New Program

Scientific research has found a link between oral disease and adverse pregnancy outcomes. Despite national recommendations, many dentists are reluctant to treat pregnant patients, thus creating for themselves a self-imposed boundary. Dentists play a significant role in whether pregnant patients receive dental treatment. Disrupting traditional boundaries of care and evolution of knowledge, attitudes, and practice begins in dental education. This new program was designed to improve dental students’ knowledge regarding the impact of poor oral health on pregnancy, comfort level, and likelihood of treating pregnant patients in their practice after graduating from dental school, as well as to promote oral health awareness among pregnant patients and create opportunities for patients to receive dental treatment. Methods: Through the collaboration of Wayne State University (WSU) Medical School and University of Detroit Mercy (UDM) School of Dentistry, UDM developed its first Oral Health Pregnancy Day Event (OHPDE). Students were educated on the impact of poor oral health on pregnancy and birth outcomes. Dental faculty and an obstetrics care provider were present. Supervised by faculty, dental students treated obstetrics patients. Patients were educated on the importance of oral health for them and their babies and the negative impact of poor oral health on pregnancy and birth outcomes. Results: 38 dental student providers participated. 85% of them said they learned how poor oral health negatively impacts pregnancy and birth outcomes; prior to the event 63% were comfortable treating pregnant patients compared to 87% post event; and 79% agreed that as a result of the event they were more likely to treat pregnant patients in their practice. 160 obstetrics patients received perinatal oral health education in the obstetrics patient care wing. 34 of them presented to the dental clinic for the OHPDE. As a result of the OHPDE, 88% of the patients agreed that “It taught me that oral health is important for me and my pregnancy”; 94% agreed that “I will more likely take care of my oral health”; and 91% agreed that “I will more likely take care of my baby’s oral health.” Conclusion: This program pushed the boundaries of clinical education and practice. All objectives were met. The program was funded by the Detroit Medical Center Foundation, grant # 2015-0098.

**Poster P-178 was deleted.**

**P-179. Introducing an Objective Structured Clinical Examination into a Tightly Scheduled Dental School Curriculum**

Jessica Owens, Louisiana State University Health New Orleans

New Program

In this new program, an objective structured clinical examination (OSCE) was integrated into an already overscheduled dental school curriculum. Methods: The OSCE was introduced at the Louisiana State University Health New Orleans dental school in a step-by-step process, including initial presentation to the Curriculum Committee, formation of an ad hoc subcommittee, presentation to the general faculty, and introduction to the student body. Complications and restrictions of the current curriculum were also reviewed. Conclusion: School-wide OSCEs offer a benefit to faculty and students alike. The introduction of an OSCE into an already crowded dental curriculum presented its own unique set of challenges that had to be overcome.

**P-180. Using e-Portfolios for Student Reflection and Community Service**

Jeff Gutkin, Emily Sabato, Debra Goldsmith, Rutgers School of Dental Medicine

New Program

Rutgers School of Dental Medicine (RSDM) recently incorporated electronic portfolios into the DMD curriculum. This poster discusses the pedagogical theory the program was built on, the software selected, and how the system can be utilized beyond the portfolios to facilitate student educational experiences. Methods: A portfolio is a carefully selected, purposeful organization of professionally related academic accomplishments. Upon its completion, it demonstrates that students have developed the following overall competencies for new dentists: engages in self-assessment that results in the identification of applied service skills as well as identification of his or her knowledge limitations; develops and executes a self-directed learning plan that addresses the student’s self-identified limitations; and applies clinical science knowledge and critical thinking skills to patient care and management (where applicable). RSDM had several requirements: the e-portfolio software should be hosted, user-friendly, HIPAA-compliant, and offer guidance to students. Furthermore, the software needed to be easily used by faculty members who mentor and grade students. In addition, students needed to be able to share the content as part of their digital resume to be used after dental school. A revision of Bloom’s taxonomy was used in the pedagogical design, which added a knowledge dimension that measures factual, conceptual, procedural, and metacognitive processes. In a poster presentation at the 2016 ADEA Annual Session & Exhibition, the authors introduced this taxonomy as a method for measuring e-portfolio design effectiveness. In addition to the initial collection of e-portfolio data for D1 and D2 students in 2016-17, RSDM will be piloting this software for its community service program, in which students select an approved activity and report on their hours. Students write a reflection that captures qualitative data regarding their preferences and how community service impacted their understanding of their personal attitudes and biases in relation to their civic responsibility as dental professionals. Conclusion: This e-portfolio project is well under way, and this software has been found to be easy to use from the administrator, student, and faculty perspectives.

**P-181. Processes for Management of Results Found in Criminal Background Checks and Disciplinary Disclosures for Admitted Dental Students**

Emily Sabato, Kim Fenster, Jeannette DeCastro, Rosa Chaviano-Moran, Rutgers School of Dental Medicine

New Program

Rutgers School of Dental Medicine (RSDM) recently launched a process regarding criminal background checks (CBC) and disciplinary disclosures (DD) for admitted dental students, which may assist other institutions in developing their procedures. Methods: After applicants are conditionally admitted to RDSM, they must complete a criminal background check and have a disciplinary disclosure form completed by each institution they attended. The results must be deemed favorable for final admission. The CBC results are reviewed by the dean for academic affairs. Reports with positive findings are further evaluated with the university’s central academic affairs office and legal management. Additional information is requested for a full and objective picture of the reported incident. Review includes the circumstances, gravity of the incident, pattern of offenses, and honest disclosure. Admission may be rescinded or matriculation allowed with the understanding that there is no guarantee of future program completion due to external rotation requirements or licensure. DD results are returned directly from the universities to RSDM’s Disciplinary Disclosure Committee, which reviews the findings and recommends actions of allowing the student to matriculate, matriculate with conditions, or rescind admission. The focus is on when the incident occurred, the seriousness of the incident, if there was a pattern of repeat offenses, and if they
were disclosed fully and truthfully on the ADEA AADSAS application. Recommendations are vetted by legal management to ensure policies are applied with fairness and consistency. These processes are fully disclosed to applicants from the start of the admissions cycle, and applicants are reminded of the requirements for full disclosure on their interview day, when they are given an additional opportunity to come forth with any matters that may not be reflected on the submitted application. Results: In the entering class of fall 2016, three applicants had a positive CBC, and 13 had a positive DD; all were deemed favorable. Five applicants with DD withdrew their applications after receiving the conditions for acceptance related to their DD, while the remaining 11 students were excluded. Conclusion: RSDM’s process has been successful in identifying applicants with criminal backgrounds or disciplinary infractions, and the rate of omitting disclosure on the application has dropped, indicating RSDM’s reputation for encouraging honesty in the application process.

