

Indiana University School of Dentistry

Report to the IUPUI Program Review and Assessment Committee

Doctor of Dental Surgery Program

2017-18

Indiana University School of Dentistry PRAC Report, 2017-18

Overview of Programs

The Indiana University School of Dentistry, located on the IUPUI campus, offers a Dental Assisting (DA) certificate program; a Dental Hygiene (DH) program leading to a Bachelor of Science degree; a Doctor of Dental Surgery (DDS) program; Advanced Dental Education programs in Endodontics, Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry, Periodontics and Prosthodontics/Maxillofacial Prosthetics; and postgraduate degrees in Dental Materials, Operative Dentistry and Preventive Dentistry.

This report contains the review of the DDS program, which is a graduate level program. The PRAC reports for the Dental Assisting program and the Dental Hygiene program are each submitted under a separate cover.

Accreditation at the IU School of Dentistry

The Commission on Dental Accreditation (CODA) is the accrediting body, recognized by the United States Department of Education, is responsible for the assessment of quality of educational programs in dentistry, postgraduate dentistry and allied dental professions. At the program and institutional level, measures used to track the progress of the school towards the stated Mission, Vision, and Goal of IUSD. https://www.dentistry.iu.edu/index.php/about-us/mission-and-goals/

In 2013, the DDS program and the Advanced Dental Education programs were granted <u>approval (without reporting requirements)</u>, an accreditation classification for achieving or exceeding the basic requirements established and defined in the Commission on Dental Accreditation (CODA) Standards for each program. Ongoing Institutional and Program review is an expectation that must be demonstrated by all accredited dental programs.

The Oral and Maxillofacial Surgery (OMFS) program accreditation is on a five-year cycle. The accreditation site visit was on September 6, 2018. The other IUSD programs are on a seven-year cycle. The Comprehensive Dental Education site visit is scheduled for September 15-17, 2020 during which the following programs will be reviewed: Dental Assisting, Dental Hygiene, Predoctoral Dental Education (DDS), and Advanced Dental Education programs in Endodontics, Orthodontics. Pediatric Dentistry, Periodontics, Prosthodontics, and Prosthodontics/Maxillofacial Prosthetics. The self-study process began in August 2018.

Doctor of Dental Surgery Program

The IUSD Doctor of Dental Surgery (D.D.S.) program is a four-year curriculum (D1-D4). The Accreditation Standards for Dental Education Programs define the minimum requirements for a program and provide guidance to support the teaching, patient care, research and service missions of a school. The Standards are grounded in a competency-based education model. Within the compliance of the Standards defined by CODA, each dental school has the flexibility to establish the specific learning outcomes and associated measures that allow the student to demonstrate evidence of successful completion of the requirements for the degree and the level of competence to begin the unsupervised practice of general dentistry.

The IUSD Outcomes Assessment Committee (OAC), DDS Curriculum and Assessment Committee (CAC), and DDS Student Progress Committee are key IUSD standing committees charged with the ongoing review of the effectiveness of the unit, the DDS program, and individual student achievement, respectively. The IUSD Office of Academic Affairs assists and facilitates recommendations and information from these committees to the appropriate faculty member, standing committee of the faculty council or administrative office in order to identify areas of strengths and opportunities for improvement.

Data used each year in the course and program reviews include:

- Analysis of student performance in courses, clinics, discipline competency examinations, and on National Written and Regional Clinical Boards
- Course syllabi
- Course/module review forms (completed by instructor)
- CoursEval reports (the electronic data base of student course evaluations)
- · Retention rate
- Student focus groups reports
- Senior Exit Interviews (IUSD and American Dental Education Association)

STUDENT LEARNING OUTCOMES

To demonstrate successful completion of the curriculum, each student must achieve the IUSD 20 Institutional Competencies to be deemed competent to begin the independent and unsupervised practice of general dentistry. Competency includes complex behaviors or abilities that encompass knowledge, experience, critical thinking and problem-solving skills, professionalism, ethical values, and technical and procedural skills. The IUSD Institutional Competencies have been developed by the discipline, or disciplines working together, to measure student development across the program in alignment with the Standards and the four of the IUPUI Principles of Graduate and Professional Learning (PGPL):

- 1. Demonstrating mastery of the knowledge and skills expected for the degree and for professionalism and success in the field
- 2. Thinking critically, applying good judgment in professional and personal situations
- 3. Communicating effectively to others in the field and to the general public
- 4. Behaving in an ethical way both professionally and personally

The IUSD Institutional Competencies for the Dental Graduate:

The IUSD graduate must be competent in:

- 1. patient assessment, diagnosis, and referral (PGPL 1,2,3,4)
- 2. treatment planning (PGPL 1,2,3,4)

- 3. communicating and collaborating with individuals and groups to prevent oral disease and promote oral and general health in the community (PGPL 1,2,3,4)
- 4. control of pain and anxiety, clinical pharmacology, and management of related problems, *including* prescribing practices and substance use disorders.[#] (PGPL 1,2,3,4)
- 5. the prevention and management of dental and medical emergencies (PGPL 1,2,3,4)
- 6. detection, diagnosis, risk assessment, prevention, and management of dental caries (PGPL 1,2,3,4)
- 7. diagnosis and restoration of defective teeth to form, function and esthetics (PGPL 1,2,3,4)
- 8. replacement of teeth including fixed, removable and dental implant prosthodontic therapies (PGPL 1,2,3,4)
- 9. diagnosis and management of periodontal disorders (PGPL 1,2,3,4)
- 10. prevention, diagnosis and management of pulpal and periradicular diseases (PGPL 1,2,3,4)
- 11. diagnosis and management of oral mucosal and osseous disorders (PGPL 1,2,3,4)
- 12. collecting and assessing diagnostic information to plan for and perform uncomplicated oral surgical procedures (PGPL 1,2,3,4)
- 13. recognizing and diagnosing malocclusion and space management needs (PGPL 1,2,3,4)
- 14. discerning and managing ethical issues and problems in dental practice (PGPL 1,2,3,4)
- 15. understanding and application of the appropriate codes, rules, laws and regulations that govern dental practice (PGPL 1,2,3,4)
- 16. behavioral patient management and interpersonal skills (PGPL 1,2,3,4)
- 17. understanding the fundamental elements of managing a dental practice (PGPL 1,2,3,4)
- 18. performing and supervising infection control procedures to prevent transmission of infectious diseases to patients, the dentist, the staff and dental laboratory technicians (PGPL 1,2,3,4)
- 19. providing evidence-based patient care in which they access, critically evaluate, and communicate scientific and lay literature, incorporating efficacious procedures with consideration of patient needs and preferences (PGPL 1,2,3,4)
- 20. recognizing the role of lifelong learning and self-assessment to maintain competency (PGPL 1,2,4) # Update approved by IUSD Faculty Council, October 2017

