Rubric Development Tools: Dentistry and Dental Hygiene Applications

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Objectives
- Increase knowledge of rubrics and how to best utilize these for assessment purposes in the classroom, laboratory, and clinic.
- Provide tools and tips on how to develop rubrics.
- Engage in a hands-on opportunity to create a rubric.
- Impart a tool kit of resources on rubrics.

Outline
- Defined
- Advantages
- Types
- Creating
- Weighting
- Evaluating
- Making Your Own
- Summary

Etymology
“Middle English rubrike red ocher, heading in red letters of part of a book, from Middle French rubrique, from Latin rubrica, from rubr-, ruber red” Webster’s (2003)

Practitioner’s Definition: What are Rubrics?
- “a scoring guide or scale consisting of a set of criteria that describe what expectations are being assessed/evaluated and descriptions of levels of quality used to evaluate students work or to guide students to desired performance levels”
  http://fcis.oise.utoronto.ca/~krobbins/rubrics.html
- “a chart or template which specifies the criteria to be used to evaluate an assignment”
  http://gs.fanshawec.ca/rubrics/
- “an authentic assessment tool...that seeks to evaluate a student's performance based on the sum of a full range of criteria rather than a single numerical score”
  http://www.teachervision.com/index.html

What it Does
- “provides columns of characteristics which categorize a student's efforts to meet these criteria as unacceptable, acceptable, or above.”
  http://gs.fanshawec.ca/rubrics/
- “Although the same criteria are considered, expectations vary according to one’s level of expertise. The performance level of a novice is expected to be lower than that of an expert and would be reflected in different standards.”
  http://www.teachervision.com/index.html
Dong, Asadoorian, Schönwetter, & Lavigne, 2011

- “allows the instructor to rate each student’s assignment by checking pre-established criteria, rather than writing the same comments on many assignments.”
  [http://gs.fanshawec.ca/rubrics/](http://gs.fanshawec.ca/rubrics/)
- “reduce or eliminate the repetitive work which makes grading tedious...while encouraging commentary from instructor.” [http://gs.fanshawec.ca/rubrics/](http://gs.fanshawec.ca/rubrics/)
- “used to evaluate students’ work by measuring the product according to real-life criteria.”
  [www.teachervision.com/index.html](http://www.teachervision.com/index.html)
- can be created for any content area. [http://fcis.oise.utoronto.ca/~krobbins/rubrics.html](http://fcis.oise.utoronto.ca/~krobbins/rubrics.html)

### What Rubrics Do for the Student


**Improve students' projects**
- provides explicit guidelines regarding expectations and marking criteria
- can prepare accordingly
- motivates student to pay close attention to specific requirements
- ownership - students involved in creating the rubric

**Increases learning**
- provides scaffolding necessary to improve quality of work and increase their knowledge
- increases the quality of direct instruction by providing focus, emphasis, and attention to particular details as a model for students
- develops students’ abilities

**Impacts the perceptions of fairness of marking**
- rubrics reduce the "subjective" nature of marking

### Advantages for the Teacher


**Enhances quality of direct instruction**
- knowing implicitly what makes a good final product and why

**Increases efficiency of marking**
- reduce or eliminate repetitive work
- reuse rubrics for various activities
- any content area
- multi-section courses: teams of instructors/markers/graders can customize rubrics for particular programs or assignments
- can always be designed to allow room for encouraging commentary

**Permits comprehensive grading**
- provides streamlined info on students’ strengths and weaknesses
- focuses on particular skills being developed

**Calibration**: reduces allegations from students about inconsistency in grading

### Types of Rubrics


**Analytic**
- identify and assess individual components of a finished product.

**Holistic**
- assess student work as a whole

**Which One: Content being assessed?**
- Less detail - holistic
- Detail is important - analytical

**One assessor vs. many assessors**
- Analytic helps multiple graders emphasize the same criteria.
### Slide (Powerpoint) Evaluation

<table>
<thead>
<tr>
<th>Topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Date:</td>
</tr>
</tbody>
</table>

