

# Best Practices in Program Assessment

*Presented by*

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## Program Design Theory

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(Instructional Systems Development in Higher Education)

1. Establish target student learning outcomes
  - Institutional
  - Program-level
- 2. Identify authentic summative assessments**
3. Determine enabling knowledge and skills
4. Logically order the delivery of enabling knowledge and skills
5. Identify key formative assessments to effectively monitor students' progress at designated checkpoints (a.k.a. milestones or transition points)

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## Establishing Institutional Learning Outcomes

- Institutional Mission, Vision, & Values
- General Education
- *Higher Learning Commission (HLC)*
  - *Criterion 3.A.2:* The institution articulates and differentiates learning goals for its undergraduate, graduate, post-baccalaureate, post-graduate, and certificate programs.
  - *Criterion 3.B.1:* The general education program is appropriate to the mission, educational offerings, and degree levels of the institution.
  - *Criterion 3.b.2:* **The institution articulates the purposes, content, and intended learning outcomes of its undergraduate general education requirements.** The program of general education is grounded in a philosophy or framework developed by the institution or adopted from an established framework. It imparts broad knowledge and intellectual concepts to students and develops skills and attitudes that the institution believes every college-educated person should possess.
  - *Criterion 3.b.3:* **Every degree program offered by the institution engages students in collecting, analyzing, and communicating information; in mastering modes of inquiry or creative work; and in developing skills adaptable to changing environments.**
- AAC&U LEAP Initiative and VALUE Rubrics – we'll look at these later in the presentation

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## Establishing Program Learning Outcomes & Critical Indicators for Skills

- Faculty
  - Professional expertise
  - Best practices research
  - Networking/collaboration
- Stakeholders
- Professional associations/professional journals
- Applicable federal & state guidelines
- Accreditation agencies
- Aspirational peer institutions
- **Critical indicators: using a job task analysis approach**

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## Connecting the Dots: A Program-level Curriculum & Assessment (C&A) Map LIVETEXT

- Documents where target learning outcomes/ competencies are taught and where key formative and summative assessments are administered
- Can be used to help balance faculty workload across a program (regarding key assessments)
- Helps ensure comprehensive coverage of all target learning outcomes in the program curriculum
- Serves as a foundation for syllabi of required courses
- Provides a framework for faculty discussions on assessing students' progress and mastery (to ensure comprehensive formative and summative assessment and appropriate use of assessment data)
- Documents continuity of institutional learning outcomes beyond general education

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## Curriculum & Assessment Map LIVETEXT

	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Etc.	Exam	Capstone Course
Competency 1	X	X	F1			R		S1	S3
Competency 2	X	R	F1		R			S1	S3
Competency 3	X	X		F2		R		S1	S3
Competency 4		X	X	R	F3	R		S2	S3
Competency 5		X	R	F2	R			S2	S3
Competency 6	X	R	R	R	F3	R		S2	S3

F1, F2, etc. are reflected in syllabi as critical assessments of applicable competencies  
 X = Basic elements taught in curriculum      R = Reinforced in curriculum

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## Program Assessment Requirements: What is the “Right” Number of Key Assessments?

Programs should identify a **manageable** number of robust and well articulated key formative and summative assessments that collectively provide mid-program evidence of students’ progress at designated checkpoints (a.k.a., milestones or transition points) as well as convincing end-of-program evidence of students’ mastery of all applicable student learning outcomes.

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## How Do Key Program Assessments Differ from Course Assessments for Grading?

- The purpose of key formative and summative program assessments is to monitor and verify students’ acquisition and mastery of program-level target learning outcomes.
- Typical “traditional” grading strategies are usually designed to calculate course grades.
  - May not provide evidence of student performance related to all target learning outcomes
  - Often result in rubrics with multiple levels of mastery in key assessment rubrics, which can result in a variety of major assessment problems
- Let’s look in more detail at how these two categories of assessment differ

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## “Traditional” Course-Centric Assessment

- Primary purpose is to calculate a course grade based on a course grading formula, which is usually included in the course syllabus
- May or may not assign different weighting factors to different assessments
- Usually aligned with established **course objectives** (explicitly or implicitly)
- Differentiation of “formative” and “summative” assessments is from a course-based perspective
- Use of well-designed rubrics to assess student **performance** is rare
- This is the appropriate domain for “academic freedom” in assessment