Each discipline defines, annually reviews and revises, as needed, the quantity and quality of experiences necessary to be eligible to challenge a summative assessment or clinical competency examinations. The IUSD Office of Academic Affairs meets with the discipline directors and key faculty to provide support in their review of the discipline assessments and oversees alignment with any updates or revisions the Standards.

Direct Measures

The assessments used to evaluate student competence are outlined in the IUSD Competency Manual, which serves to guide faculty and students in the preparation for, and evaluation of, student competence. Each clinical assessment is used as a direct measure of at least one IUSD Institutional Competency.

Students are tracked individually in their progress toward each of these competencies (student learning outcomes). Student preparation for and evaluation of competence occur as an integrated part of all aspects of the DDS program with multiple measures of student mastery of knowledge, skills, behaviors and attitudes.

Formative and summative assessments utilized in the program are summarized in Table 1.

Assessment Area	Formative Assessments	Summative Assessments		
Clinical Procedures	 Applied patient management activities Daily comp care clinical assessment Rotation clinical evaluations Lab examinations Objective structured clinical examination (OSCE) PICO questions (Patient/Problem, Intervention, Comparison, Outcome) Rounds presentations Written examinations 	 Case-based assignments Evidence-based literature critique Lab examinations OSCE Written examinations Clinical competency assessments 		
Problem Solving	 Applied patient management activities Daily comp care clinical evaluation Rotation clinical evaluation Lab examinations OSCE PICO questions Reflective writing, including ethics and behavioral sciences Rounds presentations Written examinations 	 Case-based exams Lab examinations OSCE Reflective writing Written Examinations Clinical competency assessments 		
Clinical Reasoning	 Applied patient management activities Daily comp care clinical evaluations Rotation clinical evaluations Lab examinations OSCE PICO questions Reflective writing Rounds presentations Written examinations Annotated Bibliography Assignments 	 Case-based exams Lab examinations Reflective writing Written Examinations Clinical competency assessments 		
Professionalism	 Applied patient management activities Clinical professionalism 360 evaluation Daily comp care clinical evaluations Rotation clinical evaluations Ethical sensitivity assessment OSCE Reflective writing Rounds presentations (ethical, clinical and behavioral rounds) Written examinations 	 Case-based exams OSCE Reflective writing Written examinations Clinical competency assessments 		

Ethical Decision- making	 Applied patient management activities Clinical professionalism 360 evaluation Daily comp care clinical evaluations Rotation clinical evaluation Ethical sensitivity assessment OSCE Reflective writing Rounds presentations (ethical, clinical and behavioral) Written examinations Annotated Bibliography Assignments 	 Case-based exams OSCE Reflective writing Written examinations Clinical competency assessments
Communication Skills	 Clinical professionalism 360 evaluation Daily comp care clinical grading Rotation clinical grading OSCE Reflective writing Rounds presentations Written examinations Annotated Bibliography Assignments 	 Clinical competency assessments Critical incident reports OSCE Reflective writing Written examinations

In dentistry, clinical assessments are authentic. Under the supervision of attending faculty, the student clinical experiences are similar to those required of a practicing general dentist. Students who are not successful on competency examinations and "capstone" experiences are remediated as needed, given additional opportunities to master the skills and before s/he attempts the assessment again. In addition to successful completion of the required courses in the curriculum, students are not eligible to graduate until they have demonstrated achievement for all 20 IUSD Institutional Competencies. Student outcomes for each of the 20 IUSD Institutional Competencies are continuously tracked and compiled annually for use by IUSD standing committees in planning and decision-making.

Indirect Measures

In conjunction with direct measures, indirect measures are used to evaluate student outcomes and programmatic effectiveness. Each DDS student completes a Senior Exit Survey for the American Dental Education Association and an IUSD Exit Survey at the end of the D4 year. These surveys provide information about student satisfaction with advising, the curriculum, their sense of preparedness to practice and job placement. Student Focus Groups collect student feedback on a broad range of issues, including unplanned curricular redundancy, applicability of content in courses and the effectiveness of new curricular components incorporated into the program. To provide the student perspective, every class (D1-D4) has one non-voting representative on the DDS Curriculum and Assessment Committee (CAC). A student-run, faculty attended Student Curriculum and Assessment Committee (SCAC) meets regularly and provides input directly to the CAC.

The data from direct and indirect measures are used in program development, benchmarking, and for curricular and advising assessment.

2017-18 EXAMPLES OF PROGRAM REVIEW AND IMPROVEMENTS

In September 2016, IUSD broke ground for the James J. Fritts, D.D.S. Clinical Care Center, a \$21.6 million building which will provide 45,000 square feet to house approximately 125 new clinical operatories.

The utilization of the areas in the new clinic space began in March 2018 and was fully operational in July 2018. The expansion space presents potential opportunities for change and innovation with the DDS curriculum and the learning environment to promote student learning outcomes.

❖ In 2014, an IUSD committee was appointed to determine the feasibility of developing a Community Based Dental Education (CBDE) program for dental students in their fourth year (D4), with the intent of developing a culturally competent oral health care workforce and fostering an appreciation for the value of community service. In the Summer semester of 2015, D4 students were given the opportunity to participate in a pilot program comprised of a 2-week elective rotation at a dental safety-net clinic. During that summer, 91 of 114 students participated, providing services in nine dental safety net clinics in Indiana. The dental students added 2,730 patient procedures to the safety net dental clinics during that summer elective. Based on CBDE Pilot I, modifications, including student selection for participation and preceptor resources, were made for CBDE Pilot II in the Summer semester of 2016.

