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Setting the Standard for a High-Stakes End of Third Year Assessment

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Setting the Standard for a High-Stakes End of Third Year Assessment

Mary Zanetti, Michele Carlin, Laura Sefton, Wendy Gammon, Sarah McGee, & Michele Pugnaire

University of Massachusetts Medical School, Worcester, MA
Purpose:

• conduct modified Angoff standard setting procedure due to planned move to “high-stakes” End of Third Year Assessment (EOTYA)

• assess the result of applying cutoffs to EOTYA student performance data

• analyze judges’ perceptions and confidence in setting cutoffs for three skill areas across seven Objective Structured Clinical Examinations (OSCEs)
Methods:

• 7 “internally created” OSCE case summaries were reviewed by 6 content experts:

  Third year clerkship directors
  – Family Medicine
  – Internal Medicine
  – Ob-Gyn
  – Pediatrics
  – Psychiatry
  – Surgery
Methods:

Each OSCE case summary included:

• **Case Summary** patient symptoms, social history, family history, past medical history

• **SP Behavior Notes** affect, mannerisms, required questions/statements

• **Opening Scenario** patient information, chief complaint, presenting symptoms, setting, vitals, test results

• **Examiner’s Tasks** timeline to complete interview/exam, related paperwork, and feedback session

• **Checklists** history, physical exam, interviewing/communication, problem list, differential diagnosis
Methods:

• 10-step standard setting procedure was explained and terms were defined
  – Essential vs non-essential items
  – Minimally competent 3rd year student
  – Probability
  – Cutoffs for 3 skill areas: Hx, PE, & Interviewing

• Group agreed to meet frequently during academic year rather than conduct 1-2 day standard setting workshop
## Results:
### Final Performance Standards

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Standard</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>73.49 %</td>
<td>84</td>
</tr>
<tr>
<td>Physical Exam</td>
<td>70.43 %</td>
<td>31</td>
</tr>
<tr>
<td>Interview</td>
<td>3.65 (scale ranges from 1 to 5 with 5 being the highest)</td>
<td>33</td>
</tr>
</tbody>
</table>
## Results:
### Student Performance Results

<table>
<thead>
<tr>
<th>Student Name</th>
<th>History Standard = 73.49 (Cohort Avg = 80.1; SD = 5.7) Did not successfully complete=11%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>63.38</td>
</tr>
<tr>
<td>Student 2</td>
<td>65.63</td>
</tr>
<tr>
<td>Student 3</td>
<td>67.91</td>
</tr>
<tr>
<td>Student 4</td>
<td>68.33</td>
</tr>
<tr>
<td>Student 5</td>
<td>69.49</td>
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<tr>
<td>Student 6</td>
<td>69.60</td>
</tr>
<tr>
<td>Student 7</td>
<td>72.06</td>
</tr>
<tr>
<td>Student 8</td>
<td>72.61</td>
</tr>
<tr>
<td>Student 9</td>
<td>72.80</td>
</tr>
<tr>
<td>Student 10</td>
<td>73.12</td>
</tr>
</tbody>
</table>
## Results:
### Student Performance Results

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Physical Exam Standard = 70.43 (Cohort Avg = 76.09; SD = 8.9) Did not successfully complete=21%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>51.77</td>
</tr>
<tr>
<td>Student 2</td>
<td>56.31</td>
</tr>
<tr>
<td>Student 3</td>
<td>58.46</td>
</tr>
<tr>
<td>Student 4</td>
<td>58.46</td>
</tr>
<tr>
<td>Student 5</td>
<td>58.71</td>
</tr>
<tr>
<td>Student 6</td>
<td>61.24</td>
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<td></td>
<td>.</td>
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<tr>
<td>Student 18</td>
<td>68.69</td>
</tr>
<tr>
<td>Student 19</td>
<td>69.19</td>
</tr>
</tbody>
</table>
## Results: Student Performance Results

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>3.41</td>
</tr>
<tr>
<td>Student 2</td>
<td>3.52</td>
</tr>
<tr>
<td>Student 3</td>
<td>3.63</td>
</tr>
</tbody>
</table>

*Standard = 3.65 (Cohort Avg = 4.15; SD = .25)*

Did not successfully complete = 3%
Results:
Expert Rater Survey Results

- My understanding of the examinees and their expected skill levels was adequate.
- My understanding of the standard setting procedure was adequate.
- My understanding of the EOTYA test and its purposes was adequate.
- At the completion of the standard setting process, I was confident in the final standards I set.
- After reviewing the final 2005 EOTYA results, my confidence in the standards set has not changed.
- I am confident in the final standard set by the complete procedure.
- Participating was not excessively burdensome.
Discussion:

- Increased communication among clerkship directors
- OSCEs were revised to be more inter-disciplinary & PE added to all cases
- Non-essential items were deleted
- Pilot cases rotated into EOTYA
- Norm-referenced standard setting procedure was selected
Limitations of Study:

- Need at least 8 content experts
- Should have 8-10 OSCEs to further enhance stability of cutoffs
- Standard setting procedure should occur during a 1-2 day workshop
- Consensus on content of cases must be unanimous at onset of project
Conclusion:

• Standard setting procedure vital to “high-stakes” assessment
• Early planning is key to success
• Consensus building required
• Transparent process necessary
References


Contact information

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