P-182. Professionalism in Dental Students
Elias Mikael Chatah, University of New England

New Program
Professionalism in dental students is not well reported. A pilot case-control study reported that disciplinary action against physicians by the Medical Board of California was associated with reported incidents of unprofessional behavior. Disciplinary actions of physicians strongly correlated with unprofessional behavior in medical school, and disciplinary action/unprofessional student behavior predictor variables included age, gender, low GPA for science courses, lower scores for the MCAT and medical licensing examinations, and lower grades during medical school. Methods: A literature review of professionalism courses in health professions programs yielded results from medical schools and, to a much lesser extent, dental schools, indicating that developing a high caliber professionalism course would benefit dental patients and the dental profession as a whole. Recently, the University of New England created a course titled “Professional Development” for all levels of its DMD program. This poster will describe implementation of the program and how it has been assessed.

P-183. Brazilian Dental Students’ Perspectives on Their Educational Training
Raquel B. Carvalho, Louisiana State University Health New Orleans; Cynthia L. Farias, Edson T. Santos Neto, Federal University of Espirito Santo, Brazil; Donald A. Curtis, University of California, San Francisco

Educational Research
The Brazilian National Dental Curriculum Guidelines (DCN) recommended changes in the training of Brazilian dental students with the goal of developing a more humanistic, reflective, and self-critical health care provider. The aim of this study was to analyze dental students’ perceptions of their educational program to evaluate alignment with current DCN guidelines. Methods: A descriptive research project was carried out in 2015 with data collected in semi-structured questionnaires sent to all 120 dental students in the third and fourth years at the Federal University of Espirito Santo (UFES) School of Dentistry, Vitória, ES, Brazil. This project was approved by the UFES Ethical Research Committee. Evaluated measures were overall teaching quality; if critical thinking was stimulated; whether demonstration/simulation, case discussion, or small group meetings were most helpful in stimulating critical thinking; and amount of faculty/students interaction. Results: 103 students participated in the study. They rated overall teaching quality at UFES as good (39.8%) or excellent (43.6%). Most of the participants (50.4%) were satisfied with the dental program, although 48.8% stated they felt faculty could do more to stimulate students’ interest in learning. During lectures, these students indicated only 37.8% of the faculty posed questions to try to stimulate students’ critical thinking. The students reported feeling that the most effective environment for critical thinking was during demonstration/simulation (75.7%) and case discussions (60.1%) that occurred in smaller groups before clinic. 57% of the students said that although dental social needs in Brazil were understood by most of the faculty, it was rarely contextualized during lectures. 56.2% of the students also stated that the interaction between faculty and students was satisfactory/good for them. Conclusion: UFES dental students’ perceptions about their training were partially aligned with the DCN recommendations. Perceived student deficiencies in the dental educational program included not enough interaction with faculty and too few faculty requests for critical thinking. UFES dental faculty members were trained as content experts with less than 5% having training in educational theory. There is an urgent need to change Master’s and PhD programs in Brazil to improve dental educators’ ability to encourage critical thinking among dental students so as to meet the DCN recommendations.

P-184. Improving Whole Person Health Care Through IPE
Leonard B. Goldstein, Deborah M. Heath, A.T. Still University of Health Sciences

New Program
This new program was designed to describe and identify osteopathic manipulative diagnostic screening and treatment (OMM) procedures for oral health, including temporomandibular disorders (TMD) and orofacial pain, describe and identify relevant neuromuscular components of the normal and abnormal TMJ; and increase interprofessional education (IPE) experiences between the A.T. Still University of Health Sciences dental school and osteopathic medical school (ATSU/SOMA) for students and faculty to help demonstrate how teaching and treating as a team assist patients with TMDs. Collaboration between the dentist and the osteopathic physician helps achieve the two professionals’ mutual goals and optimal health care for the patient. Successful outcomes motivate both the dentist and the osteopathic physician to learn more about each other’s skill and knowledge base. The learning of a common skill like ultrasound imaging of the neuromuscular components promotes learning relevant anatomy and fosters a common language that promotes lifelong communication by this shared experience. Results: This IPE collaboration assists students in becoming more aware of treating patients in teams and learning techniques from other team members. Faculty and students from the dental school and from the osteopathic medical school team-treat dental patients with TMDs and utilize OMM and cranial manipulation to control post-treatment discomfort. Conclusion: In this IPE program, students, faculty, and practitioners from the medical and dental professions gain a greater understanding of how each profession can assist the other in the treatment of their patients.

P-185. Changing a Dental Pharmacology Curriculum to Teach Millennial Students
Raquel B. Carvalho, Kurt J. Varner, Denis Paul, Louisiana State University Health New Orleans

New Program
Teaching and preparing the future generation of dental care professionals is a challenge for dental schools around the world. One of the greatest obstacles is to facilitate lifelong learning, making the knowledge available when it is needed. This poster documents evolution of the pharmacology course for dental students at Louisiana State University Health Science Center School of Dentistry, seeking to attract the interest of the new generation of students and also to better integrate pharmacology into dental practice. Methods: This report chronicles perceived weaknesses and problems in the past pharmacology course and describes the curricular changes and new learning strategies employed to make the course more relevant to future dentists. Examples of the new curricular changes include a review of dental board pharmacology questions and adding lectures on drug-drug interactions, receptor antagonism, neuropharmacology, pain, anti-platelet drugs, drug laws, and prescription writing. Also, lectures were required to include sections on dental implications and encouraged to give dental-related examples. Clinical correlations related to Sjogren’s syndrome, pain control, and treatment of the cardiovascular patient were incorporated. In addition, the faculty gave students websites and apps for reliable and fast drug information and required students to have laptops in class to search databases for details during lecture. Results: The students’ pharmacology scores on the past dental board exams improved compared to those prior to the changes. Negative comments from the dental students were reduced, and positive comments increased as well as did overall interest in the pharmacology lectures. Conclusion: Teaching pharmacology or other basic sciences to millennial students requires a novel and holistic approach to motivate them to learn. If well used, these methods can improve the
education of future dentists in pharmacology, promoting lifelong learning and making information ready when it is needed.