A CBDE Steering Committee was established and a Student Credentialing and Verification Process was drafted. In A.Y. 2017-18, under the leadership of the Director of Community Based Dental Education, who joined the IUSD team in September 2017, a robust, immersive, community based dental education rotation for fourth-year dental students was launched in August 2018.

The purpose of the new Community Clinics Rotation Course is to provide D4 students with an immersive experience in a community-based dental clinic, providing access to oral health care for the underserved populations in the State of Indiana, which may include the medically compromised, patients with special needs, and the uninsured/underinsured. Students will have the opportunity to enhance their clinical skills while providing dental services to a diverse patient population under the supervision of community-based dental faculty, as well as the opportunity to work with dental auxiliary staff and other members of the community-based clinic.

In A.Y. 2018-19, each student in the class of 2019 will engage in one two-week rotation in either the Fall or Spring semesters at one of nine community clinic sites around Indiana. The course learning outcomes and an example of one assessment can be found in **Appendix A**.

This "capstone" experience during the D4 year maps to IUPUI PGPL 1, 2, 3 and 4; and to all the IUSD Institutional Competencies, with a focus on those relating to: professional role development, access to oral healthcare, clinical skills, working with dental auxiliary staff and other members of the dental clinic team, cultural competence, and knowledge of economic and regulatory issues. Students gain first-hand knowledge of the social, cultural, economic, and regulatory issues involved in providing oral health care to underserved populations of our state.

- ❖ In A.Y. 2014-15, the Curriculum and Assessment Committee (CAC) reviewed the clinical curriculum and recommendations (<u>Appendix B</u>) regarding the clinical experiences during the four years of the DDS program included the following:
 - 1. Maximize early patient experiences appropriate to the stage in dental school
 - 2. Integrate basic, social and clinical sciences
 - 3. Build upon experiences of the previous semester(s)
 - a. Year 2: Allow for integration of past experiences to impact the development of Comprehensive Treatment Planning skills
 - b. Year 3: Continue to advance Comprehensive Treatment Planning skills
 - c. Year 4: Enhance skills, refine efficiency and continue excellence.
 - o Implemented with the DDS class of 2019 in A.Y. 2017-18, the Department of Prosthodontics developed a sequence which divides the four years of prosthodontic experiences into three

phases: preclinical, discipline clinic (demonstrate competency) and comprehensive care clinic (maintain competency). Clinical assessments in Year 3 and Year 4, designated as "Prosthodontic Readiness Experience" and "Prosthodontic Assessment of Competency" portfolios, align with the preclinical assessments utilized in the Year 1 and Year 2. At the end of A.Y.2018-19, student outcomes for DDS class of 2019 will be reviewed. Assessments can be found in **Appendix C**.

The assessments map to IUPUI PGPL 1, 2, 3 and 4; and to IUSD Institutional Competencies 1, 2, 3, 7, 8, 14, 16, 19 and 20.

The additional clinical space for the DDS program resulted in discipline-based clinic models in the DDS Main Building to allow for more targeted student learning and a comprehensive care clinic model in the Fritts Building. Primarily implemented for the D3 students (Class of 2020), daily formative and summative student assessment in a discipline indicate a student's readiness to advance to the Fritts Building. Launched in A.Y. 2018-19, the Department of Cariology/Operative Dentistry/Dental Public Health developed a faculty calibration series to standardize faculty who supervise discipline-specific pre-competency and competency exams in all clinic location.

Cariology, Operative Dentistry and Dental Public Health

Caries Risk Assessment and Management Faculty Calibration

Session*	Date	Time	Room	Topic	Presenter
			Number	•	
1	SEP 11	12:00	115	Caries Detection and Diagnosis	Dr. Ando
	SEP 13	12:00	115	Caries Detection and Diagnosis	Dr. Ando
2	SEP 18	12:00	116	Caries Risk Assessment and axium forms	Dr. Soto
	SEP 20	12:00	115	Caries Risk Assessment and axium forms	Dr. Soto
3	TBD	12:00	TBD	Patient Management according to Caries Risk Status	Dr. Diefenderfer
	TBD	12:00	TBD	Patient Management according to Caries Risk Status	Dr. Diefenderfer
4	TBD	12:00	TBD	Caries Risk Assessment Laboratory	Dr. Soto Dr. Al Dehailan
	TBD	12:00	TBD	Caries Risk Assessment Laboratory	Dr. Soto Dr. Al Dehailan

^{*}Each topic will last approximately 45-50 min. To accommodate faculty schedules, each topic will be presented on two dates. Faculty should plan to attend one session for each topic.

Faculty from the Department of General Dentistry/Comprehensive Care are also invited to attend. All faculty attendees are asked to complete pre- and post-assessments.

❖ In 2013, an Academic Task Force was charged with reviewing the then current "megacourse" structure and determined that discipline-specific modules obscured student achievement. Based on discipline and content, the creation and implementation of independent *didactic* courses, primarily in the Year 1 and Year 2, were completed in A.Y. 2015-16. In A.Y. 2016-17, the IUSD Office of Academic Affairs continued the process of determining the discipline-specific *clinical* courses, primarily in the Year 3 and Year 4. Disciplines were separated into unique *clinical* courses in A.Y. 2017-18. This defined an opportunity to work more closely with the department chairs and their faculty to discuss expected student learning outcomes and a holistic review of the DDS Competency Manual.

As a result, the IUSD Continued Competency Assessment (CCA) program launched in A.Y. 2017-18. The goal of the CCA program is to develop a more integrated ongoing process of formative and summative assessment, measuring students' preparedness for the independent and unsupervised practice of general dentistry. The DDS courses, course-level assessments, and clinical

skills (competency) assessments are the foundation of the program, and provide baseline evidence of a student's competency. As students progress through the DDS curriculum, all assessment items from previous semesters are eligible to be incorporated into the formative and summative CCA processes. Formative measures of continued competency will consist of course-level challenge questions (CQ) administered at regular intervals, and summative measures of continued competency will consist of integrated objective structured clinical examinations (OSCE) consisting of course-level and clinical skills assessments.

