

Annual Report for Assessment of Outcomes 2012-13

Subject Area Committee Name: [Dental Hygiene](#)

Contact person: [Nancy Pilgrim](#)

For LDC/DE: Core outcome(s) assessed: _____

For CTE: Degree or certificate* assessed: [#5 Professional Competence](#)

*please attach a table showing the alignment of the degree or certificate outcomes with the College Core Outcomes

Please address the questions below and send to learningassessment@pcc.edu by **June 21, 2013** with Annual Report in the subject line

Note: Information provided in this report may be inserted into or summarized in Section 2C Program Review Outline.

1. Describe changes that have been implemented towards improving students' attainment of outcomes that resulted from recent outcome assessments. These may include but are not limited to changes to content, materials, instruction, pedagogy etc. Please be sure to **describe the connection** between the assessment results and the changes made. *One of last year's assessments reviewed was the DH 106 Table Clinic. Although there were no recommended changes to improve student learning, Additional feedback from 2nd year students in their professional portfolios emphasized the success of this specific activity and the way it was structured. Also, feedback from this year's Advisory Board and 2nd yr student indicated that the level of performance of the 1st year students during this presentation was exceeded and highly impressive, indicating that this assessment is accurately structured for the desired outcome.*

For each outcome assessed this year:

2. Describe the assessment design (tool and processes) used. Include relevant information about:
 - The nature of the assessment (e.g., written work, project, portfolio, exam, survey, performance etc.) and if it is direct (assesses evidence mastery of outcomes) or indirect (student's perception of mastery). Please give rationale for indirect assessments (direct assessments are preferable).
This assessment tool was a 'mock board' examination, designed and executed in the fashion to replicate or simulate the 'real world' examination students will need to pass to obtain their licensure. It is a direct performance assessment which determined the student's mastery of their professional outcome of the skill of appropriately delivering local anesthesia to a patient.
 - The student sample assessed (including sample size relative to the targeted student population for the assessment activity) process and rationale for selection of the student sample. Why was this group of students and/or courses chosen? *The student sample included all twenty (20) 2nd-year dental hygiene students, who are on schedule to graduate from the program June 2013. This group was chosen because their formal instruction had concluded the previous term, they have had time to "practice" with supervision on real clinical patients, their formal board exam was scheduled within the following month and the results of this exam would allow time for immediate remediation to prepare them for the board.*
 - Any rubrics, checklists, surveys or other tools that were used to evaluate the student work. (Please include with your report – OK to include in appendix). Where appropriate, identify benchmarks.
Please see attached.

- How you analyzed results, including steps taken to ensure that results are reliable (consistent from one evaluator to another). *The raw data was compiled by six (6) different faculty members who in pairs, observed the students perform and then graded each student. This process included 1) two instructors observing the student perform, 2) private discussion after the demonstration and 3) both instructors had to agree upon the errors and what was observed in order to score the student's performance. The statistical data was derived from the summary of all student performance sheets.*
3. Provide information about the results (i.e., what did you learn about how well students are meeting the outcomes)?
- If scored (e.g., if a rubric or other scaled tool is used), please report the data, and relate to any appropriate benchmarks. *The information was compiled on two separate spreadsheets that gave us indicators for success/failure rates, most prominent areas of errors made, as well as general comments about performance which indicated more information about performance.*
 - Results should be broken down in a way that is meaningful and useful for making improvements to teaching/learning. Please show those specific results. *Results from this evaluation indicated the following:*
 - Posterior Superior Alveolar Injection (PSA)
 - 50% pass rate, first attempt
 - Add'l 15% pass rate after second attempt
 - Total 65% pass rate with 35% failure rate
 - 30% of all errors occurred from final angulation not at 45 degrees to midline
 - Additional 30% of all errors were due to angulation to occlusal plane and shallow depth of injection
 - Inferior Alveolar Injection (IA)
 - 55% pass rate, first attempt
 - Add'l 30% pass rate after second attempt
 - Total 85% pass rate with 15% failure rate
 - 30% of all errors occurred due to barrel of syringe positioned too far mesially (over canine and not over premolars)
 - Additional 18% of all errors were due to shallow depth of injection

