

Annual Report for Assessment of Outcomes 2012-13

Subject Area Committee Name: Medical Imaging - Radiography

Contact person: Dawn Coakes/Virginia Vanderford

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

For CTE: Degree or certificate* assessed: _____

*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.

A clearly defined rubric was created for the Clinical Coordinator to evaluate verbal and non-verbal skills during film critiques and case study presentations in the clinical environment. We were formerly more interested in solely content, but have revised the assessment to include student's ability to professionally and competently present the material as faculty have felt the students were not challenged enough in this area. This is referenced in our Annual Report for Assessment of Outcomes 2010-2011 in which the outcome details "Uses effective written and oral communication skills in educational and clinical settings". We also wanted to be able to consistently measure how the students performed with their verbal/nonverbal skills and thus the rubric was created. Students were notified immediately prior to presenting that they would be evaluated on their verbal/nonverbal/content presentation skills, that it would not affect their grade for the course, but no details about the rubric were shared further.

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).
Film Critiques are a more basic interpretation of film quality and occur during terms two, three and four of our first-year student's academic year whereas Case Studies are more advanced and follow a patient throughout imaging at the clinic site, and occur during terms five, six and seven of our second-year student's academic year. Both sets of presentations are given in front of their student peers, the clinical coordinator and occasionally the clinical instructor.
 - 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 entire rosters of first and second year students enrolled in the Radiography Program were assessed for two terms. This includes 28 first year students and 27 second year students. All terms where the students present either a film critique or case study in clinic were chosen in order to collect enough data to compare results.

- 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.

The oral presentation rubric used for assessing the student’s verbal/nonverbal/content skills in the clinical environment is shown below.

Nonverbal Skills				
Criteria	4	3	2	1
Eye Contact & Posture	Constantly scanning audience, stands up straight	Occasionally looks at some people, sometimes stands straight	Focuses on one part of the group, will infrequently stand straight	Does not look at audience, slouches
Facial Expressions	Appropriate and gives the audience clues about content	Occasionally displays some during presentation	Shows conflicting expression	Shows none
Gestures	Natural hand gestures			None
Visual/ Communication Aids	Aids presentation and keeps interest	Thoughts are clear, but not engaging, missing some content	Few items; those present add nothing to presentation	No items or poor, distracts audience
Enthusiasm	Demonstrates a strong positive feeling about topic	Occasionally shows positive feelings about topic	Shows some negativity toward topic	Shows no interest in topic presented
Verbal Skills				
Criteria	4	3	2	1
Speaks Clearly	Speaks clearly and distinctly all of the time	Speaks clearly and distinctly most of the time	Speaks clearly and distinctly less than 1/2 the time	Mumbles and cannot be understood
Volume	Volume is loud enough to be heard by all students	Volume is erratic, may not be loud enough	Volume is mostly quiet, but will speak louder if asked	Volume too soft to be heard by most students in room
Well planned & Coherent	Organized and the interest level of the audience is maintained	Thoughts articulated but does not engage audience	Thoughts do not flow	Mumbles, audience has difficulty hearing, confusing
Content				
Criteria	4	3	2	1
Comprehension	Student shows full understanding of topic	Shows good understanding of topic, may have a few areas that are vague	Shows moderate understanding of topic and leaves a couple areas unclear	Shows only partial understanding of the topic and leaves several areas unclear
In-Depth Coverage/ Thoroughness	Thoroughly explained all points	Some points glossed over	Majority of points glossed over, one or two points not covered	Several points completely left out or not covered

Information Relevant, Coherent and Appropriate	Relevant, appropriate, and integrated properly	Some research, but not enough	Not appropriate or irrelevant	Not clearly stated
HIPAA Compliance	All patient identifiers completely removed			Patient identifiers still present
Ability to respond to questions	Fully able to answer questions without reference, expands discussion	Able to answer most of the questions asked, may have to reference a question	Unable to answer one or more question without reference	Unable to answer any questions with or without reference

- How you analyzed results, including steps taken to ensure that results are reliable (consistent from one evaluator to another).