#### Presentation Skills

<table>
<thead>
<tr>
<th>Criterion #</th>
<th>Parameter</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Voice tone-quality/projection</td>
<td>Excellent</td>
<td>Acceptable</td>
<td>Poor</td>
</tr>
<tr>
<td>2</td>
<td>Speed of presentation</td>
<td>Well-paced</td>
<td>Acceptable</td>
<td>Slow/fast</td>
</tr>
<tr>
<td>3</td>
<td>Eye contact</td>
<td>Continuous</td>
<td>Frequent</td>
<td>Minimal</td>
</tr>
<tr>
<td>4</td>
<td>Clarity of presentation/speech</td>
<td>Excellent</td>
<td>Good</td>
<td>N.I.*</td>
</tr>
<tr>
<td>5</td>
<td>Confidence</td>
<td>Excellent</td>
<td>Good</td>
<td>N.I.*</td>
</tr>
<tr>
<td>6</td>
<td>Distracting mannerisms</td>
<td>None</td>
<td>Minor</td>
<td>Many</td>
</tr>
<tr>
<td>7</td>
<td>Knowledge of topic</td>
<td>Excellent</td>
<td>Good</td>
<td>N.I.*</td>
</tr>
<tr>
<td>8</td>
<td>Research extent</td>
<td>Detailed</td>
<td>Adequate</td>
<td>Minimal</td>
</tr>
<tr>
<td>9</td>
<td>Interest/enthusiasm</td>
<td>Excellent</td>
<td>Good</td>
<td>N.I.*</td>
</tr>
<tr>
<td>10</td>
<td>Creativity/organization</td>
<td>Unique</td>
<td>Present</td>
<td>N.I.*</td>
</tr>
<tr>
<td>11</td>
<td>Response to questions</td>
<td>Excellent</td>
<td>Good</td>
<td>N.I.*</td>
</tr>
<tr>
<td>12</td>
<td>Presentation style</td>
<td>Talking</td>
<td>Referencing Notes</td>
<td>Reading</td>
</tr>
<tr>
<td>13</td>
<td>Introduction/conclusion</td>
<td>Excellent</td>
<td>Good</td>
<td>N.I.*</td>
</tr>
</tbody>
</table>

**TOTAL /39**

*N.I. Needs Improvement

#### Powerpoint Skills

<table>
<thead>
<tr>
<th>Criterion #</th>
<th>Parameter</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Effectiveness of visuals</td>
<td>Excellent</td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td>2</td>
<td>Animation of powerpoint</td>
<td>Excellent</td>
<td>Good</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>Appropriate background</td>
<td>Excellent</td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td>4</td>
<td>Lighting</td>
<td>Excellent</td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td>5</td>
<td>Slide transition</td>
<td>Excellent</td>
<td>Good</td>
<td>None</td>
</tr>
<tr>
<td>6</td>
<td>Color effectiveness</td>
<td>Excellent</td>
<td>Good</td>
<td>Bland</td>
</tr>
<tr>
<td>7</td>
<td>Size of words</td>
<td>Excellent</td>
<td>Legible</td>
<td>Illegible</td>
</tr>
<tr>
<td>8</td>
<td>Video clips</td>
<td>Excellent</td>
<td>Present</td>
<td>None</td>
</tr>
</tbody>
</table>

**TOTAL /24**

**TOTAL /63**
**Written Evaluation of Manuscripts in APA Style**

**A. Style (18%)**

1. **Mechanics of writing.**
   a. Spelling  
      - 1/2 pt for each error; max -3pts.  
      0 1 2 3
   b. Grammar  
      - 1/2 pt for each error; max -3pts.  
      0 1 2 3
   c. Punctuation  
      - 1/2 pt for each error; max -3pts.  
      0 1 2 3
   d. Colloquialism (i.e., "kids")  
      - 1/2 pt for each error; max -3pts.  
      0 1 2 3

2. **Format of reference citation.**  
   - 1 pt for each error; max -3pts.  
   0 1 2 3

3. **Bibliography format adhered to.**  
   - 1 pt for each error; max -3pts.  
   0 1 2 3

---

**Total: /18**

**B. Content (82%)**

1. **Title:** appropriate & interesting  
   0 1 2

2. **Clear statement of thesis, argument, or idea.**  
   0 1 2

3. **Introduction**  
   - Relevance  
     0 1 2
   - Completeness  
     0 1 2

4. **Body of Text**  
   - Ideas well researched, documented, and/or argued.  
     0 1 2 3 4 5 6 7 8 9 10
   - Organization of ideas  
     0 1 2 3 4 5 6 7 8 9 10
   - Good illustrations, examples  
     0 1 2 3 4 5 6 7 8 9 10
   - Originality of paper  
     0 1 2 3 4 5 6 7 8 9 10
   - Clarity of expression  
     0 1 2 3 4 5 6 7 8 9 10
   - Content: the basic core of the paper.  
     0 1 2 3 4 5 6 7 8 9 10

5. **Conclusion**  
   - Draws all points tightly together.  
   0 1 2 3 4 5

6. **Resources** recent, primary and/or references from a diversity of disciplines  
   0 1 2 3 4 5 6 7 8 9

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**Total = /82**

**Grand Total = /100**

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**A. Major positive aspects of your paper:**

**B. Suggestions for improvement:**

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Fiction Writing Content Rubric – HOLISTIC

http://www.teachervision.com/index.html

<table>
<thead>
<tr>
<th>Value</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>The plot, setting, and characters are developed fully and organized well. The “who, what, where, when, and why” are explained using interesting language and sufficient detail.</td>
</tr>
<tr>
<td>4</td>
<td>Most parts of the story mentioned in a score of 5 above are developed and organized well. A couple of aspects may need to be more fully or more interestingly developed.</td>
</tr>
<tr>
<td>3</td>
<td>Some aspects of the story are developed and organized well, but not as much detail or organization is expressed as in a score of 4.</td>
</tr>
<tr>
<td>2</td>
<td>A few parts of the story are developed somewhat. Organization and language usage need improvement.</td>
</tr>
<tr>
<td>1</td>
<td>Parts of the story are addressed without attention to detail or organization.</td>
</tr>
</tbody>
</table>
Creating a Rubric: Step 1

