Authentic Assessment Symposium – transformation of learning in higher education
Authentic Assessments -

• Clinical care – In-the-moment - whole

• Portfolio – Reflective Reports - whole

• OSCE – In-the-moment or delayed - part
Authentic Assessments -

- Clinical care – “Key skills”

- Portfolio – “Patient Care Synopsis”, “ICE” and “Dental practice visits”
<table>
<thead>
<tr>
<th>No.</th>
<th>Key Skills</th>
<th>Time</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Placement of rubber dam</td>
<td>BDS I Modules 3-4</td>
<td>Operative Dentistry</td>
</tr>
<tr>
<td>2.1</td>
<td>History taking, examination, caries and simple periodontal diagnosis and preventive approaches</td>
<td>BDS II Modules 3-4</td>
<td>Operative Dentistry</td>
</tr>
<tr>
<td>2.2</td>
<td>Taking bitewing radiographs, periapical radiographs for an upper central incisor and an upper or lower molar (or premolar)</td>
<td>BDS II Modules 3-4</td>
<td>Operative Dentistry</td>
</tr>
<tr>
<td>2.3</td>
<td>Oral hygiene assessment and appropriate oral hygiene instruction</td>
<td>BDS II Clinical Skills II</td>
<td>Periodontology</td>
</tr>
<tr>
<td>3.1</td>
<td>Moderate operative procedure</td>
<td>BDS III Module 2</td>
<td>Family Dentistry</td>
</tr>
<tr>
<td>3.2</td>
<td>Scaling and root surface instrumentation</td>
<td>BDS III Modules 2-4</td>
<td>Periodontology</td>
</tr>
<tr>
<td>3.3</td>
<td>Making impressions and facebow record for the production of articulated study casts for a patient with missing teeth</td>
<td>BDS III Modules 3-4</td>
<td>Oral Rehabilitation</td>
</tr>
<tr>
<td>3.4</td>
<td>Tooth extraction</td>
<td>BDS III Clinical Skills I</td>
<td>Oral and Maxillofacial Surgery</td>
</tr>
<tr>
<td>4.1</td>
<td>Tooth preparation for removable partial dentures</td>
<td>BDS IV Modules 1-4</td>
<td>Oral Rehabilitation</td>
</tr>
<tr>
<td>4.2</td>
<td>Full veneer crown preparation</td>
<td>BDS IV Module 2</td>
<td>Family Dentistry</td>
</tr>
<tr>
<td>4.3</td>
<td>Evaluation of periodontal treatment outcome and re-evaluation of periodontal treatment plan</td>
<td>BDS IV Modules 2-4</td>
<td>Periodontology</td>
</tr>
<tr>
<td>4.4</td>
<td>Pulpotomy or pulpectomy for a primary molar tooth</td>
<td>BDS IV Modules 3-4</td>
<td>Paediatric Dentistry</td>
</tr>
<tr>
<td>5.1</td>
<td>Tooth preparation for a bridge</td>
<td>BDS V Modules 1-4</td>
<td>Oral Rehabilitation</td>
</tr>
<tr>
<td>5.2</td>
<td>Minor oral surgery consultation</td>
<td>BDS V Module 2</td>
<td>Oral and Maxillofacial Surgery</td>
</tr>
</tbody>
</table>

“Key Skills” —

From 1st-6th year
1-4 skills per year
1-3 skills per discipline
Challenges with summative assessments...

- High stakes and stressful
- Black box
- Uncertainty on scope of assessment
- What is a pass?
How do we address these?

- Transparency – Key skills document
- Assessment rubric for each key skill (criteria and standards)
- Videoed Key skills on LMS for insights
RELEVANT YEAR LEARNING OUTCOMES: By the end of Year Three, the learner should be able to:

- Explain the indications, assessment, planning, maintenance, and biomechanical principles involved in design, construction, and function of removable partial dentures.

**Case selection**

Define case selection criteria and patient preparation

A patient requiring the provision of removable partial denture(s) with one or more bounded or free-end saddles, and the preparation of two or more de novo rest seats to be selected by the student.

Prior to the evaluation session, all dental disease should have been controlled and any residual periodontal issues should be receiving appropriate maintenance therapy. The following should have been completed: denture design approval, mounting and surveying of study casts, trial tooth preparations on a duplicate cast, and aesthetic wax-up try-in (if indicated).

**Procedure**

Scope of performance

Student is required to:

a) explain the rationale for the denture design and tooth preparation plan
b) describe the tooth preparation procedures proposed
c) produce a duplicate cast on which the trial preparations have been completed
d) carry out the tooth preparation which may include:
   * rest seats
   * guide planes, altering of survey lines, occlusal reduction or embrasure widening
e) give a critical assessment of the performance outcomes

**Assessment**

Define what can be assessed

The student is assessed on aspects of infection control, patient management, operating posture, and the clinical procedure.

The student presents the completed work to the assessor and is invited to give a critical appraisal of their work.