This data was extremely helpful because it shows us where our students were stronger and weaker in their learning. This allowed us to evaluate and strategize ways in which we can teach students, re-word explanations, descriptions and expectations. In addition, it is an excellent tool in which we can calibrate all faculty on their teaching and assessment styles for future student benefit and professional development and satisfaction.
4. Identify any changes that should, as a result of this assessment, be implemented to help improve students' attainment of outcomes. (These may include, but are not limited to, changes in curriculum, content, materials, instruction, pedagogy etc). *The changes implemented as a result of this assessment were put into place immediately as part of the student remediation that took place immediately following this board, so that students would be prepared to successfully pass the "real" board exam within the month. These changes were:*

- PSA
 - *Discussion with faculty and the development of new rewording of the description and explanation of the final angulation(s) required during the performance of this injection, so that students would more clearly understand the outcome desired for passing the board.*
 - *Immediate application of new wording during student remediation*
 - IA
 - *Discussion with faculty and the development of new rewording of the description and explanation of the correct positioning of the barrel of the syringe required during the performance of this injection, so that students would more clearly understand the outcome desired for passing the board.*
 - *Immediate application of new wording during student remediation*
5. Reflect on the effectiveness of this assessment tool and assessment process. Please describe any changes to assessment methodology that would lead to more meaningful results if this assessment were to be repeated (or adapted to another outcome). Is there a different kind of assessment tool or process that the SAC would like to use for this outcome in the future? If the assessment tool and processes does not need to be revised, please indicate this. *The effectiveness of this assessment was valuable for student learning outcomes, faculty calibration and statistical data that supports the continued use of mock board exams. We were able to immediately apply the changes indicated by this year's assessment and upon the "real" board examination, our students had a 100% pass rate and all students achieved their professional licensure endorsement of local anesthesia administration! This result indicates that our evaluation of students learning was accurate and the implementation of changes to this assessment was exactly what the students needed in order to achieve their- degree and course outcomes.*

IA DATA

Passed 1st	11	55%
Passed 2nd	6	30%
Failed 2nd +	3	15%

74% of all errors

Errors Made/Student #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total Errors	% of Total Errors
Window (cartidge) visible						1	1														2	9%
Improper needle recapping and/or disposal																				1	1	4%
3 Unsuccessful attempts to penetrate	1,2,3																				3	13%
Too inferior							1					1	1								3	13%
Too lateral		1										1									2	9%
Barrel too mesial		1			1,2	1					1	1	1								7	30%
Angle too high						1															1	4%
Too shallow							1	1				1,2									4	18%
Comments:	<p>2nd Attempt: student unclear on basic anatomy; 3rd attempt: 3-4 mm into cheek; stopped student</p> <p>2nd IA much better</p> <p>Tray a bit cluttered, wait for instruction from WREB examiner to "proceed," etc.</p> <p>For rotation, syringe was moved only. slow down deposit rate</p> <p>#1 Didn't recog pos aspiration until very "late." #2 recog +, could you have repositioned? Gauze in the way?</p> <p>#1 not over premolars, angle not parallel, watch big window pointing at you. Have pt use left hand, don't rest hand on pt's hand.</p> <p>#1 Incorrect readjustment, no max depth & angle verbalized before aspiration, speak louder, Positive aspiration. #2 Better injection, used index finger, patient positioning questionable.</p> <p>Slow down, show examiners that she is over the premolars</p> <p>A bit low on penetration</p> <p>No verbalization of max depth & angle, wait for 2nd examiner to say "Proceed" before depositing, placed topical before instructor, made correct decision to restart</p> <p>#1 Watch bar code on cartidges! Were you depositing? Started over premolars but when depositing you were between lateral/canine. #2 much better angle. Wait for examiners to give you the go-ahead to proceed.</p> <p>#2 Rec to start over, repositioning didn't get you adequate depth, but acceptable.</p> <p>#1 over lateral/canine at start & end. Were you a bit low?, physical movement of aspiration? Thumb straight. #2 much better.</p> <p>Drippy needle! Have the mirror on tray.</p> <p>Don't go any higher for penetration site.</p> <p>Good job--watch withdrawal on aspirating, watch idling</p> <p>Watch to make sure over premolars, almost too deep (resistance?). Sharps container handled with contaminated gloves.</p> <p>Try to have light farther back (to accommodate examiners' heads), adjust light between injections.</p> <p>Make sure you are over premolars.</p> <p>#1 Light on site not available, needed prompting, was not over premolars, too high on entry to mouth.#2 Pt disqualified due to petecccia.</p>																				23	100%