Choose criteria to be evaluated
- list of what students are to accomplish through assignment
- essential learning objectives or learning outcomes
- evidence to be produced
- measurable skills
- low inference behaviours = easily identifiable

Choose concepts to be taught

### Rubric Template

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stated Objective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Creating a Rubric: Step 2

Organize criteria
- from most important to least important
- in a logical order
- in a sequential order

Creating a Rubric: Step 3

Develop a grid inserting criteria
- Assign specific grading criteria for each main category:
- Limited, Some, Considerable, High Degree
- Poor, Average, Good, Excellent
- Beginning, Developing, Accomplished, Exemplary

Example
- Importance of using valid criteria
<table>
<thead>
<tr>
<th></th>
<th>Beginning: 1</th>
<th>Developing: 2</th>
<th>Accomplished: 3</th>
<th>Exemplary: 4</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Include the major concepts of the course (6%)</strong></td>
<td>Understood a few, but missed many of the crucial objectives of the course. (1%)</td>
<td>Understood the Basic objectives but missed some that were important (2%)</td>
<td>Understood all the crucial objectives (4%)</td>
<td>Understood all the crucial objectives and added some extra ones that increased the usefulness of the test. (6%)</td>
<td></td>
</tr>
<tr>
<td><strong>Include at least 3 levels of Bloom's taxonomy (6%)</strong></td>
<td>Included and understood at least one level of the taxonomy (1%)</td>
<td>Included all the levels but had some trouble understanding, or only included two (but understood them). (2%)</td>
<td>Included and understood all 3 levels. (4%)</td>
<td>Included all 3 levels, added maybe an additional one but also used them in a novel way. (6%)</td>
<td></td>
</tr>
<tr>
<td><strong>Include both subjective and objective type questions (3%)</strong></td>
<td>Only included one type of question. (.5%)</td>
<td>Included several types but all were either subjective or objective. (1%)</td>
<td>Included a well rounded mix of both questions. (2%)</td>
<td>Included a well rounded mix of both questions and presented them in a novel or challenging way. (3%)</td>
<td></td>
</tr>
<tr>
<td><strong>Able to evaluate the exam creation process (8%)</strong></td>
<td>Covered some of the issues and understood some of the material but missed material that is crucial. (2%)</td>
<td>Covered most of the issues, and understood much of the material but was not able to present a clear analysis of the process. (4%)</td>
<td>Covered and understood the material. And presented a clear analysis. (6%)</td>
<td>Covered and understood the material. And presented an exceptional analysis of the process. (8%)</td>
<td></td>
</tr>
<tr>
<td><strong>Clear and well organized presentation (5%)</strong></td>
<td>The necessary information was there but it was hard to follow and there was no clear organization. (.5%)</td>
<td>Relatively clear but awkwardly or badly organized. (1.5%)</td>
<td>Clearly presented and well organized. (3%)</td>
<td>Well organized and stylishly written. (5%)</td>
<td></td>
</tr>
<tr>
<td><strong>Mechanics and Format (2%)</strong></td>
<td>No real editing done. Or at least lots of editing left to do. 😞 (.25%)</td>
<td>Some editing done but still some errors in either structure of format. (.5%)</td>
<td>Decently formatted and mechanically clean. (1%)</td>
<td>No apparent errors in either formatting or mechanics! (2%)</td>
<td></td>
</tr>
</tbody>
</table>

**Rubric Template:** Copied from [http://edweb.sdsu.edu/triton/july/rubrics/Rubric_Template.html](http://edweb.sdsu.edu/triton/july/rubrics/Rubric_Template.html)
Language of Rubrics: Limited

Level 1 or “Limited”
- minimum expected from a student who will be receiving a passing (50-59%) grade.

Example
- if criteria is “uses correct terminology” the minimum expected is that students will use the most common or familiar terms. This is a limited capacity, but clearly defines for the students what the level of quality is for a Level 1 performance.

Performance Descriptor
- Is able to use common and familiar terms correctly.

Language of Rubrics: Some

Level 2 or “Some”
- mediocre performance level.
- student has clearly passed but is not the standard you would expect (60-69%).

Example
- if criteria is “uses correct terminology”, expect that students can move one step beyond Level 1. Since level one indicates the student uses common or familiar terms, the next step is that they are using some of the newer terminology as well. This is a "some" capacity, but a definite and clear difference from Level 1.

Performance Descriptor
- is able to use common, familiar, and some newly acquired terms correctly.

Language of Rubrics: Considerable

Level 3 = Considerable
- standard expectation performance level
- what expect general population of students are capable of demonstrating (70-79%).