P-186. Scholarship Circles: Faculty Experiences
Emily Sabato, Jill York, Janine Fredericks-Younger, Marisa Handelman-Yellin, Nicholas DePinto, Steven Toth, Rutgers School of Dental Medicine; Vaishali Singhal, Rutgers School of Health Professions

New Program
In 2014-15, Rutgers School of Dental Medicine (RSDM) launched the “Scholarship Circle” program. This program, guided by the Office of Academic Affairs, aims to link experienced researchers with junior faculty members to facilitate the development of research, enhance the culture of scholarship at RSDM, and enhance faculty portfolios in light of the university’s new guidelines for promotions and tenure. This poster reviews the effectiveness of the program from the perspective of one of the circles. Methods: This Scholarship Circle was established immediately after the program’s informational session. The circle’s leader is an associate professor with significant publication experience, who brought a research idea to the circle. At initial meetings, the circle discussed the feasibility and the topic and distributed tasks, such as identifying a survey instrument and conducting a literature search. As the circle has members from RSDM's academic affairs, clinical affairs, and extramural clinics, meetings were held both in person and via conference call, and online resources were extensively utilized. The circle completed an IRB application and carried out required modifications together, as it provided a significant learning opportunity for several members. During this process, an allied dental education faculty from Rutgers School of Health Professions joined the circle, enhancing collaboration. Results: In August 2015, a survey on mental health stigma in the dental community was launched. In late fall, the circle reviewed the initial results and determined that additional responses were necessary. The circle worked together to change the protocol with IRB approval, and specific members were charged with collecting additional responses. In spring 2016, the circle reviewed the data, and one member was tasked with the statistical analysis. In a conference, the circle created a poster abstract reporting the survey results to submit for the 2017 ADEA Annual Session & Exhibition. Currently, the circle is requesting a workshop to provide guidance in selecting journals to target for publication. Conclusion: The Scholarship Circles program has succeeded in connecting faculty members from different areas of RSDM with various levels of research experience. The faculty development offered by the program is beneficial to development of the members’ scholarship.

P-187. Clinic-Entrance OSCE: Integrating ExamSoft and Competency Statements
Jewel Smally, Sophia Saeed, University of California, San Francisco

New Program
The University of California, San Francisco School of Dentistry is in the midst of a curriculum revision. New competency statements were approved by the faculty, after which the Curriculum Steering Committee felt a gap analysis was needed. Additionally, data on students’ readiness for clinic were not available. A clinic-entrance gateway OSCE with 48 questions of 89 D2 students was piloted. Methods: A team of faculty and D3/D4 students were divided into four groups: Group A started with Case 1, Group B started with Case 2, Group C started with Case 3, and Group 4 started with the OSCE stations. After 45 minutes, students moved to the next rotation. In the OSCE station group, a set amount of time was allotted for each station. Rubrics were entered into ExamSoft for all case-based questions, which were graded at a later date. The OSCE stations were graded on paper and then uploaded into ExamSoft. Results: The results allowed the Curriculum Steering Committee to determine the largest gaps in students’ readiness for clinic as related to the new competency statements. Conclusion: In an evaluation of the process of the exam implementation, the following improvements could be considered: 1) more advanced planning for logistics and flow, 2) greater number of OSCE stations, which would require support from administration and buy-in from faculty across disciplines, and 3) moving the rubrics for the OSCE stations to ExamSoft so graders can directly input the grades.

P-188. Collaborative Instruction for Information Retrieval and Appraisal Skills in Evidence-Based Practice Models for Dental Hygiene Students
Irene M. Lubker, Joan M. Pellegrini, Virginia Commonwealth University

New Program
This poster is designed to discuss the collaboration between the librarian and the School of Dentistry faculty to bring a model of evidence-based dentistry (EBD) to students in didactic and clinical settings; describe how the class was revised to emphasize EBD; and analyze course evaluations and student scholarly output. Methods: Dental educators strive to develop graduates who practice EBD and whose clinical decisions are based on current scientific research. A medical librarian was invited to assist in integrating EBD into the dental curriculum in 2012. The librarian and dental hygiene faculty attended the Forsyth ADA Evidence-Based Dentistry training in Boston, Massachusetts. The collaborators revised a course to take students through the mechanics of EBD, including demonstrating transfer into the clinical setting and developing a model of real-time information retrieval useful after graduation. Results: In the didactic activities, students received instruction on information retrieval as well as critical appraisal skills to answer clinical questions, reinforcing the EBD model. The collaboration resulted in a strong relationship between the librarian and the dental hygiene students and faculty. This culminated in students creating improved literature reviews for capstone projects, posters, and table clinic presentations, stronger clinical information retrieval skills, and increased publications in refereed professional journals. Conclusion: The collaborative effort was worthwhile as it strengthened the relationship among dental hygiene faculty, students, and the librarian. Additionally, students’ experience was enhanced as they learned retrieval strategies and critical appraisal of literature. This enabled them to develop as “consumers” of research literature, practice EBD, and publish their writing in professional journals.

P-189. Introduction of an OSCE with a Standardized Patient to Assess Behavior Management in Dentistry
Marianela Villarreal, University of Texas Health Science Center at San Antonio

New Program
This new program with an objective structured clinical examination (OSCE) and a standardized patient was designed to assess dental students’ ability to manage challenging encounters with patients including coping with patients’ unrealistic expectations; communicating with patients with complex medical or psychiatric conditions impacting comprehension, consent, and cooperation; and giving bad news. The program also developed rubrics to measure the outcomes of dental student-patient communication and students’ patient management skills through standardized simulated patient scenarios. Patient communication and behavior management can be difficult to teach and evaluate. Using a scenario in which a trained actor (standardized patient) plays the part of a difficult patient is one way in which students can apply communication and behavioral management guidelines and receive feedback, rather than merely memorize the guidelines. Methods: A pilot project was created with the new IDEP students involving assessment with standardized patients in an OSCE format. Two criteria were evaluated: dental student-patient communication and patient management skills. Students were instructed to go through the patient’s medical history and review panoramic radiograph. Panoramic radiographs revealed hopeless teeth, and students were expected to break this bad news to the patient. The standardized patients were trained to represent an older female who was recently divorced, depressed, and wanted to fix her teeth so she could date again. The patient had unrealistic expectations, including wanting to fix her teeth with
The aims of this study were to improve faculty knowledge of culturally and linguistically appropriate patient care; calibrate faculty evaluators for culturally and linguistically appropriate standardized patient examinations; and conduct an in-depth analysis of four culturally based standardized patient cases addressing access to care, health disparities, social determinants of health, and cultural challenges. Methods: The IRB determined that this study did not meet the “common rule” definition of human subjects’ research. A comprehensive literature review revealed the social cognitive theory and constructivism that were used as cornerstones of the training session design. The training group consisted of 11 evaluators. At baseline, participants completed the same prerequisite material as the students under evaluation. The program was designed to explore specific culturally-based cases on an interprofessional team.

The tools used to measure the objectives were pre- and post-surveys and observation based on participant-generated content. Results: The posttest results showed a significant shift to the upper Likert scale levels (4=agree and 5= strongly agree) from the pretest levels. Positive feedback and suggestions for improvement were also provided. The observation data showed that all participants were able to demonstrate mastery of the prerequisite content. The observation questions focused on identifying challenges for the students and sharing reactions or personal experiences to connect to each case. As a team, the participants were able to identify how to access resources to help develop students and what services they expected third-year dental students to be able to provide their patients.