Each student was evaluated at the time of their presentation in clinic by the clinical coordinator and input into a spreadsheet that clearly outlines the verbal/nonverbal/content sections worth 20/12/20 points respectively earned for each student by term. The Oral Presentation Results spreadsheet is attached with this document. Results were analyzed by the program director and the clinical coordinator. It should be noted that the short timeframe in which the SAC assessment project was utilized led to a limited amount of data collected. Any student scoring below a 44 out of the possible 52 (85%) points per evaluation is highlighted in yellow.

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.

In general, both first year students and second year students' scores increased between the two terms, and the total score increase between the two classes was noted. Averages for first year students, term 2 = 49.3/52 (94.8%) and term 3 = 50.7/52 (97.5%). The total for first years is 92.8/104 (89.2%), however, there were four students in term 3 who were not able to orally present their film critiques and subsequently are not evaluated (scores of 0) which has slightly skewed the total result number. Averages for the second years, term 6 = 49.0/52 (94.2%) and term 7 = 50.3/52 (95.5%) for a total of 99.3/104 (95.5%).

The ARRT accrediting agency has a minimum benchmark of 75%, however, our program consistently expects students to perform at 85% or better and that is how this projects benchmark was determined.

- Results should be broken down in a way that is meaningful and useful for making improvements to teaching/learning. Please show those specific results.

As mentioned above, individual students achieving below 44/52 (85% benchmark) were identified and monitored between terms to see if their scores improved or declined. Of the first year students, five students scored 44 or below; all but one improved their score during term three and one student, who was above benchmark during term two, subsequently fell below 85% during term 3.

With the second year students, only two showed scores less than benchmark during term six and both improved above 85% during term seven; one student declined from above benchmark to below during the two terms.

Reasons for performance under the benchmark were identified as any of the following: underprepared causing the student to reading from the paper rather than presenting information from memory and also missing content, being nervous around their peers causing distracting habits (gum chewing, hair twirling, excessive "um's", and so forth), as

well as not being familiar with the assignment and required criteria. Reasons for improving performance skills could be gaining confidence and familiarity with the assignment, and feeling more comfortable in the environment.

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).

5.

At this point in our assessment (only two terms of observation) it is still too early to extrapolate consistent data and analyze for necessary changes. The short timeframe allowed for a vastly limited discussion with the students about the rubric and what they were being assessed on. This will be amended Fall term 2013 when more discussion time is available when preparing the student for their film critiques and case study presentations in clinic. Once more data has been gathered, we will look at what we can do to help students with their next presentation, especially in the verbal and nonverbal aspects.

6. 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.

While the oral presentation rubric does not need to be revised, more time to assess data from year to year, detailing expectations, discussing results and coaching anyone achieving less than our benchmark are the dominant areas to improve effectiveness of this project.

Radiography Program Goals and Outcomes as Approved by Degrees & Certificates Committee - 2012	PCC Core Outcomes
<p>Program Goal: Students will be clinically competent</p> <ul style="list-style-type: none"> • Will be successfully prepared to take the national certification examination (ARRT) • Provide appropriate care that ensures the safety, comfort and on-going assessment/response to the patient's condition. • Demonstrate adherence to professional ethics and standards. 	<ul style="list-style-type: none"> • Professional Competence • Professional Competence and Self-reflection
<p>Program Goal: Students will demonstrate communication skills</p> <ul style="list-style-type: none"> • Use effective oral and written communication skill in educational and clinical settings. 	<ul style="list-style-type: none"> • Communication
<p>Program Goal: Students will develop critical thinking skills</p> <ul style="list-style-type: none"> • Apply problem-solving skills in the clinical setting 	<ul style="list-style-type: none"> • Critical Thinking
<p>Program Goal: Students will model professionalism</p> <ul style="list-style-type: none"> • Use an understanding of cultural and ethnic differences to reduce the barriers and misunderstandings which may impact providing competent patient care. • Apply/adhere to radiation protection standards. Maintain safety practices for the community, coworkers and self. 	<ul style="list-style-type: none"> • Cultural awareness • Community and Environmental Responsibility