Example
- if criteria is “uses correct terminology”, expect that students can move one step beyond Level 2. Since level two indicates the student uses common, familiar and many new terms, the next step is that they are using most or all of the newer terminology in their written and oral work. This is a "considerable" capacity, but a definite and clear difference from Level 2. It is not perfect, but a standard level of expected competence and should paraphrase your criteria which is the standard you have set.

Performance Descriptor
- is able to use common, familiar, and most newly acquired terminology correctly.

Language of Rubrics: High Degree

Level 4 or “High Degree”
- is beyond the standard expectation performance level-one that requires the student to move beyond what is taught in the classroom (80-100%).

Example
- if criteria is “uses correct terminology”, expect that students move one step beyond a Level 3. Students may pick up more obscure words you use in class but do not necessarily expect students to know and remember. They may use the words correctly in a new
Performance Descriptor
- is able to use common, familiar, and all newly acquired terminology correctly.

Weighting Rubrics
http://www.teachervision.com/index.html

Defined:
- is an analytic rubric in which certain concepts are judged more heavily than others

Rationale:
- clearly communicates to S. & T. which parts of the project are more important to learn for a particular activity
- can be changed to stress different aspects of a project over a period of time as different criteria are being taught.

How To Weight Rubrics
- Assign numeric weights to different concepts
- Multiply total point value by each item’s assigned percentage to arrive at the point value for that item

Evolution of the Pre-Clinical Rubric

Attending Rubric Faculty Development Workshop

First Rubric Iteration
- Refinement

Second Rubric Iteration
- Refinement

Third Rubric Iteration
- Refinement

Study: Student Rubric Feedback

Findings
RDP Rubric – page 1
Available from: http://services.aamc.org/30/mededportal/servlet/s/segment/mededportal/?subid=7951

<table>
<thead>
<tr>
<th>STUDENT #:</th>
<th>COURSE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>CAST #:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RDP DESIGN RUBRIC</th>
<th>Clinically</th>
<th>Acceptable</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEYING (Mark out of 4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mass tray</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Translantation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand rationale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey line</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RDP DESIGN (Mark out of 4 x 2 = 8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td></td>
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<tr>
<td>Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depths tab</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect retentions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occlusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esthetics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RDP DRAWING (Mark out of 4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All components from RDP design accepted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component sizes, dimensions, locations, usability evaluated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUTH PREPARATIONS (Mark out of 4)</td>
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<td></td>
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<tr>
<td>Contour reduction</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Location, amount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buccal flap elevation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location, amount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Axial wall preparation: location, amount, outline form, relationship to path of insertion, surface quality</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FINAL MARK**

Conditions:
- Inadequate work is insufficient to be corrected to make it clinically acceptable.
- Items under sections are equally weighted; other sections are clinically acceptable if no items fall below basic level of tissues.

**GRADING SCALE**
- 4 = Exceptional (meets all criteria)
- 3 = Clinically acceptable
- 2 = Major corrections required
- 1 = New start required

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**Study: Student Rubric Feedback**

1. What are the useful features of the rubric?
2. If you were teaching the course, how might you improve the rubric?
CLINICALLY ACCEPTABLE

SURVEYING
- Neat, accurate tripod lines, in one plane, well spread out
- Neat, accurate transfer-tripod points, in one plane, well spread out
- Correct location of undercuts marked
- Neat, complete accurate survey line reflecting appropriate path of insertion

RPD DESIGN (on design sheet)
- Maximum support from various components of RPD incorporated into the design
- Adequate bracing incorporated into the design
- Moderate retention incorporated into the design
- Minor connectors connect RPD components properly to the major connector
- Major connector satisfies criteria for the mandibular or mandibular arch
- Denture base will be properly extended as indicated by the minor connector for acrylic retention
- Indirect retention is incorporated into the design for tooth- and tissue-supported RPDs
- Written instructions could be used to draw the RPD design and vice versa. Written instructions are complete and match the drawing on the design sheet and the cast. RPD components are all connected and properly located on the drawing on the design sheet.
- Design does not involve removal of centric occlusal contacts during mouth preparations
- Design does not change vertical dimension of occlusion unless it was the intention.
- Design takes esthetics into consideration by minimizing display of retentive clasp arms especially if the patient has a high smile line.

RPD DRAWING (on cast)
- All components from RPD design are present
- The components are the proper size and shape. These components are correctly located (maxillary major connector crosses palate perpendicular to the plane, inferior border of mandibular major connector located as low as possible into the lingual sulcus that was determined clinically, components cross 90° to gingival margin, external finish lines located 2 mm medial to lingual surface of denture teeth, free border of maxillary major connector is located 6 mm away from gingival margins, free border of maxillary major connector is located 3 mm away from the gingival margins, inferior border of retentive clasp arm matches up with undercut mark, wrought wire clasp arms are not drawn on the cast because not cast with the framework). All components are properly connected.

MOUTH PREPARATIONS
- Guidelines for the correct location and amount of contour reduction, guide plane preparation and rest seat preparation are provided in the lecture and lab manuals.