In A.Y. 2018-19, the CCA Advisory Board and CCA Logistics Leads will develop a formal proposal which will indicate content leads, develop CCA CQ pool and OSCE stations and define the implementation of the plan.

❖ In A.Y. 2016-17, a CAC subcommittee on Prescribing Practices, Opioid Use and Substance Abuse was charged to review the current status in the curriculum and make recommendations for future directions to consider in the DDS program in anticipation of a revision to CODA Standard 2-23e:

At minimum, graduates must be competent in providing oral health care within the scope of general dentistry, as defined by the school, including:

e. local anesthesia, and pain and anxiety control, including consideration of the impact of prescribing practices and substance abuse.

The standard was approved for immediate implementation on August 4, 2017. In October 2017, the IUSD Faculty Council approved updating IUSD Institutional Competency number 4 to align with the CODA standard revision. The subcommittee reviewed the existing curriculum to establish DDS Program Goals and to identify potential opportunities for the topic to be introduced, practiced, and reinforced. The *Dental Education Core Competencies for Prevention and Management of Prescription Drug Misuse* (Massachusetts, February 2016) was made available to the faculty as a resource. In A.Y. 2018-19, a pilot program engaging a random cohort of fourth-year dental students (DDS '19) will be conducted to determine the feasibility of a case-based pharmacotherapeutics competency assessment in the D4 year.

The proposed D4 case-based pharmacotherapeutics competency assessment maps to IUPUI PGPL 1, 2, 3 and 4; and to IUSD Institutional Competencies 1, 2, 3, 4, 14, 15, 16, 19 and 20.

❖ From May 2017 to March 2018, Dean Williams appointed a Task Force on D.D.S. Admissions. The Task Force conducted a systematic review of admissions data from 2012-2017 and overviews of student progress. The Task Force commended the work of Admissions Committee for its efforts and diligence to define the criteria that supports student success and the institution's service to the health of the state of Indiana. Over 90% of the students who matriculate successfully complete the DDS program, the majority accomplishing this in four years.

To align with IUSD Teaching and Learning Goal which states "Attract and **support** a well prepared and diverse student population..." the task force recommended a more formalized student support system to promote student success through continued coordinated efforts by the IUSD Office of Academic Affairs; the Office of Admissions and Student Affairs; the Office of Diversity, Equity and Inclusion; and IUSD departments.

• On the program level, in accordance with CODA Standard 2-7, which states:

The dental school **must** have a curriculum management plan that ensures:

a. an ongoing curriculum review and evaluation process which includes input from faculty, students, administration and other appropriate sources;

- b. evaluation of all courses with respect to the defined competencies of the school to include student evaluation of instruction;
- c. elimination of unwarranted repetition, outdated material, and unnecessary material;
- d. incorporation of emerging information and achievement of appropriate sequencing.

The Curriculum Management Program supports this Standard with an ongoing process by the IUSD Curriculum and Assessment Committee.

In A.Y. 2015-16, IUSD established a four-year curriculum review plan that looks in detail at each course within a given semester and year for systematic, on-going program review. The program review schedule has been mapped out through 2024 and is outlined in **Table 2**.

In A.Y. 2017-18, the Year 2 (D2) Spring semester courses were reviewed in depth by CAC, including evaluation of syllabi and course content, course director comments, student assessment of courses, student focus groups and reports from the student CAC.

TABLE 2. Curriculum Management Program for the D.D.S. Program						
Semester	Portion of the Curriculum for Review	Special Reviews				
Fall 2015	Summer Session Year 1					
Spring 2016	Fall Semester of Year 1					
Fall 2016	Spring semester of Year 1/Summer Session Year 2					
Spring 2017	Fall Semester of Year 2					
Fall 2017	Spring semester of Year 2/Summer Session Year 3					
Spring 2018	Fall semester of Year 3					
Fall 2018	Spring semester of Year 3/Summer Session Year 4					
Spring 2019	Fall Semester of Year 4					
Fall 2019	Spring semester of Year 4	Evaluation of Recommendations and Action Plans Years 1-4				
Spring 2020	Summer Session Year 1					
Fall 2020	Fall Semester Year 1	Accreditation				
Spring 2021	Spring semester of Year 1/Summer Session Year 2					
Fall 2021	Fall Semester of Year 2					
Spring 2022	Spring semester of Year 2/Summer Session Year 3					
Fall 2022	Fall semester of Year 3					
Spring 2023	Spring semester of Year 3/Summer Session Year 4					
Fall 2023	Fall Semester of Year 4					
Spring 2024	Spring Semester Year 4					

PROGRAM OUTCOMES

One hundred six (106) students were admitted into the D1 year (Class of 2021) and began the D.D.S. program in A.Y. 2017-18. Of the original cohort of D1 students, 105 progressed to the D2 year.

- The Joint Commission on National Dental Examinations administers the National Board Dental Exam (NBDE) Part I and Part II to assess students' ability to understand, apply and synthesize basic biomedical and dental sciences in the practice of dentistry.
 - o 106 of 107 students (99.1%) enrolled in the D2 year (Class of 2020) passed NBDE Part I
 - o 105 of 106 students (99.1%) enrolled in the D4 year (Class of 2018) passed NBDE Part II

The graduation rate for students who completed the D.D.S. program is summarized below:

Doctor of Dental	Original	Original	Percentage of	Original	Total
Surgery Class	Class Size	matriculates who graduate in 4 years (August)	original matriculates who graduated in 4 years	matriculates who graduate in >4 years	percentage of original matriculates who complete the program
Class of 2017*	104	90	86.5%	6	92.3%
Class of 2018	104	98	94.2%	TBD	

^{*} Selected in 2012-13 admissions cycle. NOTE: Reorganization in the Office for Admissions and Student Affairs occurred in summer 2012

SUMMARY

The IUSD Institutional Competencies define what a competent graduate of the D.D.S. program will be able to do upon graduation. Multiple assessments are used to evaluate students across four years of the program and include the assessment of broad range of attributes, aligning with both the IUPUI Principles of Graduate and Professional Learning and CODA Standards for Dental Education Programs. Competency Assessment Exams serve as the final measurement of the defined set of knowledge, values and skills that have been developed through the formative daily feedback process.

