Developing High Quality Rubrics
(Focus on CAEP Accreditation)

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Overview

• The big picture: CAEP versus NCATE expectations
• Update on the CAEP Instrument Rubric
• Why use rubrics?
• Rubric design principles
  • Issues in rubric design
  • Common rubric weaknesses
  • Attributes of a well-designed rubric
• Rubric norming/calibration/training
• Comments about CAEP Standards
Resources

• Primary resources:
  • CAEP Instrument Rubric, June, 2016

• Additional resources:
  • CAEP Webinars on Standards 1-5, Reliability, and Validity
  • CAEP Accreditation Standards (Initial) Approved Aug 29, 2013, Amended Feb 13, 2015 and Jul 1, 2016
  • CAEP Accreditation Standards (Advanced), Effective Jul 1, 2016
  • CAEP article, “When States Provide Limited Data: Guidance on Using Standard 4 to Drive Program Improvement,” July 14, 2016
  • CAEP Standard 3 & Standard 4 FAQs

CAEP Versus NCATE Expectations

• Increased rigor regarding the quality of evidence used in support of accreditation
  • CAEP Instrument Rubric
  • Also evident in rubrics for CAEP Standard 5 Components

• Heightened emphasis on partnerships and engagement of partners/stakeholders

• Top priority placed on impact
  • CAEP Standard 4, all components (NOTE: all components are Required Components and this standard must be met for full accreditation
  • CAEP Component 3.1
  • CAEP Standard 5 (woven throughout the standard and its components)

• Meeting CAEP standards requires broad participation
The Case for Including Formative Assessment Data

- Standard 1, Component 1.1: “Candidates demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)...”

- Standard 2, Component 2.3: “…Clinical experiences, including technology-enhanced learning opportunities, are structured to have multiple performance-based assessments at key points within the program to demonstrate candidates’ development of the knowledge, skills, and professional dispositions...”

- Standard 3, Component 3.4: “The provider creates criteria for program progression and monitors candidates' advancement from admissions through completion... Providers present multiple forms of evidence to indicate candidates' developing content knowledge, pedagogical content knowledge, pedagogical skills, and the integration of technology in all of these domains.” (NOTE: evidence of the use of data for decision-making at key decision points is recommended.)

- Standard 5, Component 5.1: “The provider’s quality assurance system is comprised of multiple measures that can monitor candidate progress...”

New CAEP Rubrics

- CAEP Instrument Rubric: significantly revised in January 2016; revised again in June 2016*. Now a 3-level rubric:
  - Examples of Attributes Below Sufficient Level
  - CAEP Sufficient Level
  - Examples of Attributes Above Sufficient Level

- Draft rubrics for the Components of each Standard
  - Same 3-level format as the CAEP Instrument Rubric
  - Note the special importance for Required Components
CAEP Instrument Rubric

• Criteria assessed for assessment instruments:
  • Administration and Purpose
  • Informing Candidates
  • Content of Assessment
  • Scoring
  • Data Validity and Reliability

• Criteria assessed for surveys:
  • Administration and Purpose
  • Informing [Respondents]
  • Survey Content
  • Data Quality

Administration and Purpose

• EPP explicitly identifies when the assessment is administered (may be multiple times)

• Purpose of instrument and use of results are specified and appropriate

• Instrument is aligned with applicable standards (InTASC, state, CAEP, [SPA])
Informing Candidates

• Candidates are informed about the purpose of the assessment
• Instructions to candidates are informative and unambiguous
• Basis for judgment (criteria for success) is explicit

Content of Assessment

• Indicators assess explicitly identified aspects of CAEP, InTASC, or state [or SPA]* standards
• Indicators reflect the degree of difficulty or level of effort described in the standards and require applicable levels of intellectual behavior
• Indicators clearly describe proficiencies to be evaluated
• Most indicators (those representing at least 80% of total score) focus on consequential attributes of candidate proficiencies in the standards
Scoring

• Basis for judging candidate work is well defined
• All proficiency levels are qualitatively defined by specific criteria aligned with indicators
• Proficiency level descriptions represent a developmental sequence from level to level
• Proficiency level attributes are defined in actionable, performance-based, or observable behavior terms
• Feedback provided to candidates is actionable

Data Validity and Reliability

• Validity
  • Description or plan showing steps the EPP has taken or is taking to ensure validity
  • Details are provided regarding the types of validity established or under study
  • If assessment is new or revised, has it been piloted?
  • What is the current process or plan for analyzing and interpreting resulting data?
  • Do the steps above meet accepted research standards?