CLINICALLY UNACCEPTABLE

SURVEYING
- Tripod lines – less than three used, not in one plane, not spread out (instead positioned too close to a straight line)
- Transfer-tripod points – less than three used, not in one plane, not spread out (instead positioned too close to a straight line), not on an identifiable tooth surface such as a flat vestibular or lingual surface such as a cuff tip, incisal edge or marginal ridge (instead positioned on a flat vestibular or lingual surface), on a tooth surface that will be altered during mouth preparations
- Undercut location – not correct location based on the design, too close to the gingival margin
- Survey line – missing on tooth or tissue surface covered by the RPD, not continuous, not at the gingival margin when there is no undercut surface on the tooth, not clearly marked, shows that path of insertion is not appropriate for optimal esthetics, guide planes, retention and avoiding interferences

RPD DESIGN (on design sheet)
- HARM from inadequate or missing support
- HARM from inadequate or missing bracing
- HARM from excessive retention or incorrect direct retainer assembly
- The design would not work clinically because minor connectors missing or not properly connecting other RPD components to the major connector.
- HARM from incorrect selection of major connector
- HARM from inadequate extension of the denture base
- HARM from missing indirect retention
- HARM from missing and/or incorrect information in written instructions and/or drawings
- HARM from not taking occlusion into consideration
- HARM from not taking esthetics into consideration

RPD DRAWING (on cast)
- Missing RPD components
- Incorrect location of RPD components (too close to gingival margin, too close to lingual frenum)

MOUTH PREPARATIONS
- Contour reduction not anatomic reduction, too much or too little contour reduction
- Guide plane preparation not following vestibular lingual contour of proximal surface of tooth, too close to gingival margin, edge created in tooth, too much or too little guide plane preparation
- Rost seat preparation – incorrect outline form, too much or too little preparation, floor of rest seat preparation is not less than 90° to the path of insertion, preparation rough, undercut
**Feedback on the Rubric Utility from Students**

- Comprehensive, detailed (what to include, key aspects, critical components, required elements, headings/sub) (18)
- Checklist, user-friendly, easy to read, clear, organized, itemized, outlines, breakdown list (17)
- Advance organizer, directs, guides preparation, what is expected, no surprises (7)
- Identifies areas of weakness, need to focus on improving (7)
- Comments section for feedback, explains, exactly, how errors can be corrected (5)
- Identifies areas of strength, well done (4)

**Suggestions for Revisions to Rubric**

- Indicate weighting of each subcomponent (19)
- Define required elements with examples (i.e. clinically acceptable) (6)
- Further division of “components” (5)
- I like it. Very comprehensive, complete, nothing (5)
- List errors that are clinically unacceptable (5)
- How much each error is worth in terms of deduction (3)
- Weighting of each section (3)
- Visual display of casts from best to worst as a learning opportunity
- Additional column that states above average quality work
- Place rubric criteria in order (step by step) of action
- Self-evaluation by students

**Implications for the Pre-Clinical Classes**

- Students appreciate clear guidelines to help them complete procedures
- Students consistently identified they want to understand the grading scale
- The rubric can be presented as an introduction to the course
- Repeated use of the rubric provides opportunities for the students to achieve competency.
- Emphasize self-learning

**Using A Rubric in the Clinical Environment**

**Clinical Competencies**

1. Abide by the CDHA Code of Ethics
2. Adhere to the laws and the professional standards governing the practice of dental hygiene
3. Use a model of care that provides a holistic framework for the practice of dental hygiene
4. Communicate effectively and collaboratively during professional interactions
5. Use a client-driven approach with diverse populations in all ages and stages of life
6. Use critical thinking and problem-solving strategies to make decisions drawing upon the best possible evidence.
7. Serve as a client advocate
8. Contribute to the advancement of the dental hygiene profession through involvement in professionally related activities and associations
9. Commit to self-assessment and life-long learning in order to provide contemporary dental hygiene services
10. Initiate and provide oral health promotion and disease prevention strategies which address identified risk factors of oral disease in order to promote optimal oral/health and wellness for individuals, groups and communities

11. Assess, plan, implement and evaluate preventive and therapeutic dental hygiene interventions designed to facilitate the achievement of optimal oral health
12. Apply management skills in a variety of professional settings.

**The Clinic Manual: Framework for the clinic rubric**

**Clinical Rubric**
Assessment Phase - Example

<table>
<thead>
<tr>
<th>Rating</th>
<th>Accurately Records Hard Tissue Status</th>
</tr>
</thead>
</table>
| 1 Acceptable | 1. Information complete and precise, chart represents an exact duplication of hard tissue status of the client, including occlusion  
2. All records are provided and/or utilized, e.g. radiographs  
3. Caries and/or restorations are neatly recorded and accurately represent the outline of either |
| 2 Acceptable | 1. Minor errors e.g. resin restorations, deficient margins |
| 3 Unacceptable | 1. Major error of an obvious nature, e.g. large carious lesions, leaking margins and/or voids – a pit in which the explorer catches and remains (incipient lesion).  
2. Entry error on chart, i.e. reversed quadrants, teeth incorrectly identified and/or  
3. Untidy charting, outlines not representative of caries or restoration  
4. Radiographic records not utilized  
5. Answers to questions indicate inadequate knowledge/understanding  
6. Fails to seek consult concerning diagnosis of abnormal condition |
### Clinical Rubric: Planning Phase – Example