IUSD processes provide for continuous evaluation of the unit, the program and the student, which result in ongoing improvements in student learning.

APPENDIX A

D4 Community Clinics Rotation Course

Learning Outcomes:

At the completion of the Community Based Clinics Rotation, students will be able to:

Professional Role Development

1. Discuss the impact the community based clinics rotation had on their development as a professional, including utilization of personal strengths and expertise in oral health as demonstrated by student self-evaluations and capstone essay project.

Access to Oral Health Care

- 1. Describe and discuss the social determinants of health, as demonstrated by completion of prerotation social determinants of health assignment.
- Describe their own observations about the impact of these determinants on the populations with whom they worked in the community-based setting, as demonstrated in their capstone essay project.

Enhancing Clinical Skills

- 1. Describe how inter-professional interactions between dentists and other health professionals facilitate correct treatment, appropriate medications, and optimal dental care, as demonstrated in their capstone essay project.
- 2. Demonstrate skill in working effectively with diverse populations in diverse settings, as demonstrated by student self-evaluations and community based-faculty evaluations.
- 3. Provide dental care with increasing confidence, efficiency, and independence including diagnosis, treatment planning, emergency care, and time management, as demonstrated by student self-evaluations and community based-faculty evaluations.
- 4. Demonstrate accurate self-evaluation skills that include recognizing procedures that are within and beyond their scope of care, as demonstrated by student self-evaluations and community based-faculty evaluations.
- 5. Demonstrate the ability to critically think and problem solve in order to adapt and respond appropriately to evolving clinical situations, as demonstrated by student self-evaluations and community based-faculty evaluations.

Dental Auxiliary and Dental Clinic Members

1. Demonstrate the ability to work effectively and respectfully as part of the oral health care delivery team in a community-based clinic, as demonstrated by student self-evaluations and community based-faculty evaluations.

Cultural Competence

- 1. Describe the sociocultural composition of the community in which the student will rotate, as demonstrated through pre-rotation assignments.
- 2. Discuss how multiple factors influencing culture may impact the delivery of oral health care to patients whose culture and values may be different from that of the student, as demonstrated in their capstone essay project.

3. Communicate effectively (verbal, nonverbal, written) in a multicultural practice environment, including patients and their families, the oral health team, and other members of the healthcare team and community, as demonstrated by student self-evaluations and community based-faculty evaluations.

Knowledge of Economic/Regulatory Issues

1. Evaluate the various models of oral health care management and delivery, as demonstrated in their capstone essay project and completion of their pre-rotation assignment on community clinics.

Capstone Project: After completion of the Community Based Clinics rotation, students will write a reflection paper approximately 9-10 paragraphs on what s/he gained from this experience.

- 1. Describe your overall experience during your community based clinics rotation by answering the following questions(2-3 paragraphs):
 - **a.** What was a typical day like for you on this rotation?
 - **b.** What were the challenges of providing dental care at this location for you as a student and how did you overcome those challenges?
 - c. How did other members of the oral healthcare team support you during your rotation?
 - **d.** How did this experience impact you as a professional?
 - e. Do you think you would consider a dental career in a community clinic after this experience and why/why not?
- 2. Choose a patient that you provided care for during your rotation and answer ALL of the following questions. **N/A or does not apply to this patient will not be accepted.
 - **a.** Without using protected health information (name, date of service, location of service, or specific age you may choose one of the following age ranges: 0-10 yrs. old; 10-20 yrs. old; 20-30 yrs. old; 30-40 yrs. old; 40-50 yrs. old; 50-60 yrs. old; 60-70 yrs. old; 70-80 yrs. old; 80 yrs. old and above), describe the patient and the care you provided by answering the following questions: (*1 paragraph*)
 - i. Was this a new patient or a patient of record?
 - ii. For how many visits did you see this patient and what care did you provide?
 - iii. Did the patient have any health issues that impacted your treatment decisions?
 - iv. Had this patient been receiving routine dental care throughout their life?
 - v. What did you enjoy about providing care to this patient?
 - vi. What did you find most challenging about providing care to this patient?
 - **b.** Which two social determinants of health had the most impact on your decision making process for this patient and explain why? (*I paragraph*)
 - c. How did you professionally manage cultural beliefs and values different from your own while this patient was under your care? (*I paragraph*)
 - *i.* In what ways did you succeed or do well in this situation?
 - ii. What personal characteristics helped you to manage this situation?
 - iii. What were the most challenging aspects of this situation?
 - iv. How did written, nonverbal, and verbal communication play a role in this situation?
 - **d.** Discuss one item from the Cultural Competence self-test you completed prior to your rotation that was important when communicating with this patient. What pre-score had you given yourself and did that score change after this experience? (*I paragraph*)
 - *i.* Explain why the score changed or stayed the same.

- **e.** Describe how inter-professional interactions between yourself and other health professionals (including your community-based faculty) factored specifically into the treatment planning and delivery of patient care.(*I paragraph*)
 - i. What other medical specialties did you interact with and why?
 - ii. Were electronic health records utilized and if so how were they important?
 - iii. How did your community based faculty assist with the care of this patient?
- f. The number one barrier to accessing oral health care is cost¹. Describe the elements of the community clinic that made this patient's care possible. (*1 paragraph*)
 - i. What fee structure or insurance made this patient's care possible?
 - *ii.* What differences are there between the community clinic where you rotated and a private practice in terms of payment options?
 - iii. What limitations are there to providing dental care at a community clinic?
 - iv. Would you refer a patient to a community clinic if they were otherwise unable to afford care?
- g. What impact did this specific patient have on your development as a professional? (1 paragraph)

The reflection paper must be submitted via REDCap by 12:00 PM (noon) on the Friday immediately following the completion of your Community Based Clinics Rotation

1. "Our dental care system is stuck," Vujicic, Marko. The Journal of the American Dental Association, Volume 149, Issue 3, 167-169

CBDE Capstone Essay Rubric adapted from DEAL Model for Critical Reflection (Ash and Clayton, 2009) by Professor Melinda Meadows 2018.