Outcome	Map to Core Outcome	Setting/Method	Benchmark	Outcomes
Uses effective written and oral communication skills in educational and clinical settings	CO 1 - Communication	<p><u>Classroom: RAD 209</u> Advanced Radiographic Procedures – 2nd Year Course</p> <p>Writing Skills: <u>Method/s: Student Portfolio</u> Rubric used for grading consistency on student papers. Students submit papers on topics approved by instructor and which pertain to unit topics.</p> <p><u>Clinical: Hospital Affiliates</u></p> <p>Oral Skills: <u>Method/s: End of Term Clinical Assessment from Clinical Instructors (8th term)</u></p> <p>Clinical instructors will complete their final assessment of student according to Program and professional standards. Criteria is quantified and standardized for consistency from all clinical sites. A standard Program form is used by all sites.</p>	<p>85% of students will score ≥ 7 on a 9 point scale on written assignment.</p> <p>90% of students will be ranked at ≥ 4 on a 5 point scale used for evaluating behavioral and performance skills</p>	<p>100% of students received ≥ 8 on a 9 point scale – average was 8.9.</p> <p>100% of CIICs ranked graduates at ≥ 4. Class mean was 4.8. High scores were 5.0 and lowest score was 4.5.</p>
Demonstrate problem solving skills in the clinical setting	CO 3 – Critical Thinking	<p><u>Clinical Hospital Affiliates</u></p> <p>Method: <u>Employer Survey</u></p> <p><u>Employer Survey:</u> Managers will complete Program graduate survey answering questions that pertain to critical thinking skills in patient care and radiographic procedures. These skills are vital in performing non-routine procedures or</p>	<p>90% of respondents will rank graduates ≥ 3 on a 4 point scale, used for evaluating behavioral and performance skills.</p>	<p>100% of employers ranked graduates at ≥ 3 on a 4 point scale: 50% received 3's and 50% received 4's.</p>

		challenging patient conditions.		
Successful completion of national certification examination (ARRT)	CO5 –Professional Competence	<p><u>ARRT Examination Pass Rate</u></p> <p>Students who successfully complete two-year program will sit for national certification examination. Upon successful completion of this exam (at least a score of 75%), they will be certified in radiologic technology.</p>	85% of graduates will score 75% or higher on first attempt	<p><u>100%</u> of the 2010 graduates passed the national certification examination on first attempt, the class average score was 91.4%. The mean score was <u>9.1</u> on a 10 point scale. The national mean was <u>8.5</u>.</p>
The graduate provide s appropriate care that ensures the safety, comfort and on-going assessment/response to the patient condition	CO6 – Self-Reflection	<p><u>Method: Graduate Survey</u></p> <p>Program will send graduates a survey 6 months post-graduation that poses questions of self-reflection. Questions pertain to their professional skills, safety and patient assessment, procedure performance, communication skills with staff and patients. Additional questions pertain to evaluating Programs success in teaching the skills required of an entry-level technologist.</p>	Respondents will rank themselves and the Program at ≥ 3 on 4 point scale.	<p><u>Teaching Communication Skills:</u> 100% ranked Program ≥ 3 (4 = 69%, 3 = 31%)</p> <p><u>Entry Level Prep:</u> 100% ranked Program as ≥ 3 (4 = 92%, 3 = 8%)</p>
Identifies and understands barriers and misunderstandings associated with different cultures/ethnic groups and how these might affect competent patient care.	CO4 - Cultural Awareness	<p><u>Classroom/Clinical Setting</u></p> <p>Students will complete modules, and group exercises in RAD 100, 106. Not all activities are for grades. In RAD 203 students must submit individual papers written on the subject of diversity and patient care. A rubric was used to determine points assessed.</p>	Students must achieve ≥ 23 out of 30 points possible (75% or above).	100% of students received ≥ 23 points out of 30 possible. Class average was 28.3. High score was 30, low score was 26.
Applies/adheres to	CO2 – Community and	Students are evaluated each term by clinical	90% of students will	100% of graduates

<p>radiation protection standards. Maintains safety practices for the community, coworkers and self. Demonstrates adherence to professional ethics and standards.</p>	<p>Environmental Responsibility</p>	<p>instructors using standardize “End of Term “assessment form. Criteria are10/11/2010 based upon program and accreditation standards.</p> <p>The 5 point scale is used for the skills that are most critical to graduates.</p>	<p>be ranked at ≥ 4 on a 5 point scale used for evaluating behavioral and performance skills</p>	<p>were ranked ≥ 4 on a 5 point scale. The class norm was 4.8. The lowest score was 4.45, the high was 5.0.</p>
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