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2- Acceptable</td>
<td>1. Partial attempts at involvement of client made</td>
<td>1. Overlooks minor points which may slightly influence desirable outcome</td>
<td></td>
</tr>
<tr>
<td>3- Unacceptable</td>
<td>1. Inadequate attempt to involve client in planning 2. Long and short term goals not identified 3. Consent not obtained 4. Answers to questions indicate inadequate knowledge/understanding</td>
<td>1. Does not identify relevant assessment data (e.g. does not consult radiographs or incorrectly assesses them) 2. Fails to identify significant problems or plan for their care 3. Does not relate dental hygiene care to overall dental treatment 4. Produces a plan which is inappropriate in content or sequence 5. Provides inadequate or incorrect rationale for care plan 6. Answers to questions indicate inadequate knowledge/understanding</td>
<td>1. Does not reassess at each appointment 2. Does not alter plan when appropriate 3. Answers to questions indicate inadequate knowledge/understanding</td>
</tr>
</tbody>
</table>

### Clinical Rubric: Implementation Phase – Example
Clinical Rubric Evaluation Phase – Example

<table>
<thead>
<tr>
<th>Rating</th>
<th>Evaluation</th>
</tr>
</thead>
</table>
| 1- Acceptable   | 1. Involves client in evaluation process  
2. Compares oral health status with established goals  
3. Compares home care results with goals  
4. Identifies continuing problems and appropriate action  
5. Determines appropriate recall and referral (if required) |
| 2- Acceptable   | 1. Minimal client involvement in evaluation process  
2. Outcomes assessment adequate but significant improvement possible  
3. Recall period requires minor revision (inappropriate time interval) |
| 3- Unacceptable | 1. Does not involve client in evaluation  
2. Does not compare status with goals for treatment and home care  
3. Does not identify and/or plan for continuing problems  
4. Does not plan recall or referral (if required)  
5. Answers to questions show inadequate understanding/knowledge |

Early Clinical Assessment Client – Rubric Competency Based

<table>
<thead>
<tr>
<th>Criterion Content</th>
<th>Evaluation Not Competent</th>
<th>Adequate</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
</table>

Dong, Asadoorian, Schönwetter, & Lavigne, 2011

17
<table>
<thead>
<tr>
<th>A) Introduction</th>
<th>- major factors of client history missing from summary (0-3)</th>
<th>- mostly complete summarization of client history; some minor omissions (4)</th>
<th>- complete summarization of client history (5)</th>
<th>- complete and highly detailed history of client; engages reader (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B) Discussion</td>
<td>- all or most medical considerations are not discussed (0-3)</td>
<td>- some or most medical considerations are discussed at a superficial level (4)</td>
<td>- all or most medical considerations are discussed with some, but limited detail (5)</td>
<td>- all medical considerations are discussed; details includes relevance to overall dental hygiene care (6)</td>
</tr>
<tr>
<td>D) Human Needs Deficits</td>
<td>- does not include rationale for all deficits and/or - discussion of all or most deficits in relation to DHCP (0-5)</td>
<td>- includes rationale for all deficits, but lacks some detail and/or - discussion of all identified deficits is included but lacks detail in relation to DHCP (6)</td>
<td>- includes rationale for all deficits and/or - discussion of all identified deficits is included with mostly adequate detail in relation to DHCP (7.5)</td>
<td>- includes well detailed rationale for all deficits and/or - discussion of all identified deficits is included clearly demonstrating link of deficit to DHCP (9)</td>
</tr>
<tr>
<td>C) Perio &amp; Hard Tissue Assessment</td>
<td>- does not include copies of Perio &amp; Hard Tissue assessment &amp; DHCP (or are grossly flawed) (0)</td>
<td>N/A</td>
<td>N/A</td>
<td>- includes hand-written copies of Perio &amp; Hard Tissue Assessment &amp; DHCP (3)</td>
</tr>
<tr>
<td>E) DHCP Steps I - IV</td>
<td>- provides 1 piece of evidence for many/almost all dental hygiene interventions, but relies primarily on low levels of evidence where higher levels exist and/or - evaluates evidence, with some significant inadequacies (24-29)</td>
<td>- provides 1 piece of evidence for every dental hygiene intervention, but relies substantially on low levels of evidence where higher levels exist and/or - evaluates evidence, but with some minor deficiencies (30-33)</td>
<td>- provides 1 piece of evidence for every dental hygiene intervention, and consistently uses higher levels where they exist and/or - critically evaluates evidence in complete detail with no inadequacies (34-37)</td>
<td></td>
</tr>
<tr>
<td>F) Evidence</td>
<td>- concluding remarks do not accurately reflect care provided and/or student's assessment of care evidence is inaccurate and/or does not provide strengths and weaknesses (0-5)</td>
<td>- concluding remarks are mostly accurate in reflection of care provided and assessment of evidence, but some minor inaccuracies exist and/or inadequate provision of strengths and weaknesses (6)</td>
<td>- concluding remarks are accurate in reflection of care provided and assessment of evidence and/or provides most strengths and weaknesses (7.5)</td>
<td>- concluding remarks are accurate in reflection of care provided and assessment of evidence, and student provides insight into areas of strength and those needing improvement and/or significant learning experiences (9)</td>
</tr>
</tbody>
</table>