Instructions for Using this Rubric: The following rubric is intended to help you identify the characteristics of a well written response to the CBDE Capstone Project. These are the general guidelines that faculty will use to make decisions about the sufficiency and quality of your responses, the learning you identify from the experiences, and your reflection on the experiences.

Intended Learning Outcome			
Professional Role Development and Enhanced Clinical Skills	Needs Improvement	Satisfactory	Excellent
A. Relevance, Clarity and Precision	 Discussion not relevant to category Minimal or unclear connection between experience and learning Does not include specific examples, information, descriptions or data 	 Discussion somewhat relevant to category Some connection between experience and learning Usually, but not always include specific examples, information, descriptions or data 	 Discussion consistently relevant to category Connections between experience and learning are clear Consistently includes examples, information, descriptions or data
B. Depth and Breadth	 Oversimplifies when making connections Considers little of complexity of issues Includes minimal consideration to alternative points of view or interpretations 	 Seldom oversimplifies when making connections Considers some of the complexity of issues Gives some consideration to alternative points of view or interpretations 	 Avoids oversimplification when making connections Fully considers the complexity of issues Gives meaningful consideration to alternative points of view or interpretations
C. Writing and mechanics	Multiple typographical, spelling or grammatical errors	 Some typographical, spelling or grammatical errors 	 Almost no typographical, spelling or grammatical errors
Appreciating the Impact of Social Determinants of Health And Access to Oral Health Care	Needs Improvement	Satisfactory	Excellent
A. Relevance, Clarity and Precision	 Discussion not relevant to category Minimal or unclear connection between experience and learning Does not include specific 	 Discussion somewhat relevant to category Some connection between experience and learning Usually, but not always include specific examples, information, 	 Discussion consistently relevant to category Connections between experience and learning are clear Consistently includes examples, information, descriptions or data

	examples, information, descriptions or data	descriptions or data		
B. Depth and Breadth	 Oversimplifies when making connections Considers little of complexity of issues Includes minimal consideration to alternative points of view or interpretations 	 Seldom oversimplifies when making connections Considers some of the complexity of issues Gives some consideration to alternative points of view or interpretations 	 Avoids oversimplification when making connections Fully considers the complexity of issues Gives meaningful consideration to alternative points of view or interpretations 	
C. Writing and mechanics	 Multiple typographical, spelling or grammatical errors 	 Some typographical, spelling or grammatical errors 	 Almost no typographical, spelling or grammatical errors 	
3. Intra-professional and Inter- professional Collaboration and Communication Needs Improvement Needs Improvement		Satisfactory	Excellent	
Discussion not relevant to category Minimal or unclear connection between experience and learning Does not include specific examples, information, descriptions or data		 Discussion somewhat relevant to category Some connection between experience and learning Usually, but not always include specific examples, information, descriptions or data 	 Discussion consistently relevant to category Connections between experience and learning are clear Consistently includes examples, information, descriptions or data 	
B. Depth and Breadth Oversimplifies when making connections Considers little of complexity of issues Includes minimal consideration to alternative points of view or interpretations		 Seldom oversimplifies when making connections Considers some of the complexity of issues Gives some consideration to alternative points of view or interpretations 	 Avoids oversimplification when making connections Fully considers the complexity of issues Gives meaningful consideration to alternative points of view or interpretations 	
C. Writing and mechanics	 Multiple typographical, spelling or grammatical errors 	Some typographical, spelling or grammatical errors	 Almost no typographical, spelling or grammatical errors 	
4. Developing Cultural Competence	Needs Improvement	Satisfactory	Excellent	
A. Relevance, Clarity and Precision • Discussion not relevant to category • Minimal or unclear connection		 Discussion somewhat relevant to category Some connection between 	 Discussion consistently relevant to category Connections between experience and 	

	 between experience and learning Does not include specific examples, information, descriptions or data 	 experience and learning Usually, but not always include specific examples, information, descriptions or data 	learning are clearConsistently includes examples, information, descriptions or data
B. Depth and Breadth	 Oversimplifies when making connections Considers little of complexity of issues Includes minimal consideration to alternative points of view or interpretations 	 Seldom oversimplifies when making connections Considers some of the complexity of issues Gives some consideration to alternative points of view or interpretations 	 Avoids oversimplification when making connections Fully considers the complexity of issues Gives meaningful consideration to alternative points of view or interpretations
C. Writing and mechanics	 Multiple typographical, spelling or grammatical errors 	 Some typographical, spelling or grammatical errors 	 Almost no typographical, spelling or grammatical errors
5. Understanding Economic and Regulatory Issues in Models of Health Care Delivery and Funding	Needs Improvement	Satisfactory	Excellent
A. Relevance, Clarity and Precision	 Discussion not relevant to category Minimal or unclear connection between experience and learning Does not include specific examples, information, descriptions or data 	 Discussion somewhat relevant to category Some connection between experience and learning Usually, but not always include specific examples, information, descriptions or data 	 Discussion consistently relevant to category Connections between experience and learning are clear Consistently includes examples, information, descriptions or data
B. Depth and Breadth	 Oversimplifies when making connections Considers little of complexity of issues Includes minimal consideration to alternative points of view or interpretations 	 Seldom oversimplifies when making connections Considers some of the complexity of issues Gives some consideration to alternative points of view or interpretations 	 Avoids oversimplification when making connections Fully considers the complexity of issues Gives meaningful consideration to alternative points of view or interpretations
C. Writing and mechanics	Multiple typographical, spelling or grammatical errors	Some typographical, spelling or grammatical errors	Almost no typographical, spelling or grammatical errors

APPENDIX B

Clinical Experiences Subcommittee Report

SUMMARY Clinical Experience Subcommittee of CAC

In April 2014, the chair of the Curriculum and Assessment Committee, William Babler, appointed 3 members to an Early Clinic Subcommittee- Rick Jackson, Neil Pinney, Elizabeth Ramos. Student (class of 2016), Tim Treat was also designated to serve on the subcommittee.