The key skills performance will be graded according to the defined criteria.
Key skill proforma-

1. Mapping

2. Patient preparation

3. The performance

4. Feedback
1. Mapping

<table>
<thead>
<tr>
<th>Key Skill 4.1</th>
<th>Tooth preparation for removable partial dentures</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA:</td>
<td>Oral Rehabilitation</td>
</tr>
<tr>
<td>YEAR/MODULE:</td>
<td>BDS IV Modules 1-4</td>
</tr>
</tbody>
</table>

**RELEVANT GRADUATE COMPETENCES:**

- **Domain 2: Ethics & Jurisprudence**
  - Major competence: Ethical Practice

- **Domain 3: Communication**
  - Major competence: Professional Communication
  
- **Domain 4: Knowledge Base**
  - Major competence: Application of basic biological, biomedical, social and behavioral, and clinical sciences

- **Domain 6: Treatment Planning**
  
- **Domain 7: Delivery of Oral Health Care**
  - 7.5 Selecting and using materials appropriately in the delivery of oral health care
  - 7.14 Replacing missing teeth and supporting tissue where appropriate by means of removable prostheses

Mapping to graduate competencies
Key Skills rubric -

2. Patient preparation

<table>
<thead>
<tr>
<th>Standards Descriptor</th>
<th>Graduate Competences</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Domains and competences</td>
<td>Yes: Proceed</td>
</tr>
<tr>
<td>Domain 1: Profession</td>
<td>Working effectively with team to maintain the highest possible standards of infection control, and in the control of all hazards associated with oral health care delivery, including the appropriate clinical use of dental biomaterials</td>
<td></td>
</tr>
<tr>
<td>Domain 2: Ethics &amp; Jurisprudence</td>
<td>Major competence: Ethical Practice</td>
<td></td>
</tr>
<tr>
<td>Domain 3: Communication</td>
<td>Major competence: Professional Communication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Empathy shown with patient</td>
<td></td>
</tr>
</tbody>
</table>

| Domain 6: Treatment Planning | Case assessment: Oral health is satisfactory for receiving prosthodontic treatment. Preventive, periodontal, and/or restorative treatment is complete and appropriate. The denture design is approved, and casts have been correctly mounted and surveyed. Trial tooth preparations have been performed on a duplicate cast. Aesthetic wax-up try-in (if indicated) has been performed. | Case assessment: Oral health is not satisfactory for receiving prosthodontic treatment. Preventive, periodontal, and/or restorative treatment is not complete or is inappropriate. Denture design has not been approved, and/or casts have not been surveyed and correctly mounted. Trial tooth preparations have not been performed on a duplicate cast. Aesthetic wax-up (if necessary) has not been done. |
3. The performance

<table>
<thead>
<tr>
<th>Domain 7: Delivery of Oral Health Care</th>
<th>7.14 Replacing missing teeth and supporting tissue where appropriate, by means of removable prostheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td>Concerns</td>
</tr>
<tr>
<td>Supporting knowledge</td>
<td>Insufficient knowledge of the key elements of principles, practice, and materials relevant to the key skills performance</td>
</tr>
<tr>
<td>Case presentation:</td>
<td>Inadequate or inaccurate justification for the proposed partial denture design and/or tooth preparation plan</td>
</tr>
<tr>
<td>- justification and rationale for</td>
<td></td>
</tr>
<tr>
<td>- appraisal of trial tooth preparations</td>
<td></td>
</tr>
<tr>
<td>Tooth preparation procedure:</td>
<td>Inappropriate infection control measures of the procedure, impression, patient and/or operatory</td>
</tr>
<tr>
<td>- review and guiding plane preparations</td>
<td>Procedure performed with undue patient discomfort or trauma to neighboring tissues</td>
</tr>
<tr>
<td>- Tooth preparations are over- or</td>
<td>Tooth preparations are over- or under-prepared and/or with incorrect features</td>
</tr>
<tr>
<td>under-prepared and/or with incorrect features</td>
<td></td>
</tr>
<tr>
<td>Outcome evaluation:</td>
<td>Inaccurate or inadequate evaluation of key features of the tooth preparations</td>
</tr>
<tr>
<td>- appraisal of tooth preparations</td>
<td></td>
</tr>
</tbody>
</table>

*Concerns: Below expectations; Safe: Meets expectation; Proficient: Above expectations
Key Skills document -

5. Feedback

The student has achieved the key skill. □ Yes □ No

Signature: ____________________________ (Assessor) ____________________________ (Assessor)

Name: ____________________________ (Assessor) ____________________________ (Assessor)

I have seen and discussed my assessment with the assessor(s)

______________________________ Student signature
Video exemplars of Key Skills performances
Video exemplars of Key Skills performances
Video exemplars of Key Skills performances
How do these videos help?

• "you will know what to expect, how to answer"

• "more confident“ and “less stress”

• "how to analyze" and prepare for case selection, presentation and self evaluation

• “watch multiple times to make sure I don't miss anything"
Final year “Portfolio” oral exam –

1. “Patient care synopsis” – Treated clinical cases (BDS 4-6)
2. Capstone or “International Clinical Experience”
3. Dental practice visit reports
Clinical portfolio – “patient care synopsis”

Treated patient report –

• Defined domains and word limits
• Case presentation and treatment outcomes
• Clinical reflection
• Personal reflection
• Evidence based
ICE

- Introduction to Country/location
- Introduction to local dental organization /services
- Observational report of experience and comparison
- Experience outside dentistry
- Personal reflection
Dental Practice Visit.

• Type of practice
• Staffing and management
• Clinical matters
• Reflection
Thank you!

Michael Botelho - botelho@hku.hk