**Early Clinical Assessment Client – Rubric**

**Competency Based**
Rubric Use in Evaluating Overall Program Competency

Clinical Competencies
1. Abide by the CDHA Code of Ethics
2. Adhere to the laws and the professional standards governing the practice of dental hygiene
3. Use a model of care that provides a holistic framework for the practice of dental hygiene
4. Communicate effectively and collaboratively during professional interactions
5. Use a client-driven approach with diverse populations in all ages and stages of life
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11. Assess, plan, implement and evaluate preventive and therapeutic dental hygiene interventions designed to facilitate the achievement of optimal oral health
12. Apply management skills in a variety of professional settings.
Portfolio Scoring Rubric

The rubric below lists the traits that faculty will use to evaluate portfolios. Rate each trait as to how comprehensively each trait is demonstrated for each competency in the portfolio.
Circle your rating for each trait and provide a cumulative score for each rating column.

Rating Scale: 1 = Not at All  2 = Some  3 = Most  4 = All

Competency # 1. “Practice in an ethical manner”
1. Evidence is applicable to the competency
2. Reflection is insightful in its description of how learning experiences (evidence) contributed towards competence
3. Evidence and reflection demonstrate continued growth and development
4. Demonstrates ability to self-evaluate & problem-solve
5. Analyses experiences in school and what effect they had on learning
6. Each piece of evidence has been previously graded by a DH instructor
7. Collectively, evidence clearly demonstrates student competence

Competency # 2. “Adhere to the laws and the professional standards governing the practice of DH”
1. Evidence is applicable to the competency
2. Reflection is insightful in its description of how learning experiences (evidence) contributed towards competence
3. Evidence and reflection demonstrate continued growth and development
4. Demonstrates ability to self-evaluate & problem-solve
5. Analyses experiences in school and what effect they had on learning
6. Each piece of evidence has been previously graded by a DH instructor
7. Collectively, evidence clearly demonstrates student competence

Competency # 3. “Use a model of care that provides a holistic framework for DH practice.”
1. Evidence is applicable to the competency
2. Reflection is insightful in its description of how learning experiences (evidence) contributed towards competence
3. Evidence and reflection demonstrate continued growth and development
4. Demonstrates ability to self-evaluate & problem-solve
5. Analyses experiences in school and what effect they had on learning
6. Each piece of evidence has been previously graded by a DH instructor
7. Collectively, evidence clearly demonstrates student competence

Competency # 4. “Communicate effectively and collaboratively”
1. Evidence is applicable to the competency
2. Reflection is insightful in its description of how learning experiences (evidence) contributed towards competence
3. Evidence and reflection demonstrate continued growth and development
4. Demonstrates ability to self-evaluate & problem-solve
5. Analyses experiences in school and what effect they had on learning
6. Each piece of evidence has been previously graded by a DH instructor
7. Collectively, evidence clearly demonstrates student competence
The rubric below describes the extent to which students have demonstrated attainment of overall programmatic competencies, in order to evaluate their program portfolios.