Conclusion: Evaluators for the standardized patient cultural competency reported increased confidence in all learning objectives after completion of the training session. Overall, they reported being better prepared to evaluate students, and the facilitation methods were conducive to learning how to evaluate cultural competence. The small groups were able to apply the knowledge they learned in the prerequisite foundations of cultural competency course to the standardized patient cases. The survey data, feedback information, and observation content will be used to improve the training session for future use.

P-192. Strategic Marketing with Search Engine Optimization
Emily Sabato, Carolyn Stetler, Andrea West, Cecile Feldman, Rutgers School of Dental Medicine

New Program

Rutgers School of Dental Medicine (RSDM) has launched a marketing campaign to draw new patients to the faculty practice. This poster describes an assessment of the efficacy of the digital campaign aimed to improve traffic to the Newark, NJ, faculty practice. Methods: The digital campaign includes Search Engine Optimization (SEO) and placement of paid search ads, social media ads, and mobile lateral-longitudinal ads (Search Engine Marketing, SEM) through consultants NJ Advance Media. The vendor has worked extensively with RSDM’s marketing and IT team to improve the faculty practice website’s search engine rankings and draw potential patients to the site. RSDM identified 15 key phrases (for example, “oral surgery” and “dental care Newark NJ”) to be integrated into website content to enhance search engine visibility. RSDM also identified specific geographical regions, based on the person searching, where Internet ads should be placed to target the demographic most likely to convert to faculty practice patients. The vendor also made extensive recommendations regarding improvement of the faculty practice web presence through utilization of social media and other digital content. Results: From June to August 2016, total monthly visits to the site increased 17.4% to 1,340. 20% of August visits resulted from organic searches to the site, and 38% were the result of paid search results. 78% of August visitors were new to the site. For keyword “dental care Newark NJ,” the position on Google (Newark) improved from 19 to 15, and Google Mobile improved from 15 to 11 from baseline to mid-July. RSDM has also launched a Facebook page and has provided article content to the vendor for paid placement on its news sites. Conclusion: Expert-led SEM and SEO have been extremely effective at increasing traffic to the RSDM faculty practice’s website. As the campaign is expanded, especially with regards to the new faculty opening in fall 2016 in an area previously not served by RSDM, additional review of the efficacy should be completed to ensure the appropriate markets are being reached. Patient conversion rates should also be investigated.

There are no Posters P-193 and P-194.

P-195. Concepts in Critical Thinking Applied to Developing a Model for Interprofessional Education
Kecia Leary, Karen Baker, Melanie Dreher, Michelle Krupp, Leonardo Marchini, Teresa Marshall, Lily Garcia, Janet Crigger, Jennifer Hartshorn, David Johnsen, University of Iowa

New Program

Interprofessional education (IPE) and practice are the future in health care, yet educational outcomes and assessments have not been reported. The future depends on each member of the health care team being able to integrate main perspectives of other members in planning care for...
the patient. This new critical thinking model uses concepts from the education literature to emulate the intended activity with the thought process being the learning guide, assessment instrument, and learning outcome. This assessment tool provides talking points about patient care and is used in development of critical thinking as a skill set. Methods: The perspectives of each member of an IPE health care team were derived from interviews with senior faculty members in various disciplines and were then condensed into a learning guide for application in patient planning. The disciplines were primary care provider, pharmacy, nursing, dentistry, nutrition, physical therapy, social work, and family caregivers. Use of the learning guide as the assessment instrument was twofold: objective (did the resident/student systematically apply each step to the patient?), and subjective (did the resident/student grasp principles as applied to the patient and relate these concepts back to treatment planning?). Pediatric dentistry residents and fourth-year dental students participated in use of this learning guide. Results: This learning guide demonstrates development of a critical thinking skill set. Data from the experiences showed that residents and students scored high in applying each step to the patient and in grasping principles. The residents and students systematically applied the perspectives of each team member to a patient in developing the treatment plan and began to present patient information in a systematic way. Conclusion: This IPE critical thinking educational instrument was developed to reflect the perspective of each team member and now serves as a learning guide and assessment instrument to evaluate the learning outcome. Students may have been collecting some of this information prior to introduction of the tool, but it provided a formal instrument to collect important interprofessional information in a single discipline format.

P-196. Continuity in Patient Care via a Comprehensive Patient Management Team
Gary Stafford, Sheila Stover, Frederick Sutkiewicz, William K. Lobb, Marquette University

New Program
In the health care systems literature, the integration and continuity of care, practice efficiency, and a team-based approach have been shown to be important elements in the delivery of high-quality patient care. Marquette University School of Dentistry has developed a new innovative clinical model that extends the comprehensive care model through the introduction of treatment teams. This poster outlines this Comprehensive Patient Management Team (CPMT) model, including student roles, benefits and challenges, resources necessary, outcomes measures, and the project timeline. Methods: Patients are assigned to a CPMT, which consists of one D1, one D2, one D3, and one D4 under the supervision of a Comprehensive Patient Management Group (CPMG) Leader. Students’ roles and responsibilities are commensurate with their level of clinical training. The D4 student serves as the team leader and is responsible for overall case management. The D3 student can provide Stage I and Stage II treatment, while the D2 student provides Stage I simple operative care and the D1 student is assigned direct Stage III responsibilities. Resources required include a modification of axiUm so that patients could be assigned to teams and also the creation of new axiUm Team Case Progress Reports to track the case progress. Faculty and student orientation sessions are essential in bringing program fidelity to the model. Results: The model eliminates the need for annual patient transfers of graduating students’ patients, thus saving CPMG leaders significant time. The care provided by the team is completed in a more efficient manner, as schedules within the team are more flexible. Research suggests greater patient satisfaction when care is provided in a team-based model. From a quality assurance perspective, the team-based model allows more oversight of the case, thus reducing errors. Students are exposed to more patients through a team-based model than they would have individually, thus enriching their clinical training. Conclusion: The new CPMT model provides for a more efficient and effective delivery of patient-centered dental care and student clinical instructional training.

