Using Embedded Assessments to Track Accreditation Standards and Generate Evidence-Based Curriculum Maps

Jane M. Souza

St. John Fisher College, janemariesouza@gmail.com

How has open access to Fisher Digital Publications benefited you?
Follow this and additional works at: http://fisherpub.sjfc.edu/pharmacy_facpub

Part of the Curriculum and Instruction Commons, Educational Assessment, Evaluation, and Research Commons, and the Pharmacy and Pharmaceutical Sciences Commons

Publication Information
http://fisherpub.sjfc.edu/pharmacy_facpub/28

Please note that the Publication Information provides general citation information and may not be appropriate for your discipline. To receive help in creating a citation based on your discipline, please visit http://libguides.sjfc.edu/citations.

This document is posted at http://fisherpub.sjfc.edu/pharmacy_facpub/28 and is brought to you for free and open access by Fisher Digital Publications at St. John Fisher College. For more information, please contact fisherpub@sjfc.edu.
Using Embedded Assessments to Track Accreditation Standards and Generate Evidence-Based Curriculum Maps

Abstract
St. John Fisher College mined existing course-level assessments to address accreditation standards at the course, curricular, and student levels. This presentation demonstrated a strategy for coding existing test bank items to correspond to learning outcomes and accreditation standards and then using the data for multiple audiences. It also exemplified how an existing rich data source can simultaneously track student longitudinal progress, test bank item performance, and density of curriculum coverage. Strategies are offered to implement this embedded assessment approach to evidence-based curriculum mapping.

Disciplines
Curriculum and Instruction | Educational Assessment, Evaluation, and Research | Pharmacy and Pharmaceutical Sciences
USING EMBEDDED ASSESSMENTS TO TRACK ACCREDITATION STANDARDS AND GENERATE EVIDENCE-BASED CURRICULUM MAPS

Jane M. Souza, Ph.D.
Assistant Dean of Assessment
St. John Fisher College
Wegmans School of Pharmacy
Goals for tracking assessment data

- identify student weakness to remediate early
- Collect formative data for continuous improvement
- document curriculum coverage

Student Perspective
Faculty Perspective
Admin Perspective
Why track **embedded** assessments?

Data from faculty created test items

Let’s not throw away great data!
Why track **embedded** assessments?

Data from faculty created test items

Let’s not reduce the rich data to one grade.
So we know WHY… now HOW?

• Faculty generate test items – no change there
• Faculty code test items – NEW!
• Codes can identify
  • level of difficulty
  • course outcomes
  • program outcomes
  • core outcomes
  • accreditation standards

What would YOU track?
• Students:
  • What no paper?
  • Laptop requirement

• Faculty
  • Training
  • Coding

How might YOU track the data, electronically or otherwise?
Many benefits

• Faculty
  • Sharing capabilities
  • Research Opportunities
  • Documentation of teaching effectiveness
  • Inform class-level changes
  • No reading student handwriting

• Students
  • Quicker test results
  • Longitudinal reports
  • Inform study
  • No reading faculty handwriting
Many benefits

• Administration/Accreditation
  • Map full curriculum
  • Document density of coverage
  • Document student learning of desire outcomes
  • Inform continuous improvement
  • Evidence, evidence, evidence
So what does this coding look like?
Example: Accreditation guidelines
At the individual faculty level....

My course Learning Outcomes

- Fall Learning Outcomes
  - PHAR3117
    - 1. Classification
    - 2. Drug Indications
    - 3. Counseling Adverse Effects of
    - 4. Brand and Generic
    - 5. Normal Dose
    - 6. Dosage Forms
    - 7. Mechanism of Action
    - 8. Drug Interactions
    - 9. Medical Terminology

How are the students doing on the outcomes?

How am I doing teaching them?
Faculty use of the data...