<table>
<thead>
<tr>
<th>Competency</th>
<th>All Criteria Met (3)</th>
<th>Most Criteria Met (2)</th>
<th>Criteria Minimally Met (1)</th>
<th>Criteria Not met (0)</th>
<th>Overall Comp. Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice in an Ethical Manner</td>
<td>- All evidence is applicable to the Competency</td>
<td>- All evidence is applicable to the Competency</td>
<td>- Only some evidence is applicable to the Competency</td>
<td>- None of the evidence is applicable to the Competency</td>
<td>- No evidence or mention of growth &amp; development</td>
</tr>
<tr>
<td></td>
<td>- Reflection describes how evidence contributed towards competence</td>
<td>- Reflection in most cases describes contribution towards competence</td>
<td>- Reflection only minimally demonstrates contribution of evidence towards competence</td>
<td>- Reflection does not demonstrate how evidence contributed towards competence</td>
<td>- No evidence of self-evaluation or problem-solving skills</td>
</tr>
<tr>
<td></td>
<td>- Evidence &amp; reflection demonstrate continued growth and development</td>
<td>- In most cases, growth &amp; development are demonstrated</td>
<td>- Little evidence or discussion of growth &amp; development</td>
<td>- Only minimal evidence of ability to self-evaluate or problem solve</td>
<td>- Does not analyze school experiences as to their effect on learning</td>
</tr>
<tr>
<td></td>
<td>- Demonstrates ability to Self-evaluate &amp; problem-solve</td>
<td>- Demonstrates ability to self-evaluate &amp; problem-solve</td>
<td>- Minimally analyses school experiences as to their effect on learning or analyses experiences other than school ones</td>
<td>- Does not analyze school experiences as to their effect on learning</td>
<td>- No evidence graded by an instructor</td>
</tr>
<tr>
<td></td>
<td>- Analyses school experiences &amp; their effect on learning</td>
<td>- Analyses school Experiences &amp; their effect on Learning</td>
<td>- At least one piece of evidence is graded by an Instructor</td>
<td>- Collectively, competency is not demonstrated with any of the evidence presented.</td>
<td>- Collectively, competency is not demonstrated with any of the evidence presented.</td>
</tr>
<tr>
<td></td>
<td>- All evidence is graded by an instructor</td>
<td>- All evidence is graded by an instructor</td>
<td>- At least one piece of evidence demonstrates competency, although it may not be as clear as it could be.</td>
<td>- None of the evidence is graded by an instructor</td>
<td>- Collectively, competency is not demonstrated with any of the evidence presented.</td>
</tr>
</tbody>
</table>
**Group Work Developing a Rubric on Assessment of Professionalism**

**GENERAL SETTINGS**
1. Lecture
2. Clinic
3. Lab
4. Externship
5. Test
6. Assignment
7. Presentation
8. Small group projects

**SPECIFIC SCENARIOS**
1. Environment conducive to learning
2. Patient not comfortable during tx, explaining treatment plan to patient
3. Dental/dental hygiene lab exercise
4. Representing the Faculty on externship
5. Time management during test
6. Presentation of assignment
7. Questions from audience
8. Interaction with peers

**OVERVIEW OF RUBRIC DEVELOPMENT**

Step 1: Choose criteria to be evaluated
Step 2: Organize criteria
Step 3: Develop a grid inserting criteria
Step 4: Provide the criteria language
Step 5: Provide the weighting

**Guidelines on Professionalism**
- [http://www.adea.org/policy_advocacy/Pages/LearnMoreAboutADEAStatementonProfessionalism.aspx](http://www.adea.org/policy_advocacy/Pages/LearnMoreAboutADEAStatementonProfessionalism.aspx)
- The University of Oklahoma, School of Medicine Professional Assessment Instrument
- The University of Manitoba, Faculty of Dentistry Instructor Assessment Guidance Rubric used in the fourth year general practice clinic

**Evaluation of the Rubric**
- Efficient
- Concerns raised by students
- Common errors that may need to be listed as new criteria
- Any problems with grey areas
- Is it valid?

**Rubrics Should**
[http://fcis.oise.utoronto.ca/~krobbins/rubrics.html](http://fcis.oise.utoronto.ca/~krobbins/rubrics.html)
- Be teacher or student and teacher created
- Be given prior to the task
- Be used often during teaching as an assessment tool
- Be a combination of quality and quantity of student learning
- Be fair to all students
- Indicate both what students learn and how well they learn
- Have clear indications of how students can improve
- Allow students the ability to assess their own work
- Be specific to the task they are being used to assess/evaluate.

**Summary**
- There are many pros to using rubrics and some challenges.
Rubrics may be applied interprofessionally, in general settings, and to specific scenarios. Many rubrics already exist. Some are being shared and some are being adapted.

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schonwel@cc.umanitoba.ca
Salme_Lavigne@umanitoba.ca

Resources Worth Considering
- A page of resources for rubrics and assessment:
  http://people.senecac.on.ca/selia.karsten/CTC/resources_7.html
- A web page showing an example of evaluation criteria:
  http://www.ux1.eiu.edu/%7Ec_fmgb/web.htm
- RubiStar is a tool to help teachers design rubrics. Some of the categories include: oral presentations, multimedia, research projects, writing, science and math. You can use one of their templates or customize your own. This application will even make printable rubrics so there’s no need to cut and paste. You can even save your customized rubric on the server and then re-design whenever necessary. http://rubistar.4teachers.org
- marking guidelines for the team web project in Selia Karsten’s eCommerce class:
  http://people.senecac.on.ca/selia.karsten/EC/e-site-evaluation.html
- Criteria for marking web reports:
  http://people.senecac.on.ca/selia.karsten/EC/reportcriteria.html

Resources
- Both projects are summarized here:
  http://people.senecac.on.ca/selia.karsten/EC/610w2002projects.html
- Examples of a Web page rubric:
  http://207.166.226.251/morissette/webpagerubric.html
  http://www.essdack.org/tips/webpagerubric.html
- http://intranet.cps.k12.il.us/Assessments/Ideas_and_Rubrics/Rubric_Bank/rubric_bank.html (excellent bank of rubrics!)
- http://7-12educators.about.com/

Where to get more information
# Rubric Template

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stated Objective or Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>