PSA DATA

Passed 1st	10	50%
Passed 2nd	3	15%
Failed 2nd	7	35%

86% of all Errors

Errors Made/Student #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total Errors	% of Total
Aspirates effectively, manages "+"																	1,2		1		3	8%
Controls "bowing," withdraws w/o tissue injury																	1,2	1			4	9%
Maintains safe rate of delivery (fast/slow)					1																1	2%
Air pocket more than stopper width																			1,2		2	4%
Too Anterior	1,2																				2	4%
Too Posterior							2														1	2%
Not in mucobuccal fold		1	1,2				1														4	9%
Needle not at 45 degrees toward midline	1,2	1,2	1,2			1,2	2										1,2		1,2		13	30%
Needle not at 45 degree angle to occlusal plane	1,2		1,2			1	1		1												7	15%
Too Shallow	1,2	1					1			1									1,2		7	15%
Too deep		2																			1	2%
Comments:	<p>3rd attempt: 3-4 mm into cheek; stopped student</p> <p>Thumb in way, went straight in, no 2nd/3rd angle</p> <p>#1 final depth angle: slow rate of withdrawal, #2 incorrect site, too much in buccal, bring arm over pt's chest</p> <p>Adjust light on PSA, be sure to penetrate on initial penetration</p> <p>#1 Gauze in way, don't wait too long to decid3e if + (3sec?), Don't let patient wear red clothing or lipstick, too much patient talking, 2nd angle on PSA. #2 thumb in mouth</p> <p>#1 thumb in mouth? Thumb did not appear secure w/thumbring. 1st angle was about 30 degrees, not 45. #2-1st angle better but did not achieve 2nd angle; it appeared to</p> <p>#1. Speak louder, #2 didn't see 2nd or 3rd angle, just went back</p> <p>Slow down, spend a little more time on the 1st angle.</p> <p>#1 final angle was less than 45 degrees</p> <p>#1 Bent Needle, #2 Not smooth, jerky 3 angles, eventually reached max depth & angle.</p> <p>Watch retraction finger.</p> <p>Moved angles after she was at max depth. Needs to watch this.</p> <p><none></p> <p>Drippy needle! Have the mirror on tray.</p> <p>Last 45 degree angle a bit steep and slight bowing of the needle.</p> <p>Sit square in chair, arm almost touched back of operator chair. Watch rotation, either do it or don't.</p> <p>#2 thumb in mouth, try index finger, bent needle to start with, second angle not adequate (25-30 degrees, not 45). Sharps container handled with contaminated gloves</p> <p>Try to have light farther back (to accommodate examiners' heads), adjust light between injections. Watch finger, adjust it if you need too to allow for appropriate final angle.</p> <p>#1 Angles were attempted but didn't appear needle was progressing with insertion, bowing of needle (because not advancing needle), large bubble in carpule. #2 Difficult time</p> <p><none></p>																				45	100%

Anesthesia Competency Evaluation

The areas checked below were not performed at a passing level for the reasons noted. Each aspect of the injection is classified as "critical" or "less critical". The areas marked with an * are considered critical errors, and are reasons for failure. Errors marked with a ~ are not reasons for failure, but as less critical errors, are areas that also need improvement. Three less critical errors will result in failure of that injection. Comments must be provided for any error marked.