P-197. Successful Efficient Development of a Case-Based Senior Exit Exam
John V. Moore, Daniel W. Boston, Maria L. Fornatora, Amrita Bhan, Amid I. Ismail, Temple University

New Program
A need was identified to enhance the dental school’s existing program of competency assessment. This included 1) augmenting assessment of areas not easily assessed in clinical competency exams, 2) developing a multidisciplinary, standardized assessment format, and 3) assess overall competence to determine a graduate’s readiness to enter the practice of general dentistry. To meet these needs, a standardized, computer-based capstone exam for senior DMD students was developed to supplement the school’s 23 existing clinical competency exams. Desired features were multidisciplinary topics in comprehensive care cases, application of sound clinical judgment and decision making, and inclusion of topics not routinely experienced/tested in clinical settings, all as a way of assessing overall competence. Methods: The school’s current clinical competency exams were mapped to accreditation standards and professional competencies, and areas that could benefit from augmented assessment were identified. From 21 clinical cases chosen from past senior and AEGD presentations, 13 were utilized. Case descriptions and questions were drafted in two exam development sessions (12 hours) by 22 faculty members representing all departments. The exam was piloted with three groups (seniors, AEGD residents, and practicing adjuncts). Qualitative feedback was gathered from all groups. Raw scores were analyzed, and item analysis was conducted using point-biserial correlations. Edits to exam questions were made based on these results. Results: Exam specifications were addressed through 117 piloted questions. Based on item analysis, 11 questions were eliminated, 43 were edited, and one case was eliminated. Point-biserial correlations for the remaining questions were calculated (mean 0.36, SD 0.08) and were deemed appropriate for this pass/fail assessment. Student feedback (n=137) indicated exam timing, breadth, and difficulty were appropriate for late in senior year. Resident and faculty (n=25) feedback indicated appropriateness and clinical relevance for a new practitioner. Scores also demonstrated convergence with overall academic performance. Conclusion: The school’s existing program of competency assessment was enhanced by this faculty-written, comprehensive, multidisciplinary exam. Analysis of student performance and qualitative data supports the use of the exam for assessment of student overall competence and readiness to enter the practice of general dentistry. The development process was efficient in terms of resources and time and can be easily sustained and replicated.

P-198. DDS and Nurse Practitioner Students Together in Advanced Patient Physical Assessment
Andrew Schenkel, Mark Wolff, Madeline Lloyd, Dorothy Wholihan, Caroline Dorsen, Judi Haber, New York University

New Program
The Interprofessional Collaboration (IPEC) states that interprofessional practice is the key to safe, high-quality, accessible, patient-centered care. The objective of this program is to provide students with an opportunity to achieve the IPEC Core Competencies for Interprofessional Practice, so that they enter the workforce ready to practice effective team-based care. The development of these competencies requires moving beyond the profession-specific boundaries to engage students from different professions in interactive learning in order to prepare them for working together with the goal of building a safer, better, patient-centered, and community/population oriented health care system. Methods: The New York University Colleges of Nursing and Dentistry have developed an interprofessional program in which dental students join nurse practitioner (NP) students one day a week performing medical and oral assessments of patients presenting with multiple diseases and conditions to the Nursing Faculty Primary Care Practice. During these interprofessional sessions, DDS students observe and participate in the medical examination of patients as well as perform and teach the NP students how to perform oral health assessments, all under the guidance of the NP faculty in the nurses’ primary care practice. The students establish high-quality risk reduction programs for these patients, meeting the primary care needs of a diverse
patient population with an emphasis on the relationship of oral health to overall health. Students are required to prepare for this rotation by completing the Advanced Health Assessment Across the Lifespan course at the College of Nursing, a full semester course consisting of three-hour lecture/workshops followed by two-hour laboratory simulation sessions each week for 12 weeks. The DDS students pair up with the NP students to practice the physical assessment techniques on each other under the direction of a nurse preceptor. Results: Seven cohorts of junior and senior DDS students have participated in this elective. Conclusion: This has been a very popular and successful program for those students interested in a more collaborative approach to improved care for their patients.

P-199. DDS Students and Medical Residents Together in Primary Care Practice
Andrew Schenkel, Matthew Augustine, Sonal S. Shah, Jennifer Adams, Alexander Ross Kerr, Kathleen Hanley, Joan Phelam, Mark Wolff, New York University
New Program
Adult oral health is a growing health disparity with implications for systemic disease and quality of life. More patients are seeking care from physicians for oral health complaints. To address this need, expert panels and education committees have called for greater integration of medicine and dentistry, and Health People 2020 has made improving oral health a priority. This program sought to address this need by increasing the knowledge of medical residents in oral health and by facilitating collaboration between medical residents and dental students. Methods: New York University College of Dentistry (NYUCD) and Langone Internal Medicine Primary Care Residency developed an interprofessional program in which dental students and medical residents collaborate in multiple clinical settings. Medical residents are introduced to oral health epidemiology, anatomy, examination, and treatment of common pathologies and therapies by participating in interactive sessions, based on an established national oral health curriculum for non-dental providers (Smiles for Life). Senior dental students join medical residents during a rotation in the primary care clinic at Gouverneur Health, a local public community primary health care facility. During these interprofessional sessions, the dental students observe and participate in the medical examination of patients as well as perform and teach the residents how to perform oral health assessments for a diverse patient population with an emphasis on the relationship between oral and systemic health. Medical residents are also paired up with dental students in the NYUCD oral medicine/oral facial pain clinic to treat patients together. In these clinical sessions, the physical assessment techniques and general approach to patient assessment and treatment are reinforced under the direction of the dental faculty. Results: Based on survey results, this program confirmed a knowledge gap in oral health among internal medicine residents and identified that joined clinical experiences with senior dental students can be accepted, desired, and effective. Conclusion: Interprofessional teaching in the clinical setting is an effective way to teach, learn, facilitate collaboration, and improve access to care for patients.

P-200. Survey of Faculty Development in Dental Schools in the United States
Shika Gupta, Steve Sadowsky, William Sands, Sig H. Abelson, Cindy Lyon, University of the Pacific
Educational Research
Well-trained and calibrated faculty members are important for a successful dental program. The aims of this study were 1) to assess the current level of faculty development offered and collect data regarding faculty training and calibration in U.S. dental schools and 2) to encourage discussion and collaboration among dental schools. Methods: IRB approval was obtained for this study from the University of the Pacific at Stockton, CA. A six-question multiple-choice survey was created to gather data about faculty development and training programs in U.S. dental schools. The survey was sent to the academic deans of all U.S. dental schools (n=65). 15 responses were received. Results: 86.7% of the respondents replied that their dental institution provided training and development to their faculty, while 13.3% did not. Among the respondents, 55.3% responded that they did not provide any hands-on training to faculty; 20% replied that they did not provide any didactic training to faculty; 66.7% said that they had a faculty guidebook with procedures and protocols in place; and 33.3% did not have such a document. 55.3% of the respondents reported that they communicated with their faculties via an update or newsletter, while 46.7% did not have such a provision in place. 80% of the respondents said that they would be willing to institute a faculty training program that was effective at another school. Conclusion: Even from this small sample, it can be concluded that some level of faculty training and development is provided across U.S. dental schools. Further research including a larger number of schools needs to be conducted to provide a better national picture of faculty development; research is also needed on the effectiveness of current programs. The University of the Pacific Arthur A. Dugoni School of Dentistry has faculty development in place which faculty members have perceived as helpful. A survey of faculty members found that they were satisfied with the ongoing faculty development and training program. A shared site for enhanced communication and collaboration among dental schools on this subject would help all schools maximize their own faculty development and training opportunities and strategies.