The three key questions the subcommittee was asked to address:

- 1. What are the clinical expectations for students D1-D4?
- 2. How will clinical experiences be structures for the D1 and D2 classes?
- 3. When will the clinical experiences be scheduled for D1 and D2 students and by whom?

Meeting dates:

June	2,	2014
------	----	------

October 13, 2014 L. Willis shared D1 experience (D501 and D502 Intro to patient care)

D. Bennett shared D4 experience (concept of TEAM clinic to be implemented Jan 2015)

February 10, 2015 Discussed disciplines/areas for experiences

February-July 2015 Met with colleagues from disciplines to gather input regarding "roadmap" for potential

clinic experiences which integrate with didactic courses.

Based on the IUSD Class of 2012, 2013, and 2014 information, although the entire class did not report to Office of Student Affairs, the majority of the IUSD graduates enter general dentistry practice immediately after graduation; <10% may participate in a GPR or AEGD program; 10-15% may enter a specialty program.

- Due to the demands on the new graduate practitioner, should D4 year focus more on enhancing clinical skills, promoting efficiency while still upholding the standard of excellence?
- What should happen between D1 and D4 years?
- What experiences will prepare them for Comprehensive Treatment Planning in the D3 year and practice with minimal supervision in D4 year?

Adapted Miller's Pyramid (1990)

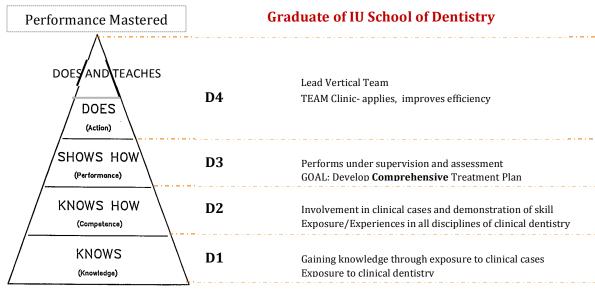


Figure 1. Framework for clinical assessment.

Volume 65 • Number 9 • SEPTEMBER SUPPLEMENT 1990

Miller GE. The assessment of clinical skills/competence/performance. Acad Med 1990; 65(9):S63-7

Documents Reviewed:

- 1. 2014-19 IUSD Strategic Plan
- 2. Specialist Faculty Input Question 2 for Strategic Plan(data obtained via email May 7-14, 2014)
- 3. Clinic Director Meeting Reviewing CCD- October 6, 2010
- 4. Accreditation Standards
- 5. Lanning SK, Wetzel AP, Baines MB, Byrne BE. Evaluation of a revised curriculum: a four-year qualitative study of student perception. *J Dent Educ* 2012; 76(10): 1323-1333.
 - VCU revised the curriculum from 2008-2011. Intent was to have D2 provide direct patient care, one barrier was patient retention and recruitment.

Themes which emerged from student survey:

- 1. Perceived readiness for direct patient care
- 2. Pace/organization seemed hectic, but necessary
- 3. Faculty were committed to student learning
- 4. Perceived lack of patients led to fewer clinical experiences
- 5. Some content seemed redundant and relevant to future practice

Subcommittee Recommendations to CAC: (see attached table)

- (1) Well-planned and well-sequenced
 - a. Maximize early patient experiences appropriate to the stage in dental school
 - b. Integrate basic, social and clinical sciences
 - c. Make each semester build upon experiences of the previous semester
- (2) Set clear expectations and communicate to students and faculty
 - a. Consider checklist of specific responsibilities and significance to their future clinical practice as a dentist (not just a student/grade)
- (3) For D2 year, consider a single course under which each discipline prepares/coordinates an appropriate rotation. The D2 student is assigned a specific date(s) for each rotation. As the IUSD structure currently stands exposure to many aspects of clinical dentistry to allow for integration of past experiences to impact the development of Comprehensive Treatment Planning skills.
- (4) For D3 year, the goal will be to develop Comprehensive Treatment Planning skills.
- (5) For D4 year, enhance skills, develop efficiencies continue excellence.

APPENDIX C

DDS Prosthodontic Program

Student 1	Name:	Student	#:

Prosthodontic Portfolio Folders will be provided for students at the beginning of each clinical session. At the end of the clinical session, please submit the portfolio folder to the DDS Prosthodontic Clinical Coordinator. For student and faculty assessments, please indicate if the procedural step is Acceptable (A), Marginal (M), or Unacceptable (U). If the prosthodontic faculty deem the procedural step as Unacceptable (U), the faculty is required to complete the Prosthodontic Portfolio Remediation Form, which is located in the DDS Prosthodontic Clinical Coordinator's Office. Please include all Prosthodontic Portfolio Remediation forms within the student's Prosthodontic Portfolio Folder. For the non-clinical/laboratory procedural steps**, students must use the corresponding axiUm portfolio form for FT Prosthodontic faculty approval/electronic signature. All steps must be approved sequentially.