Basic Injection Technique

IA PSA

IA PSA

Syringe Management and Safety		Basic Injection Technique	
Syringe Preparation	~ Correct armamentarium		Adequate access, retraction, light
	~ Harpoon engaged		Dries site, adequate topical (one min)
	Correct needle gauge and length		Adequate fulcrum, stability
	Correct bevel orientation		Announces "Penetration/Depth/Angle/Aspirating"
Syringe Handling	* Window (cartridge) visible		Advances syringe slowly (fast slow)
	Grasp and ergonomics		* Maintains safe rate of delivery (fast slow)
	* Maintains asepsis at all times		* Delivers too much anesthetic before aspiration
	* Maintains needle safety at all times		* Aspirates effectively, manages "positive"
	* Improper needle re-capping and/or disposal		* Controls "bowing," withdraws w/o tissue injury
	~ Syringe managed out of patient view	Self-Evaluates	Adjusts technique as needed

Inferior Alveolar NB

1st: Right Left 2nd: Right Left

Posterior Superior Alveolar NB

1st: Right Left 2nd: Right Left

Patient Assessment and Drug Selection		Patient Assessment and Drug Selection	
	* Patient Evaluation - Contraindication		* Patient Evaluation - Contraindication
	* Anesthetic inappropriate		* Anesthetic inappropriate
	Syringe incorrectly assembled		Syringe incorrectly assembled
	~ Air pocket more than stopper width		~ Air pocket more than stopper width
Penetration Site *		Penetration Site *	
	Contaminated needle		Contaminated needle
	Three unsuccessful attempts to penetrate		Three unsuccessful attempts to penetrate
	Too superior		Too anterior
	Too inferior		Too posterior
	Too medial		Not in mucobuccal fold
	Too lateral		
Depth & Angle *		Depth & Angle *	
	Barrel too distal		Needle not at 45° toward midline
	Barrel too mesial		Needle not at 45° angle to the occlusal plane
	Angle too high		Too shallow
	Angle too low		Too deep
	Too shallow		
	Too deep		
	1st PASS FAIL		1st PASS FAIL
	2nd PASS FAIL		2nd PASS FAIL

Suggestions for Improvement:

Examiners:

Date:

Name:

CTE Assessment Plan

AAS: Dental Hygiene

Submit to learningassessment@pcc.edu by November 15, 2010

1. Outcome	2. Maps to a Core Outcome?	3. Assessment Setting/Method	4. When will assessment take place ?
<p>Communicate effectively with patients, peers, the public and other healthcare professionals using verbal, non-verbal and written language with clarity, coherence and purpose.</p>	<p>Communication</p>	<p><u>Assessment Setting:</u> Lecture</p> <p><u>Method:</u> Formal Research Paper, Table Clinic and Oral Presentation: Students research and submit a written report on a Patient Special Need Topic. They then develop a table clinic on the topic and present the table clinic to the advisory committee members and other Oral Health Professionals Spring Term. All three methods are evaluated using a grading rubric.</p>	<p><u>Spring Term:</u> DH 103</p>
<p>Apply scientific research methods to support evidence based treatment modalities with specific concern for oral health and overall health.</p>	<p>Critical Thinking & Problem Solving, Professional Competence.</p>	<p><u>Assessment Setting:</u> Lecture, Clinical</p> <p><u>Method:</u> Evaluation of a Research Article: Students choose a research article on an oral health topic and evaluate the validity of the article findings as well as the research components used in the studies. A written report is submitted and evaluated by utilizing a grading rubric.</p> <p>Periodontal Patient Management Case: Students utilize the Dental Hygiene Process of Care for a Periodontal Patient with formative review throughout the process and summative review at the end utilizing a grading rubric.</p>	<p><u>Winter:</u> DH 250 (research article) <u>Spring:</u> DH 206 (Perio Patient Case)</p>
<p>Identify problems, investigate and use appropriate methods of reasoning, and develop creative and practical solutions to personal, professional and community issues regarding the delivery of oral health care.</p>	<p>Critical Thinking & Problem Solving.</p>	<p><u>Assessment Setting:</u> Lecture</p> <p><u>Method:</u> Community Oral Health Service Learning Project: Students Develop and Implement a community oral health service learning project and evaluate the success of the project. The Project is</p>	<p><u>Winter:</u> DH252 (Development of Project) <u>Spring:</u> DH 253 (Implementation and evaluation)</p>