There are no Posters P-201 and P-202.

P-203. Practical, Skills-Based Communication Training for Dental Students
Michael Slesnick, Marianne Jurasic, Celeste V. Kong, Sharron Rich, Joseph Calabrese, Boston University
New Program
“Communication and Interpersonal Skills” is one of six domains in which new generalists must be competent in order to enter the profession. The challenge is effectively teaching communication without overwhelming students’ schedules or unreasonably increasing the demands on faculty. Boston University’s Henry M. Goldman School of Dental Medicine (GSDM) instituted a training program designed to meet this challenge. Methods: The training consists of one five-hour workshop followed by in-clinic mentoring and assessments. It is skills-based rather than didactic. To measure training effectiveness, a seven-question survey was developed to measure students’ confidence in communicating with patients in various clinical situations. This survey was administered prior to the students’ attendance at the workshop and will be re-administered prior to graduation. The 2016 graduates at GSDM were invited to take part in the survey and will serve as a historical reference since they graduated prior to the inception of this communication training. The survey questions were analyzed for frequency distributions of responses, and a combined score for all questions was tabulated. IRB approval was obtained. Results: The four-year DMD 2018 students (N=100) and two-year Advanced Standing 2017 students (N=74) participated in the survey prior to their communication workshops. The majority of students (86-96%, depending on question) were very confident/confident to fairly confident in their ability to connect with patients at a first meeting, determine patient treatment wants and needs, and present treatment plans in an easily understandable manner. However, the students were not as confident communicating with upset or difficult patients (64-72%) or when there were complications identified with treatment (72-77%). The combined score for all questions for each group was 60.5 (DMD 2018) and 61.6 (AS 2017). Conclusion: The pre-workshop survey identified areas of weakness as they related to students’ confidence in communication skills and will guide communication training. Further surveys will help faculty members to gauge training effectiveness.

P-204. A New Frontier: Postgraduate Dental Hygiene Residency Programs
Ankur D. Patel, Richard Kaplan, William J. O’Brien, Milwaukee VA Medical Center
New Program
Competency-based education in traditional dental hygiene education is intended to measure learned skills that prepare students to independently provide services for the public. The Advanced Dental Hygiene Residency Program, developed at the Zablocki VA Medical Center in Milwaukee, WI, centers on goals and objectives that strive for resident proficiency in clinical, didactic, and professional working capacities, all while...
focusing on medically compromised dental patients within a complex, federally run regional medical center. The program is committed to the ideas that postgraduate dental hygiene education plays an important role in the educational continuum of the dental hygiene school graduate and that focused mentorship and unique opportunities beyond the scope and complexity of dental hygiene undergraduate programs can push the novice dental hygiene practitioner to higher achievement in the profession. Methods: A series of seven program goals and objectives were developed for this residency program. To achieve these goals, the program utilizes clinical experiences, a didactic curriculum, and rotation experiences to provide dental hygiene residents with an advanced scope of training beyond that of undergraduate dental hygiene education. Results: Even in the short tenure of this program, outcomes assessment analysis has found significant value, marked professional growth, and enhancements to clinical ability and didactic knowledge for the residents, similar to the type of growth seen by dental school graduates completing postgraduate general dentistry programs. Conclusion: Based on this program’s outcomes and experiences, the authors urge more attention to and consideration for the continued development of additional postgraduate dental hygiene residency programs.
2017 ADEA TechExpo: Abstracts of Presentations

Presented on Sunday, March 19, 2017, 1:00-3:00 pm

TE001. Utilizing Digital Technology: An Alternative to the Traditional Faculty Training
Gary S. Berkowitz, Leonard Berkowitz, David Hershkowitz, Denise Estafan, New York University

Traditional methods of training or updating faculty members pose many problems. The objective of this presentation is to elucidate beyond boundary, a novel method on how the utilization of various forms of digital technology will solve these problems. We will explain specifically web-based presentations that will save time and keep faculty members in the clinic. Not only will viewers learn how to train their faculty members; we will clarify how they can use this technique to keep all faculty members updated as techniques and protocols change. This updating is critical in the ever-advancing field of CAD/CAM technology.

TE002. The Use of Chairside Digital Impressions to Treat Elderly Patients
Asma Arash, Samantha P. Wolff, New York University

Elderly patients face many obstacles when seeking dental care. From complex medical histories to difficulties with transportation, the elderly population often struggles to obtain dental care. However, with increased use of CAD/CAM technology, dentists can now provide a broader range of dental care to elderly patients in a single visit. Unlike traditional indirect restorations, which require patients to return for multiple appointments, CAD/CAM restorations allow a tooth to be prepared, an impression to be taken digitally, and the tooth to be restored in one appointment. CAD/CAM technology helps improve the dental health and quality of life for aging patients.

TE003. The Mobile Multimedia Surgical Theater: Demonstrate, Record, and Share Dental Procedures Seamlessly
Alexander Lee, Brian Chui, Western University of Health Sciences

Demonstrating dental procedures in vivo and in real-time to multiple observers has many challenges, including lack of acceptable viewing angles, improper lighting for cameras, increased procedure difficulty due to accommodation of recording gear, inadequate mechanisms for audience participation, and cumbersome equipment. The Mobile Multimedia Surgical Theater addresses these challenges by providing clinicians with a practical, compact, easy-to-use, high-resolution multi-camera package for use in the confines of a dental operatory. This session will show how this unit was created, demonstrate its capability in real-time, and provide viewers a video for their own evaluation.

TE004. Technology Innovations for Supporting Student Success
Staci L. Ripkey, New York University

Educational technologies continue to enhance our approach to teaching and learning in meaningful ways, but they can also be used to provide comprehensive, responsive support services to further student success. The objective of this presentation is to elucidate beyond boundary, a novel method on how the utilization of various forms of digital technology will solve these problems. We will explain specifically web-based presentations that will save time and keep faculty members in the clinic. Not only will viewers learn how to train their faculty members; we will clarify how they can use this technique to keep all faculty members updated as techniques and protocols change. This updating is critical in the ever-advancing field of CAD/CAM technology.