Fixed Crown Procedural Steps	Patient Chart #	Tooth #	Procedural Date	Student Assessment (A, M, U)	Faculty Assessment (A, M, U)	Faculty Printed Name	Faculty Signature
Diagnosis and				(12) 112) 0)	(12) 1/2) 0)	1 (61116	
Treatment Plan							
Articulated casts							
Current Radiographs							
Tooth Preparation							
Anesthesia							
Caries/decalcification							
removal							
Taper/Undercut							
Occlusal/ Incisal							
reduction							
Axial alignment							
Finish line							
Adjacent tooth/soft tissue							
preservation							
Smoothness/Unsupported							
enamel							
Provisional							
Restoration							
Matrix fabrication							
Morphology/Contours/Fi							
nish							
Occlusal and proximal							
contacts							
Marginal adaptation							
Excess cement removal							
Impression							
Proper tray selection (no							
check-bite tray)							
Soft tissue management							
Impression technique							
Student evaluation of							
impression							
Laboratory						Faculty AxiUm Approval by:	
Authorization*							
Laboratory authorization						G	T 14 G! 4
Impression						Confirmed by (Faculty Signature):
Dies							
Articulated casts							

Continue onto the back page

Fixed Crown	Patient	Tooth	Procedural	Student	Faculty	Faculty	Faculty Signature
Procedural Steps	Chart #	#	Date	Assessment	Assessment	Printed	
				(A, M, U)	(A, M, U)	Name	
Restoration						Faculty AxiUm A	Approval by:
Evaluation*							
Restoration fit to						Confirmed by (E	'aculty Signature):
dies/casts						Commined by (F	acuity Signature):
Quality of							
restoration/Shade							
Restoration							
Placement							
Proximal and Occlusal							
contacts							
Marginal adaptation							
Retention & Stability							
Finish/Polish							
Excess cement removal							

*Non-clinical and/or laboratory steps: Requires FT Prosth Faculty approval within the corresponding axiUm Prosthodontic Portfolio Form. Students are required to obtain <u>faculty approval at least two days</u> prior to clinical appointment.

Final Completion:			
	FT Prosthodontic Faculty Printed Name	FT Prosthodontic Faculty Signature	Date

An "Unacceptable" assessment will result in the student participating in remediation. Students will not proceed with the portfolio until remediation is successfully completed. Please refer to DDS Prosthodontics Clinical Manual for the remediation protocol.

<u>Prosthodontic Assessment of Competency (PAC):</u> <u>Fixed Crown</u>

Student Name: Student #:

Prosthodontic Portfolio Folders will be provided for students at the beginning of each clinical session. At the end of the clinical session, please submit the portfolio folder to the DDS Prosthodontic Clinical Coordinator. For student and faculty assessments, please indicate if the procedural step is Acceptable (A), Marginal (M), or Unacceptable (U). If the prosthodontic faculty deem the procedural step as Unacceptable (U), the faculty is required to complete the Prosthodontic Portfolio Remediation Form, which is located in the DDS Prosthodontic Clinical Coordinator's Office. Please include all Prosthodontic Portfolio Remediation forms within the student's Prosthodontic Portfolio Folder. For the non-clinical/laboratory procedural steps**, students must use the corresponding axiUm portfolio form for FT Prosthodontic faculty approval/electronic signature. All steps must be approved sequentially.

Fixed Crown Procedural Steps	Patient Chart #	Tooth #	Procedural Date	Student Assessment (A, M, U)	Faculty Assessment (A, M, U)	Faculty Printed Name	Faculty Signature
Diagnosis and				(12) 112) 0)	(12) 1/2) 0)	1 (61116	
Treatment Plan							
Articulated casts							
Current Radiographs							
Tooth Preparation							
Anesthesia							
Caries/decalcification							
removal							
Taper/Undercut							
Occlusal/ Incisal							
reduction							
Axial alignment Finish line							
Adjacent tooth/soft tissue							
preservation							
Smoothness/Unsupported							
enamel							
Provisional							
Restoration							
Matrix fabrication							
Morphology/Contours/Fi							
nish							
Occlusal and proximal contacts							
Marginal adaptation							
Excess cement removal							
Impression							
Proper tray selection (no							
check-bite tray) Soft tissue management							
Impression technique							
Student evaluation of							
impression							
*						Faculty AxiUm	Approval by
Laboratory						Lacuity AMUIII	ripprovar by.
Authorization*							
Laboratory authorization						Confirmed by ((Faculty Signature):
Impression							, 0 /.
Dies							
Articulated casts							

Continue onto the back page		

Fixed Crown	Patient	Tooth	Procedural	Student	Faculty	Faculty	Faculty Signature
Procedural Steps	Chart #	#	Date	Assessment	Assessment	Printed	
				(A, M, U)	(A, M, U)	Name	
Restoration						Faculty AxiUm	Approval by:
Evaluation*							
Restoration fit to						Confirmed by (E	aculty Signature):
dies/casts						Commined by (F	acuity Signature):
Quality of							
restoration/Shade							
Restoration							
Placement							
Proximal and Occlusal							
contacts							
Marginal adaptation							
Retention & Stability							
Finish/Polish							
Excess cement removal							

*Non-clinical and/or laboratory steps: Requires FT Prosth Faculty approval within the corresponding axiUm Prosthodontic Portfolio Form. Students are required to obtain <u>faculty approval at least two days</u> prior to clinical appointment.

Final Completion:			
	FT Prosthodontic Faculty Printed Name	FT Prosthodontic Faculty Signature	Date

An "Unacceptable" assessment will result in the student participating in remediation. Students will not proceed with the portfolio until remediation is successfully completed. Please refer to DDS Prosthodontics Clinical Manual for the remediation protocol.

Prosthodontic Portfolio Remediation Form

Student Name:		Patient Chart #:		
Check Portfolio Type:				
□ PREP - Fixed Crown	□ PREP - Removable Partial Denture	□ PREP - Complete Denture		
□ PAC Portfolio - Fixed Crown	□ PAC Portfolio - Removable Partial Denture	□ PAC Portfolio - Complete Denture		
Faculty Comments: (Required for	Unacceptable (U) Assessment)			
E	Dut			
Faculty #1 Signature:				
Faculty #2 Signature: Date:				
*Place Remediation Form in student	's Prosthodontic Portfolio Folder and submit to the DDS	S Prosthodontic Clinical Coordinator.		
Remediation Protocol : (Complete	ted by a Prosthodontic Discipline Division Director)		
Protocol:				
Expected Completion Date:				
Student Signature:		Date:		
Prosthodontic Discipline Divisio	on Director Signature:	Date:		
*********	************	**********		
Remediation Complete				
Prosthodontic Discipline Divisio	on Director Signature:	Date:		
 Student approved to con 	tinue with procedural step:			