		assessed through a grading rubric.	of Project)
Understand and identify personal and public overgeneralizations and stereotyping and how these attitudes affect oral health beliefs and issues that arise from differences, while providing appropriate and effective care to diverse client populations in an increasing global marketplace.	Cultural Awareness,	<p><u>Assessment Setting:</u> Lecture, Clinical</p> <p><u>Method:</u> Students complete five “Cultural Communications in Health Care” Learning Modules online and submit quizzes at the end of each module. Quizzes must be passed with 75% accuracy.</p> <p>Special Needs Patient Care Case: Students treat a client in clinic who presents with special considerations. A care plan is developed; treatment delivered and evaluated and a self-assessment is performed at completion. Formative evaluation occurs throughout the process. Summative assessment occurs at the project completion utilizing a grading rubric.</p>	<p><u>Fall:</u> 121, 101, 201, 208</p> <p><u>Winter:</u> DH 252</p> <p><u>Spring:</u> 106</p>
Competently assess, plan, implement and evaluate individual and/or community needs related to oral disease prevention and therapy in an ever-changing healthcare environment	Professional Competence.	<p><u>Assessment Setting:</u> Clinical</p> <p><u>Method:</u> Mock Board Clinical Testing: Students complete a clinical case utilizing WREB Board Testing Guidelines prior to their Board Testing in June. Evaluation is done by three independent examiners and mirrors WREB Board Exam Procedures. Students must achieve 75% accuracy or repeat until successful prior to graduation.</p>	<u>Spring:</u> DH 206
Enhance knowledge as a life-long learner in healthcare by seeking peer support in professional associations, fulfilling continuing education and exploring career and educational advancements	Professional Competence	<p><u>Assessment Setting:</u> Off Campus Professional Association Attendance</p> <p><u>Method:</u> Students attend continuing education courses and professional association meetings throughout their two year training. Assessment occurs through written reflection of each activity and attendance log which is included in their</p>	<u>Spring:</u> 203

		academic portfolio and then evaluated with the Academic Portfolio Rubric.	
Advocate for oral health and overall health for patients/communities by linking them with the appropriate resources and human services for individual needs and practice ethically within the scope of practice for dental hygienists as regulated by the State Dental Licensing Board.	Community & Environmental Resp., Cultural Awareness.	<p><u>Assessment Setting:</u> Off-Campus Rotations</p> <p><u>Method:</u> Service Learning Activities: Students participate in service learning activities providing care in public health rotation sites such as Boys and Girls Club, Russell Street HIV Clinic and the Veteran's Hospital. Assessment occurs through student self-reflection journals and off-site supervisor evaluations.</p>	<u>Spring:</u> DH 253
Fulfill characteristics of a desired employee by demonstrating skills, teamwork, collaboration, respect, efficiency, and customer/patient service.	Communication, Critical Thinking & Problem Solving, Cultural Awareness, Professional Competence.	<p><u>Assessment Setting:</u> Clinical</p> <p><u>Method:</u> Clinic Manager Assignments: Students are responsible for Managing the Clinic and Front Office. Assessments occur through Process Evaluations with point values assigned for performance.</p>	<u>Spring:</u> DH 206
Examine and self assess one's own academic skill, professional competence and personal beliefs as they impact self and others to grow personally and professionally.	Self-Reflection.	<p><u>Assessment Setting:</u> Lecture</p> <p><u>Method:</u> Academic Portfolio: Students develop a portfolio representative of their accomplishments over the two years of training. Assessment occurs utilizing a grading rubric.</p>	<u>Spring:</u> DH 206

5. For Programs that are beneficiaries of Perkins funding: Identify assessments that will comprise the TSA.

Western Regional Exam Board: Local Anesthesia, DH Clinical

American Dental Association Dental Hygiene National Board