## Program-level Assessment

- A critical dimension of assessment!
- Purposeful assessment of program-level target learning outcomes should be an integral element of program design and development
- Faculty need to embrace both course- and program-level perspectives of curriculum and assessment
- Faculty “own” program-level assessment just as they “own” course-level assessment, but “academic freedom” at the program-level is a joint/collaborative domain
- Stakeholders should play an active role in helping to establish program-level target learning outcomes
- Technology support is essential to effective program-level assessment

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## Key/Signature Assessments: Some Important Considerations

- What criteria should be assessed, and how are those criteria determined?
- Linear vs. non-linear approach?
- Self-selected or directed artifacts?
- Do key assessments provide comprehensive formative and summative assessment of all key competencies?
- Are key assignments well-articulated with key assessment instruments?
- How many levels of performance should be included?
- Should grading be holistic or analytic?

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## 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

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## Attributes of an Effective Rubric

- The rubric and the assessed activity or artifact are well-articulated
- The rubric has construct validity (you are assessing the “right stuff”) and content validity (rubric criteria represent all critical indicators for the competency(ies) being assessed)
- Each criterion assesses an individual construct (there are no double- or multiple-barreled criteria)
- Performance descriptors:
  - Provide concrete, qualitative distinctions between performance levels (there are no overlaps between performance levels)
  - Collectively address all possible performance levels (there are no gaps between performance levels)

## “Meta-rubric” to Evaluate Rubric Quality

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

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## Common 5-Level Rubric Template

Criteria	Poor (0 points) 0-59%	Marginal (1 point) 60-69%	Meets Expectations (2 points) 70-79%	Exceeds Expectations (3 points) 80-89%	Exemplary (4 points) 90-100%
Criterion #1 [Standard(s)]					
Criterion #2 [Standard(s)]					
Criterion #3 [Standard(s)]					
Criterion #4 [Standard(s)]					

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## Common 4-Level Rubric Template

Criteria	Unsatisfactory (0 pts)	Developing (1 pt)	Proficient (2 Pts)	Exemplary (3 pts)
Criterion #1 [Standard(s)]				
Criterion #2 [Standard(s)]				
Criterion #3 [Standard(s)]				
Criterion #4 [Standard(s)]				

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## A Better 4-Level Rubric Template

Criteria	Unsatisfactory (0 pts)	Developing 1 (1 pt)	Developing 2 (2 Pts)	Mastery (3 pts)
Criterion #1 [Standard(s)]				
Criterion #2 [Standard(s)]				
Criterion #3 [Standard(s)]				
Criterion #4 [Standard(s)]				

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## Association of American Colleges & Universities

### Liberal Education & America's Promise (LEAP)

- “Liberal Education and America’s Promise (LEAP) is a national advocacy, campus action, and research initiative that champions the importance of a twenty-first century liberal education—for individual student success and for a nation dependent on economic creativity and democratic vitality.” (An Introduction to LEAP, AAC&U, available online at: <https://www.aacu.org/sites/default/files/files/LEAP/IntroToLEAP2015.pdf>)
- Key elements of the LEAP initiative:
  - Essential Learning Outcomes
  - High-Impact Educational Practices
  - Authentic Assessments

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## LEAP Essential Learning Outcomes

- **Knowledge of Human Cultures and the Physical and Natural World:**
  - Through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts
- **Intellectual and Practical Skills, including:**
  - Inquiry and analysis
  - Critical and creative thinking
  - Written and oral communication
  - Quantitative literacy
  - Information literacy
  - Teamwork and problem solving
- **Personal and Social Responsibility, including:**
  - Civic knowledge and engagement—local and global
  - Intercultural knowledge and competence
  - Ethical reasoning and action
  - Foundations and skills for lifelong learning
- **Integrative and Applied Learning, including:**
  - Synthesis and advanced accomplishment across general and specialized studies