• Reliability
  • Details are provided regarding the type of reliability established or under study
  • Are scorer training and inter-rater reliability checks documented?
  • Do the steps above meet accepted research standards?
AIMS: 5 Questions for EPP-created Assessments

• During which part of the candidate's experience is the assessment used? Is the assessment used just once or multiple times during the candidate's preparation?

• Who uses the assessment and how are the individuals trained on the use of the assessment?

• What is the intended use of the assessment and what is the assessment purported to measure?

• Please describe how validity/trustworthiness was established for the assessment.

• Please describe how reliability/consistency was established for the assessment.

General Evidence Guidelines for CAEP

• Maximum of 90 uploaded artifacts (this limit will increase to accommodate advanced programs and team requests)

• Maximum file size: 20 Megs

• Data requirements:
  • Three (3) cycles of data; show “N” for each cycle (can aggregate multiple cycles for low “N” programs)
  • Disaggregate data by licensure area/program
  • If mean scores are presented, also show the range of scores
  • If percentages are reported, show specific percentages for all levels of performance (e.g., not just % at or above a threshold)
  • If grades/GPA are used, show means for education and non-education majors (i.e., benchmark this metric)

• Artifacts should include only relevant information

• Benchmark data whenever feasible
General Evidence Guidelines for CAEP

• Align uploaded artifacts one or more components, but write a holistic summary for each standard that states how your evidence collectively demonstrates that the standard is met

• Individual components do not need to be met EXCEPT for the designated “REQUIRED COMPONENTS,” which are 3.2, 4.1, 4.2, 4.3, 4.4, 5.3, and 5.4.

• Validity and reliability information is required only for EPP-developed assessment instruments (excludes surveys that collect perceptual data)

• Establish construct and content validity via an “essential task” or “critical indicator” analysis
  • Use experts to determine if assessed tasks/indicators are “essential,” “useful but not essential,” or “not necessary?” Rule of thumb: at least 50% of “experts” agreeing that a task/indicator is essential makes a good case for content validity.
  • Document above

Designing High Quality Rubrics

• Rubric definition

• When and why should rubrics be used?

• Issues in rubric design

• Attributes of high quality rubrics
Rubric Definition

“Rubric – 1. a tool for scoring student work or performances, typically in the form of a table or matrix, with criteria that describe the dimensions of the outcome down the left-hand vertical axis, and levels of performance across the horizontal axis. The work or performance may be given an overall score (holistic scoring), or criteria may be scored individually (analytic scoring). Rubrics are also used to communicate expectations to students [emphasis added].”

Western Association of Schools and Colleges (WASC) Glossary
(available on line at www.wascnonline.org/lexicon/14#letter-r)

Why Use Rubrics…and When?

• Minimize subjectivity in assessing student performance
  – Help ensure that you are focusing assessment on critical indicators for target learning outcomes (construct and content validity)
  – Help improve accuracy and consistency in assessment (reliability)
• Make learning goals transparent; provide a learning scaffold for students—well-designed rubrics enhance teaching and learning!
• Maximize the impact of your most knowledgeable faculty and stakeholders
• Produce actionable data at the student and program level
• With technology support, provide effective and efficient collection and management of key assessment data
Issues in Rubric Design

- Self-selected or directed activities/artifacts?
- Assignment-based or competency-based?
- What criteria should be assessed?
- Should performance levels flow low to high or high to low?
- Holistic or analytic grading?
- Evaluating performance vs. assessing for grading
- How many criteria?
- How many levels of performance?

Common Rubric Problems

- Including more performance levels than needed to accomplish the desired assessment task (e.g., multiple levels of “mastery”)
- Using highly subjective or inconsequential terms to distinguish between performance levels
- Using double- or multiple-barreled criteria or performance descriptors
- Failing to include all possible performance outcomes
- Using overlapping performance descriptors
- Attempting to use a single rubric to demonstrate level of proficiency and generate a “traditional” course assignment grade
- Failing to include performance descriptors or including descriptors that are simply surrogates for performance level labels
### Multiple Levels of Mastery and Use of Highly Subjective Terms to Distinguish between Performance Levels

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Unsatisfactory</th>
<th>Developing</th>
<th>Proficient</th>
<th>Distinguished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Laboratory Safety Policies</td>
<td>Candidate shows a weak degree of understanding of laboratory safety policies</td>
<td>Candidate shows a relatively weak degree of understanding of laboratory safety policies</td>
<td>Candidate shows a moderate degree of understanding of laboratory safety policies</td>
<td>Candidate shows a high degree of understanding of laboratory safety policies</td>
</tr>
</tbody>
</table>

