Title: An Assessment Model to Guide Program Review and Inform Ongoing Quality Improvement Efforts

Mary Wurm-Schaar, Ph.D. and Anna Holtzman, M.F.E.
Ohio University Heritage College of Osteopathic Medicine, Athens, OH

Abstract

The Ohio University Heritage College of Osteopathic Medicine (OU-HCOM) is committed to high-quality, rigorous program assessment to advance academic excellence. High quality, reliable and valid outcomes data are vital to effective program assessment and essential to informed ongoing quality improvement efforts.

The OU-HCOM Office of Institutional Assessment and Accreditation (OIAA) developed and implemented a modified version of the Nichol’s five-column model to guide the collection and use of high quality evidence to guide program reviews and improve assessment efforts as well as to clarify the gestalt of these efforts and improve their usefulness. Various approaches and models that could be used to enhance the program review and improvement processes were reviewed and evaluated. The Nichol’s five-column model was selected, with slight modifications, because it clearly reflects the relationships between intended program outcomes and direct measures of success as well as corresponding improvement plans. The resultant, modified version of the five-column model targets the HCOM Doctor of Osteopathic Medicine program outcomes, which align with the profession’s core competencies. For each intended program learning outcome, the model requires reporting 1) the assessment method used to determine success, 2) the criteria for success, 3) the previous year’s assessment findings, and 4) the use of the results to support quality improvement efforts. Additional reporting requirements for each specified assessment method include providing an indication as to whether its usage reflects best practices and whether the resultant data accommodates external comparisons.

Methods

After evaluating various options, the Nichol’s Five-Column Model, a widely recognized assessment model that clearly illustrates the relationship between expected outcomes, assessment methods, criteria for success, evaluation results, and the use of those results to inform ongoing improvement efforts was selected, with slight modification, to guide the OIAA’s annual OU-HCOM program review. The college’s program outcomes reflect the seven Osteopathic Medical Competency Domains and clearly specify the expected learning outcomes in measurable terms. An inventory of assessment methods used to evaluate outcomes achievement and their corresponding criteria for success were compiled. Specifying the criteria for success included a review of current, relevant assessment issues such as the effects of content knowledge on standard setting judgements (e.g., see Margolis et al., 2016). Assessments included in the model were limited to direct measures of student learning and vetted for quality (e.g., validity and reliability).

Table 1: Nichol’s Model Excerpt – One Outcome in the Cognitive Domain

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Core Direct Assessment Methods</th>
<th>Criteria for Success/ Results Expected</th>
<th>Assessment Results/Summary</th>
<th>Use of Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate sufficient mastery of medical knowledge corresponding to established and evolving osteopathic, biomedical, clinical, epidemiological, social-behavioral, and care-based sciences to warrant acceptable acceptance into PGY1 position.</td>
<td>COMLEX 1</td>
<td>≥ 95% pass on first attempt</td>
<td>97%</td>
<td>Scores are above the target. No specific programmatic changes are needed but continue monitoring.</td>
</tr>
<tr>
<td>COMLEX 2-CE</td>
<td>≥ 95% pass on first attempt</td>
<td>90%</td>
<td>Scores meet the target. No programmatic changes are needed but monitor going forward.</td>
<td></td>
</tr>
<tr>
<td>“The AOA Seven Core Competencies serve as the foundation of our program learning outcomes.”</td>
<td>COMAT Subject Area Exams</td>
<td>≥ 90% of first-time test takers perform at minimal competency level on COMAT subject exams. Standard is above 1.5 SD below the standardized mean</td>
<td>Subject Areas - Family Medicine ≥91.6% - IM ≥ 93.1% - OB/GYN ≥ 92.2% - OMM ≥ 91.5% - Pods = 90.6% - Psych ≥ 91.6% - Surgery ≥ 89.2%</td>
<td>Pass rates meet targeted outcomes for all content areas. No programmatic changes needed. Monitor performance going forward. MedU modules to be implemented to improve content mastery in various areas.</td>
</tr>
</tbody>
</table>

Results

Table 1 illustrates one row in our initial model corresponding to a program outcome in the cognitive domain. Only direct assessment methods were included in the model. Whereas the use of measures, (e.g., graduation rates) are proxy indicators and imply that learning has occurred, direct measures provide tangible evidence of learning. Course grades are not considered direct indicators of student learning since a grade “… reflects only the degree to which the student is perceived to have learned in a specific context” (Middle States Commission on Higher Education, 2007, p. 37). While the model was limited to direct measures, the value of indirect measures (e.g., student satisfaction) was acknowledged since they tend to be related to the act of learning and can mediate or influence learning. Initial use of the model 1) helped to identify program outcomes, primarily in the psychomotor domain, that would benefit from additional targeted assessments to enhance data triangulation and 2) fostered the adoption of a common assessment language.

Resources

Beyond assessments produced by the National Board of Osteopathic Medical Examiners (NBOME) and other national testing bodies, there are numerous sources of high quality assessment instruments and related resources. Example key resources used in our initial model development are listed below:

Directory and Repository of Educational Assessment Measures (DREAM) – DREAM is a collection of assessment instruments with published psychometric evidence within MedEDPORTAL Publications. The repository includes peer-reviewed, critical analyses of all instruments.

- Standards for Educational and Psychological Testing is a product of the American Educational Research Association, the American Psychological Association (APA), and the National Council on Measurement in Education (NCME). It represents the gold standard in guidance on testing in the United States and in many other countries.

- Standardized Instructional and Assessment Methods and Resource Types, a product of MedBiquitous, provides a set of common vocabulary of instructional and assessment terms.

Conclusion

Usage of the modified Nichol’s model to organize our annual program review has fostered focused, critical review of the program’s assessment methods and instruments, observed results, and the utilization of the results to guide ongoing program improvement efforts. The model supports a “culture of evidence”, reflects the academic enterprise’s transition from producing instruction to producing learning, and is uniquely compatible with competency-based education. Model usage makes the implicit elements of program review explicit and each review cycle supports ongoing improvements in the assessment enterprise as well as the program. This model is commonly used in higher education applications and can be readily used by any Doctor of Osteopathic Medicine program.

References