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## AAC&U VALUE Rubrics

**(Valid Assessment of Learning in Undergraduate Education)**

1. Civic Engagement	10. Foundations and Skills for Lifelong Learning
2. Creative Thinking	11. Oral Communication
3. Critical Thinking	12. Problem Solving
4. Ethical Reasoning	13. Quantitative Literacy
5. Global Learning	14. Reading
6. Information Literacy	15. Teamwork
7. Inquiry and Analysis	16. Written Communication
8. Integrative Learning	
9. Intercultural Knowledge and Competence	



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**AAC&U VALUE Rubric – Information Literacy** **LIVETEXT**

Available online at [http://www.aacu.org/value/rubrics/index\\_p.cfm](http://www.aacu.org/value/rubrics/index_p.cfm)

**INFORMATION LITERACY VALUE RUBRIC**  
*for more information, please contact [rubric@aacu.org](mailto:rubric@aacu.org)*

Definition  
The ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively and responsibly use and share that information for the problem at hand. – The National Forum on Information Literacy  
Evaluators are encouraged to assign a grade to any work sample or selection of work that does not meet benchmarks (at any level) performance.

	4	3	2	1
<b>Determine the Extent of Information Needed</b>	Effectively defines the scope of the research question or thesis. Effectively determines key concepts. Types of information (sources) selected directly relate to concepts or answer research question.	Defines the scope of the research question or thesis completely. Can determine key concepts. Types of information (sources) selected relate to concepts or answer research question.	Defines the scope of the research question or thesis incompletely (parts are missing, terms too broad or too narrow, etc.). Can determine key concepts. Types of information (sources) selected partially relate to concepts or answer research question.	Has difficulty defining the scope of the research question or thesis. Has difficulty determining key concepts. Types of information (sources) selected do not relate to concepts or answer research question.
<b>Access the Needed Information</b>	Accesses information using effective, well-designed search strategies and most appropriate information sources.	Accesses information using variety of search strategies and some relevant information sources. Demonstrates ability to refine search.	Accesses information using simple search strategies, retrieves information from limited and similar sources.	Accesses information randomly, retrieves information that lacks relevance and quality.
<b>Evaluate Information and its Sources Critically*</b>	Chooses a variety of information sources appropriate to the scope and discipline of the research question. Selects sources after consulting the importance (in the researched topic) of the multiple criteria used (such as relevance to the research question, currency, authority, audience, and bias or point of view).	Chooses a variety of information sources appropriate to the scope and discipline of the research question. Selects sources using multiple criteria (such as relevance to the research question, currency, authority, and audience).	Chooses a variety of information sources. Selects sources using basic criteria (such as relevance to the research question and currency).	Chooses a few information sources. Selects sources using limited criteria (such as relevance to the research question).
<b>Use Information Effectively to Accomplish a Specific Purpose</b>	Communicates, organizes and synthesizes information from sources to fully achieve a specific purpose, with clarity and depth.	Communicates, organizes and synthesizes information from sources. Intended purpose is achieved.	Communicates and organizes information from sources. The information is not yet synthesized, so the intended purpose is not fully achieved.	Communicates information from sources. The information is fragmented and/or used inappropriately (misquoted, taken out of context, or incorrectly paraphrased, etc.), so the intended purpose is not achieved.
<b>Access and Use Information Ethically and Legally</b>	Students use correctly all of the following information use strategies (use of citations and references, choice of paraphrasing, summary, or quoting, using information in ways that are true to original context, distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly three of the following information use strategies (use of citations and references, choice of paraphrasing, summary, or quoting, using information in ways that are true to original context, distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly two of the following information use strategies (use of citations and references, choice of paraphrasing, summary, or quoting, using information in ways that are true to original context, distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly one of the following information use strategies (use of citations and references, choice of paraphrasing, summary, or quoting, using information in ways that are true to original context, distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.

\*Corrected Distinction 3: Evaluate Information and its Sources Critically in July 2013.

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**The LEAP Challenge: Signature Assignment** **LIVETEXT**

- Grounded in Essential Learning Outcomes
- Rich in Inquiry-based and Integrative Learning
- At progressively more challenging levels
- Evaluated consistently through milestone and capstone assessments
- For all students

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## Teacher Education Rubric Template Based on Bloom's Taxonomy

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Criteria	Unsatisfactory	Remembering, Understanding	Applying	Analyzing, Evaluating, Creating
Criterion 1				
Criterion 2				
Criterion 3				
Criterion 4				

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## How Might That Look When Applied to Teacher Education?