### Multiple Levels of Mastery and Use of Only Highly Subjective Terms to Distinguish between Performance Levels

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Unsatisfactory</th>
<th>Developing</th>
<th>Proficient</th>
<th>Distinguished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Writing</td>
<td>Poorly written</td>
<td>Satisfactorily written</td>
<td>Well written</td>
<td>Very well written</td>
</tr>
</tbody>
</table>
## Multiple Levels of Mastery, Multiple Barreled Descriptors, Not All Possible Outcomes Included?

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Unsatisfactory</th>
<th>Developing</th>
<th>Proficient</th>
<th>Distinguished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Materials</td>
<td>Lesson plan does not reference any instructional materials</td>
<td>Instructional materials are missing for one or two parts of the lesson</td>
<td>Instructional materials for all parts of the lesson are listed and directly relate to the learning objectives.</td>
<td>Instructional materials for all parts of the lesson are listed, directly relate to the learning objectives, and are developmentally appropriate.</td>
</tr>
</tbody>
</table>

## Multiple Levels of Mastery and Not All Possible Performance Outcomes Included

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Unsatisfactory</th>
<th>Developing</th>
<th>Proficient</th>
<th>Distinguished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment to Applicable State P-12 Standards</td>
<td>No reference to applicable state P-12 standards</td>
<td>Referenced state P-12 are not aligned with the lesson objectives and are not age-appropriate</td>
<td>Referenced state P-12 standards are age-appropriate but are not aligned to the learning objectives.</td>
<td>Referenced state P-12 standards are age-appropriate and are aligned to the learning objectives.</td>
</tr>
</tbody>
</table>
### Multiple Levels of Mastery & Overlapping Performance Descriptors

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Unsatisfactory</th>
<th>Developing</th>
<th>Proficient</th>
<th>Distinguished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicating Learning Activity Instructions to Students</td>
<td>Makes two or more errors when describing learning activity instructions to students</td>
<td>Makes no more than two errors when describing learning activity instructions to students</td>
<td>Makes no more than one error when describing learning activity instructions to students</td>
<td>Provides complete, accurate learning activity instructions to students</td>
</tr>
</tbody>
</table>

### Overly Broad Criterion, Multiple Levels of Mastery & Multiple-barreled Performance Descriptors

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Unsatisfactory</th>
<th>Developing</th>
<th>Proficient</th>
<th>Distinguished</th>
</tr>
</thead>
</table>
### Attempting to Use a Rubric for Both Performance Assessment and “Traditional” Grading; No Performance Descriptors

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Poor (0 points) 0-59%</th>
<th>Marginal (1 point) 60-69%</th>
<th>Meets Expectations (2 points) 70-79%</th>
<th>Exceeds Expectations (3 points) 80-89%</th>
<th>Exemplary (4 points) 90-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion #1 [Standard(s)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criterion #2 [Standard(s)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criterion #3 [Standard(s)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criterion #4 [Standard(s)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Multiple Levels of Mastery & Use of Inconsequential Terms

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unacceptable</th>
<th>Acceptable</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment of Assessment to Learning Outcome(s)</td>
<td>The content of the test is not appropriate for this learning activity and is not described in an accurate manner.</td>
<td>The content of the test is appropriate for this learning activity and is described in an accurate manner.</td>
<td>The content of the test is appropriate for this learning activity and is clearly described in an accurate manner.</td>
</tr>
</tbody>
</table>
Attributes of an Effective Rubric

1. Rubric and artifact or activity to be assessed are well-articulated

2. Each criterion assesses an individual construct
   - No overly broad criteria
   - No double- or multiple barreled criteria

3. Rubric has construct and content validity

4. Performance descriptors:
   - Provide concrete, qualitative distinctions between performance levels
   - Show progression of development with no gaps or overlaps in performance levels

5. Rubric contains no unnecessary performance levels

6. Resulting data are actionable

AAC&U VALUE Rubric – Information Literacy

Available online at http://www.aacu.org/value/rubrics/index_p.cfm
### 4-level Rubric Template: A Framework Based on Bloom’s Taxonomy

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsatisfactory</th>
<th>Remembering, Understanding</th>
<th>Applying</th>
<th>Analyzing, Evaluating, Creating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Demonstration of content and pedagogical knowledge</td>
<td>Informed practice</td>
<td>Reflective and impactful practice</td>
</tr>
</tbody>
</table>