TE005. Teaching CAD/CAM Technology Beyond Boundary, While Maintaining the Core Curriculum
Glenn Rochlen, Aaron Soepomo, Bruce Brandolin, Eugene Bass, New York University

CAD/CAM technology is gaining a significant presence in dental schools. This technology allows dental students, under faculty supervision, to make a digital impression, design virtual models, and mill and cement the restoration in a single visit. This process presents a dilemma in an educational environment. Our core technique requires students to take two full arch impressions, pour and evaluate the stone models, and fabricate and cement a provisional restoration. We have created a program that allows for students to learn digital technology while maintaining our core curriculum.

TE006. Special Needs, Special Considerations: CAD/CAM, A Must
Angela M. De Bartolo, David Hershkowitz, Michele Harutunian, Denise Estafan, New York University

The predoctoral experience in treating patients with exceptional needs is offered to students at New York University College of Dentistry as a Special Patient Care elective. The use of CAD/CAM technology allows the predoctoral student to render prosthetic treatment in one visit to benefit the patient. Doing so is extremely helpful for patients with special needs, who often cannot come in as frequently as other patients. Using CAD/CAM technology efficiently treats patients who require special attention in the delivery of excellent dentistry is a must. We advocate going beyond boundaries for the patients with special needs.

TE007. Review of Caries Risk Assessment App in Outreach Settings
Vrinida Taneja, Morgan Thorne, University at Buffalo

This presentation demonstrates an electronic app designed for dental outreach activities in promoting student interaction with community members about their caries risk and oral health. The app targets high caries risk behaviors as outlined by the American Academy of Pediatric Dentistry in survey format that is simple enough for all dental students to administer. After survey completion, students individually discuss with each community member the specific dietary and lifestyle behaviors that affect their caries risk as identified by the app. This app aims to strengthen students’ communication skills and the oral health IQ of the community.

TE008. Power Up Your PowerPoint!
Edmund Khoo, Rebecca Poling, New York University

There is no question that PowerPoint has changed methods of teaching significantly, but it has been around for almost 30 years. This presentation will introduce the audience to a method of integrating PowerPoint with Articulate Studio to create exceptional PowerPoint presentations that can be used in class or accessed online. These presentations go beyond boundaries that not only energize and invigorate educators to put in play powerful teaching materials that engage learners at a new level, but also allow educators to assess learning at an individual student level, both didactically and clinically.

TE009. A Changing Tide in Dental Education
Maria P. Rodriguez Cardenas, Luceria A. Depaula-Cefola, Angela M. De Bartolo, Kenneth L. Allen, New York University

Interdisciplinary learning is essential for students to develop in their comprehensive treatment of patient care. New York University College of Dentistry students and faculty participate in the Teaching of Oral Systemic Health (TOSH) program to experience a team approach to patient care. Students from the medical, dental, and nursing schools come together and examine a patient, each demonstrating his or her respective role in the comprehensive exam. The simulation facility equipped with an intercom,
Dental students are faced with many challenges. Not only is it imperative for students to retain knowledge, but also to apply it in real-world scenarios. One such challenge is the accurate reproduction of bite marks, which are crucial in forensic analysis. Recent murder convictions that relied on bite mark evidence have been overturned by DNA evidence. Research has shown that, even under ideal conditions, bite mark analysis of bite mark injuries and how to use them for comparing bite marks. Participants will also be able to see a digitized dental model and wireless technology to securely access a patient’s electronic charts and perform QA assessments quickly, efficiently, and accurately at the point of care. Key performance metrics are collected, analyzed, and monitored, while opportunities to improve patient care and student learning are identified.

**TE010. Integrating Wireless Technology to Assess Quality Patient Care at NYUCD**

Gerald M. Klaczany, Sharon Perelman, New York University

Prior to the electronic health record (EHR), reviewing charts to assess patient care in the Department of Cardiology and Comprehensive Care involved randomly auditing traditional paper charts and filling in checklists on survey sheets. Calibrated faculty walked through clinics at random times. Since converting to an EHR, NYUCD developed a process incorporating portable tablet devices and wireless technology to securely access a patient’s electronic charts and perform QA assessments quickly, efficiently, and accurately at the point of care. Key performance metrics are collected, analyzed, and monitored, while opportunities to improve patient care and student learning are identified.

**TE011. Implementing Gamification in Dental Education**

Marie Conguista, Jacqueline Heath, New York University

By using technology and learning in the context of games, students are more engaged, enjoying the challenge to achieve and staying motivated. Many medical schools around the world have instituted game-based learning in their education with statistically significant results. Utilizing games in dental school education may be an effective tool, complementing the millennial student style of learning. Use of gaming elements in learning can change the future of dental education practices in the classroom, laboratory, and clinical teaching. It can offer today’s dental student pathways that can make learning and critical thinking more rewarding and fun.

**TE012. Beyond Boundaries: Using an Animated Software Program to Triage Dental Emergencies**

Gargi Mukherji, Harry Gilbert, Laura Cox, Richard Halpin, University of Texas at Houston

In our presentation, we will showcase an interactive software program using Articulate Storyline to help patients triage dental emergencies. This animated software program will be given to patients by students and will ask patients about specific dental concerns related to bleeding, swelling, pain, etc. The purpose of this innovative tool is to educate patients to self-assess and aid in the decision making process on whether they need to seek urgent care in an ER. This educational software will be evaluated by data gathered from student and patient surveys to provide feedback in further development of a phone app.

Presented on Monday, March 20, 2017, 10:00 am-12:00 noon

**TE013. Exploring Tooth Marks in Forensic Analysis Through 3D Investigation**

Nicholas Vernice, Mark Wolff, Emanuel Papadopoulos, New York University

Recent murder convictions that relied on bite mark evidence have been overturned by DNA evidence. Research has shown that, even under ideal conditions, matching bite marks to teeth is fallible. It became clear that a more accurate and reliable method was needed to facilitate reproduction of bite mark injuries for forensic evidence presented to the courts. Participants will learn about new 3D capture methods for acquisition and forensic analysis of bite mark injuries and how to use them for comparing bite marks. Participants will also be able to see a digitized dental model and an example of a 3D bite mark image.

**TE014. e-Portfolios: Expanding the Boundaries of Dental Education to Ensure Success of the Dental Student**

Angela M. De Bartolo, Marie Conguista, Gene Sherwin, David Hershkowitz, New York University

Dental students are faced with many challenges. Not only is it imperative to learn the clinical skills of dentistry, but students should also be able to monitor and show progress in their goal of achieving excellence in dentistry. Maintaining an e-portfolio allows students to upload their progress in didactic courses as well as in a clinical capacity. The students are required to assess their courses, competencies, and clinical experiences. A faculty member reads the entries on a regular basis and is able to address any issues early on and maintain a continual progress of the student.