<table>
<thead>
<tr>
<th>Course Learning Outcome</th>
<th>Assessment</th>
<th>Student Average</th>
<th># Items per Learning Outcome</th>
<th>What actions will be taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exam 1, 2</td>
<td>85.6%</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Exam 3, Paper 1</td>
<td>79.5%</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Exam 2</td>
<td>71.1%</td>
<td>56</td>
<td>Evidence-based changes to teaching strategies</td>
</tr>
<tr>
<td>4</td>
<td>Exam 4, Pres. 1</td>
<td>90.2%</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Exams 2, 3, 4</td>
<td>87.6%</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>
Sample Course-Level Curriculum Mapping

<table>
<thead>
<tr>
<th>Course Learning Outcome</th>
<th>Accreditation Standard/Program Outcome</th>
<th>Course Activity</th>
<th>Assessment</th>
<th>Results</th>
<th>Evidence-based Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the anatomy and physiology of the respiratory system</td>
<td>B01.01 B01.02 B01.03 PLO 1a</td>
<td>-Lecture 9.13.13 -Turning Point Questions -Video</td>
<td>Questions 1-15 on Exam 1</td>
<td>Avg. 87</td>
<td>Students did well. Went over errors during exam review</td>
</tr>
<tr>
<td>Describe the anatomy and physiology of the renal system</td>
<td>B01.01 B01.02 B01.04 PLO 1a</td>
<td>-Lecture 9.20.13 -Turning Point Questions -Video</td>
<td>Questions 16-30 Exam 1</td>
<td>Avg. 76</td>
<td>Student have trouble with renal. I will add group work and additional Turning Point questions</td>
</tr>
</tbody>
</table>
Student use of the data

<table>
<thead>
<tr>
<th>Student: J. Doe</th>
<th>Course</th>
<th>Number of Tests</th>
<th>Number of Test Items</th>
<th>Avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Outcome 1</td>
<td>101</td>
<td>6</td>
<td>30</td>
<td>96.0</td>
</tr>
<tr>
<td>Learning Outcome 2</td>
<td>102</td>
<td>5</td>
<td>50</td>
<td>93.0</td>
</tr>
<tr>
<td>Learning Outcome 3</td>
<td>101</td>
<td>5</td>
<td>35</td>
<td>72.5</td>
</tr>
<tr>
<td>Learning Outcome 4</td>
<td>103</td>
<td>12</td>
<td>140</td>
<td>94.0</td>
</tr>
</tbody>
</table>
# Administrative use of the data

## Old-Style Curriculum Map

<table>
<thead>
<tr>
<th>Course</th>
<th>Learning Outcome 1</th>
<th>Learning Outcome 2</th>
<th>Learning Outcome 3</th>
<th>Learning Outcome 4</th>
<th>Learning Outcome 5</th>
<th>Learning Outcome 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH101</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH102</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH103</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>PH104</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>PH105</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH106</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH107</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH108</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>PH109</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>PH110</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
# New Evidence-Based Curriculum Map

<table>
<thead>
<tr>
<th></th>
<th>LO 1</th>
<th>LO 2</th>
<th>LO 3</th>
<th>LO 4</th>
<th>LO 5</th>
<th>LO 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH101</td>
<td>85.7% (25)</td>
<td>75.02% (50)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH102</td>
<td></td>
<td>76.3% (60)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH103</td>
<td>86.2% (70)</td>
<td></td>
<td>65.3% (90)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH104</td>
<td></td>
<td>81.3% (50)</td>
<td></td>
<td></td>
<td></td>
<td>88.3% (50)</td>
</tr>
<tr>
<td>PH105</td>
<td>88.3% (20)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH106</td>
<td></td>
<td></td>
<td>66.3% (50)</td>
<td>88.3% (40)</td>
<td>88.9% (60)</td>
<td></td>
</tr>
<tr>
<td>PH107</td>
<td>86.4% (40)</td>
<td>64.2% (20)</td>
<td>90.5% (60)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH108</td>
<td></td>
<td>68.5% (25)</td>
<td>95.6% (25)</td>
<td>90.1% (60)</td>
<td></td>
<td>96.2% (20)</td>
</tr>
<tr>
<td>PH109</td>
<td></td>
<td></td>
<td>94.1% (60)</td>
<td></td>
<td>91.3% (20)</td>
<td></td>
</tr>
<tr>
<td>PH110</td>
<td>87.5% (15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>86.6% (150)</td>
<td>79.3% (200)</td>
<td>65.9% (185)</td>
<td>91.9% (185)</td>
<td>89.4% (190)</td>
<td>95.7% (50)</td>
</tr>
</tbody>
</table>
Let’s talk about all this..

What would YOU track?

How might YOU track the data, electronically or otherwise?

What are your barriers?
THANK YOU!

Jane M. Souza, Ph.D.

jsouza@sjfc.edu