- Criterion 1
- Criterion 2
- Criterion 3
- Criterion 4

### An Example of Qualitative Differentiation of Performance Levels

<table>
<thead>
<tr>
<th>Alignment to Applicable P-12 Standards</th>
<th>Unacceptable</th>
<th>Developing</th>
<th>Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lesson plan does not demonstrate alignment of applicable P-12 standards to lesson objectives.</td>
<td>Lesson plan reflects partial alignment of applicable P-12 standards to lesson objectives (e.g. some objectives have no P-12 alignment or some P-12 standards listed are not related to lesson objectives).</td>
<td>Lesson plan reflects comprehensive alignment of all applicable P-12 standards to lesson objectives.</td>
</tr>
</tbody>
</table>
“Meta-rubric” to Evaluate Rubric Quality

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsatisfactory</th>
<th>Developing</th>
<th>Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubric Alignment to Assignment.</td>
<td>The rubric includes multiple criteria that are not explicitly or implicitly reflected in the assignment directions for the learning activity to be assessed.</td>
<td>The rubric includes one criterion that is not explicitly or implicitly reflected in the assignment directions for the learning activity to be assessed.</td>
<td>The rubric criteria accurately match the performance criteria reflected in the assignment directions for the learning activity to be assessed.</td>
</tr>
<tr>
<td>Comprehensiveness of Criteria</td>
<td>Multiple critical indicators for the competency being assessed are not reflected in the rubric.</td>
<td>One critical indicator for the competency being assessed is not reflected in the rubric.</td>
<td>All critical indicators for the competency being assessed are reflected in the rubric.</td>
</tr>
<tr>
<td>Integrity of Criteria</td>
<td>Multiple criteria each contain multiple, independent constructs (similar to &quot;double-barreled survey question&quot;).</td>
<td>One criterion contains multiple, independent constructs. All other criteria each consist of a single construct.</td>
<td>Each criterion consists of a single construct.</td>
</tr>
<tr>
<td>Quality of Performance Descriptors (A)</td>
<td>Performance descriptors are not distinct (i.e., mutually exclusive) AND collectively do not include all possible learning outcomes</td>
<td>Performance descriptors are not distinct (i.e., mutually exclusive) OR collectively do not include all possible learning outcomes.</td>
<td>Performance descriptors are distinct (mutually exclusive) AND collectively include all possible learning outcomes.</td>
</tr>
<tr>
<td>Quality of Performance Descriptors (B)</td>
<td>Distinctions between performance levels are purely quantitative with no qualitative component.</td>
<td>Distinctions between performance levels are qualitative but not concrete.</td>
<td>Performance levels are qualitatively differentiated and provide students with clear descriptions of performance at each level.</td>
</tr>
</tbody>
</table>

Rubric Norming/Calibration

- The purpose: to ensure accuracy and consistency of grading across students (i.e., intra- and inter-rater reliability)

- Steps in rubric norming/calibration:
  1. Review the rationale behind/value of the norming process
  2. Discuss the assignment prompt
  3. Review the rubric
  4. Review anchor artifacts to be used in the norming/calibration process
  5. Score practice papers
  6. Compare scores and discuss
  7. If available, compare participants’ scores to expert scores
Finally…

Some Comments about CAEP Standards 4 & 5

Standard 4, Component 4.1
Impact on P-12 Student Learning and Development

The provider documents, using multiple measures, that program completers contribute to an expected level of student-learning growth. Multiple measures shall include all available growth measures (including value-added measures, student-growth percentiles, and student learning and development objectives) required by the state for its teachers and available to educator preparation providers, other state-supported P-12 impact measures, and any other measures employed by the provider.

- Note: one year of completer data is required (2018)
- CAEP has indicated that representativeness expectation is at least 20%, but their recent article states that “EPPs should plan on working with a representative sample of their graduates, which does not necessarily mean a statistical representative sample [sic], but a group of completers representing various licensure areas and levels…”
Standard 4, Component 4.1
Examples of Possible Evidence

• Any EPP-linked, program-linked, or teacher-linked, state-provided P-12 student learning data
• Any teacher-linked, district-provided P-12 student learning data
• Collect data for a “representative” sample of completers
  – Sample does not have to be a statistically representative sample.
  – Sample should represent multiple programs, but may not need to represent all programs.
  – Sample may be a convenience sample (i.e., a sample taken from a single cooperating district).
  – Sample may be a small group of completers representing various licensure areas with impact data collected via case studies or action research projects.
  – Impact data may be based on completer-set goals using pre- and post-test measures.