**TE015. e-Learning Modules for Standardization in Predoctoral Orthodontics**

Mahdi Taebi, Lyndon K. Tran, Jacqueline Heath, Mitchell Jay Lipp, New York University

The dental education literature reports variations in scope and practice of predoctoral orthodontics. To enhance standardization, we developed a series of interactive modules using Articulate e-Learning Software. The modules were based on best practices in the science of learning to engage students and increase critical thinking. Orthodontic concepts are taught in an individualized-tutorial format and include formative case-based assessments with corrective feedback. Incorporating these modules in the curriculum may enhance the likelihood that students graduate with equivalent knowledge and skills, with the ultimate goal of improved patient care. These modules, along with the engagement strategies incorporated, will be showcased.

**TE016. Design of an Exercise Integrating External-Internal Occlusal Adjustment Before Cementation**

Mark Booth, Chi Tran, Richard White, Peter Hansen, University of the Pacific

The pre-cementation process is to evaluate and adjust proximal contact, internal adaptation, margin, occlusion, and contour of an indirect restoration. This presentation demonstrates the digital design development of a standardized exercise to teach predoctoral dental students. The student fits a 3D printed resin crown on a typodont tooth. Design defects are programmed, resulting in proximal contacts, internal line angles, and occlusal contacts needing recognition and correction. Standard cast or milled crowns incur a high cost. Using a typodont tooth and 3D printed resin restoration is a good exercise at a reasonable cost.

**TE017. Compact, Lightweight, Interchangeable Lens Camera for Photography in Predoctoral Education**

Mark Booth, Desmond Gallagher, Lynn Edwards, Chi Tran, University of the Pacific

The typical dental camera consists of a single lens reflex body, macro telephoto lens, and flash ring light with a combined weight of 2kg and typically costs around $2,000. The size and weight of the digital photography system usually require two hands for holding and operation. An alternative setup using the Micro 4/3 digital photography system results in more than 50% weight loss and cost reduction, yet produces excellent digital photographs for dental education and clinical practice. This presentation compares the two approaches and allows hands-on participation in evaluating this underutilized photographic system in dentistry.

**TE018. Beyond the Boundaries of Clinical Evaluation**

Wanda J. Cloet, Central Community College

Clinical evaluation plays a large role in dental hygiene curricula. Electronic media have been integrated into dental hygiene education to include technology in the classroom, lab, and clinic. Clinical evaluation software has been developed by companies to evaluate clinical performance of dental hygiene students. However, this clinical evaluation software can be very costly for dental hygiene programs. This presentation will demonstrate the development of a clinical evaluation program for dental hygiene students using free document software. This software also helps keep students current with their clinical grades and need for improvement.

**TE019. Beyond Digital Margins: Helping Students Develop Visual and Thinking Skills with CAD/CAM**

Maria P. Rodriguez Cardenas, Marie Conguista, David Hershkowitz, Denise Estafan, New York University

Computer technology and three-dimensional virtual image review
ability enhance students’ understanding of the principles of preparation, temporization, and cementation. Tooth-colored restorations and the basic fundamental parameters of depth, definition of margins, interproximal contacts, and occlusion are explained and discussed. The captured images are being utilized in an educational capacity in both the preclinic and clinic settings. The student is able to self-evaluate and develop virtual visual outcomes. With CAD/CAM technology, beyond and within digital margins of the tools function, students have the opportunity to test their understanding of concepts and principles and to apply them.

**TE020. Beyond Boundaries of Conventional Education: Preparation Analysis Using CAD/CAM Technology**

Monica Bebawy, June Weiss, New York University

Self-assessment of clinical work is critical to growth in dentistry. Conventionally, dental students assess their preparations by taking impressions and examining the resulting stone models. However, many students fail to see or do not comprehend the parameters necessary for clinically acceptable preparations. CAD/CAM technology can be used to bolster the self-assessment experience in the educational setting. A digital impression is taken of the preparation in the patient’s mouth or of the stone model. Students can use preparation analysis tools to visualize undercuts, distance from the antagonist tooth, marginal definition, and surface topography in order to build their clinical competence.

**TE021. Analog and Digital Transparent Dental Casts for Dental Occlusion Instruction**

Chi Tran, Michelle Brady, Daniel Castagna, Gina S. Chann, University of the Pacific

Conventional instruction in dental anatomy and occlusion may use mounted dental stone (gypsum) casts to illustrate concepts of mandibular movement and function. This presentation introduces clear transparent casts that articulate correctly with each other and conventional stone casts. The ability to see through the clear teeth helps dental students understand mandibular movement and its relation to cusp and groove interaction. Predoctoral dental students appreciate the visual aid, and instructors have provided positive feedback. The dental casts may be fabricated in clear resin. An alternative fabrication is with scanning and 3D printing or milling.

**TE022. Acclimating Dental Curricula Beyond Conventional Boundaries Through the Use of Holographic Technology**

Gerald Davis, Meharry Medical College

Dental education holograms!? Holographic technology was once thought to be the work of science fiction, but today this technology is a reality. This virtual-reality technology allows students to be immersed in the psychomotor domain of learning while still being in a traditional classroom setting by allowing them to individually visualize and interact with virtual three-dimensional objects. This session provides insight into how Meharry Medical College School of Dentistry has begun adapting its curriculum to include a holographic simulation center (by using holographic smart glasses/goggles) for students to gain better insight into comparative dental anatomy, surgical techniques, and cone-beam computed tomography.

**TE023. Hygiene INstrument Tutor (HINT): New Digital Simulation for Dental Hygiene Instrumentation**

Angela L. Monson, Minnesota State University, Mankato; Vince N. Bush

Currently, no objective, reliable method exists to measure and assess dental hygiene instrumentation. HINT is under development as the first and only product to use modern electromagnetic tracking technology, 3D modeling, and sophisticated software to measure and display the actual angulation and adaptation for dental hygiene instrumentation. The extraordinary accuracy and repeatability are impossible to replicate with a human observer. Future software will provide a wide variety of teaching modes and lesson plans, including 3D animation, graphs, and audible feedback. Research will be conducted to provide evidence that HINT is effective and beneficial for both instructors and students.

**TE024. Use of Database Software to Integrate Electronic Billing Systems**

John W. Leyman, Jung-Wei Chen, Loma Linda University

In 2006, the Special Care Dentistry Clinic at Loma Linda University School of Dentistry separated from Loma Linda University Medical Center and became a Joint Commission-accredited ambulatory surgery center. As a result of this separation, we lost a critical piece of infrastructure support: billing of surgery center room charges. FileMaker Pro was utilized to produce a stand-alone application that interfaced with axiUm to populate pertinent patient demographic data along with critical anesthesia and recovery information to fill out UB04 room charge billing forms.