Standard 4, Component 4.1
Examples of Possible Evidence (cont.)

• Collect data for a “representative” sample of completers (cont.)
  – Quantitative impact data could be reinforced by qualitative data via completers’ blogs, focus groups, interviews, etc.
  – Student growth can be measured by learning objectives and assessment metrics set by teachers. Such data could also be used.
  – EPPs could form coalitions to work with school districts on gathering student growth data. Coalitions could establish common measures such as observations of completers, interviews, blogs, focus groups, etc.
  – EPPs could strengthen partnerships with districts by establishing a collaborative induction program to support new teachers during their first few years of teaching while gathering data on teacher effectiveness/impact on P-12 student learning.
  – EPPs could conduct follow-up studies of the impact and effectiveness of completers’ use of teaching strategies taught in their programs.
Standard 4, Component 4.2

Indicators of Teaching Effectiveness

The provider demonstrates, through structured and validated observation instruments and/or student surveys, that completers effectively apply the professional knowledge, skills, and dispositions that the preparation experiences were designed to achieve.

- State-provided teacher effectiveness data
- Use of a structured and validated classroom observation instrument and/or
- P-12 student surveys (e.g., Dr. Ron Ferguson’s Tripod™ Survey)
- Survey response rates should be at least 10-15%

Standard 4, Component 4.2

Examples of Possible Evidence

- Findings resulting from use of a structured and validated classroom observation instrument
- P-12 student survey data (e.g., Dr. Ron Ferguson’s Tripod™ Survey) NOTE: survey response rates should be at least 10-15%
- Qualitative data from completers’ blogs, focus groups, interviews, etc.
- EPPs could form coalitions to work with school districts on gathering student growth data. Coalitions could establish common measures such as observations of completers, interview protocols, blogs, focus groups, etc.
- EPPs could strengthen partnerships with districts by establishing a collaborative induction program to support new teachers during their first few years of teaching while gathering data on teacher effectiveness/impact on P-12 student learning.
- EPPs could conduct follow-up studies of the impact and effectiveness of completers’ use of teaching strategies taught in their programs
Standard 4, Component 4.3
Satisfaction of Employers

The provider demonstrates, using measures that result in valid and reliable data and including employment milestones such as promotion and retention, that employers are satisfied with the completers’ preparation for their assigned responsibilities in working with P-12 students.

Standard 4, Component 4.3
Examples of Possible Evidence

- EPP or state-administered employer survey data (be sure to demonstrate representativeness)
- Focus groups/interviews (use qualitative research methodologies)
- Hiring rates for program completers
- Retention rates for program completers
- Promotion rates for program completers
- Positive data on school, district, state teachers of the year
- National Board certifications
Standard 4, Component 4.4
Satisfaction of Completers

The provider demonstrates, using measures that result in valid and reliable data, that program completers perceive their preparation as relevant to the responsibilities they confront on the job, and that the preparation was effective.

• Can use EPP or state survey instruments
• Focus groups/interviews (use qualitative research methodologies)

Standard 4, Component 4.4
Examples of Possible Evidence

• EPP or state-administered completer survey data (again, be sure to demonstrate representativeness)
• Completer interviews
• Completer focus groups
• Completer enrollment in advanced programs or professional development offered by the EPP they attended
Standard 5
Provider Quality Assurance and Continuous Improvement

The provider maintains a quality assurance system comprised of valid data from multiple measures, including evidence of candidates’ and completers’ positive impact on P-12 student learning and development. The provider supports continuous improvement that is sustained and evidence-based, and that evaluates the effectiveness of its completers. The provider uses the results of inquiry and data collection to establish priorities, enhance program elements and capacity, and test innovations to improve completers’ impact on P-12 student learning and development.

1. “...quality assurance system is comprised of multiple measures to monitor candidate progress, completer achievements, and provider operational effectiveness...”
2. “The provider’s quality assurance system relies on relevant, verifiable, representative, cumulative and actionable measures, and produces empirical evidence that interpretations of data are valid and consistent.”
3. Regular and systematic assessment of performance against goals
4. “Measures of completer impact...are summarized, externally benchmarked, analyzed, shared widely, and acted upon...”
5. Engagement of stakeholders in program evaluation, improvement, and identification of models of excellence
Questions/Comments?