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Criteria	Unsatisfactory	Remembering, Understanding	Applying	Analyzing, Evaluating, Creating
		Demonstration of content and pedagogical knowledge	Informed practice	Reflective and impactful practice
Criterion 1				
Criterion 2				
Criterion 3				
Criterion 4				

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## Common Rubric Problems

- Including more performance levels than are 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

## An Example of Qualitative Differentiation of Performance Levels

	Unacceptable	Developing	Mastery
Alignment to Applicable P-12 Standards	Lesson plan does not demonstrate alignment of applicable P-12 standards to lesson objectives.	Lesson plan reflects partial alignment of applicable P-12 standards to lesson objectives (e.g. some objectives have no P-12 alignment and/or some P-12 standards listed are not related to lesson objectives).	Lesson plan reflects comprehensive alignment of all applicable P-12 standards to lesson objectives.

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## Dr. Peter Ewell

**President Emeritus, National Center for Higher Education Management Systems (NCHEMS) and Senior Scholar for the National Institute for Learning Outcomes Assessment (NILOA)**

Dr. Ewell has written numerous publications about the quality of evidence used to demonstrate student learning for the Council for Higher Education Accreditation (CHEA), the National Institute for Learning Outcomes Assessment (NILOA), and the Council for the Accreditation of Educator Preparation (CAEP). In his article, *"Principles for Measures Used in the CAEP Accreditation Process,"* he suggests that all of the following qualities of evidence should be present:

1. Validity and Reliability
2. Relevance
3. Verifiability
4. Representativeness
5. Cumulativeness
6. Fairness
7. Stakeholder Interest
8. Benchmarks
9. Vulnerability to Manipulation
10. Actionability

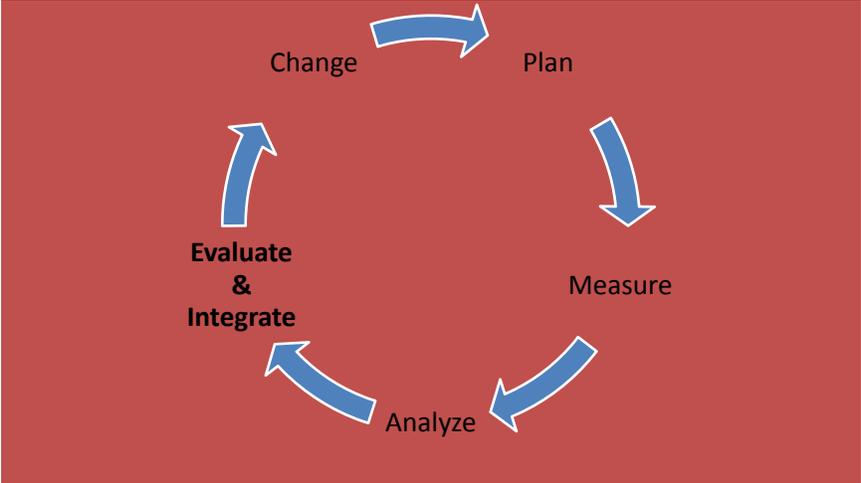
Article available at: <http://caepnet.org/standards/commission-on-standards>



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## Implications for the Continuous Quality Improvement Cycle



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graph TD
    Change --> Plan
    Plan --> Measure
    Measure --> Analyze
    Analyze --> Evaluate_Integrate[Evaluate & Integrate]
    Evaluate_Integrate --> Change
  
```

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## Summary/Reflection

- Differentiate between course-centric assessment and program-level assessment
- Establish program-level target learning outcomes for all programs
- Programs should also incorporate and build upon institutional learning outcomes
- Identify critical indicators for target learning outcomes
- Develop well-designed rubrics for key formative and summative performance assessments
- Ensure that program assessment systems are comprehensive and well articulated
- Make your assessment system transparent

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  - My PowerPoint presentations from all sessions today
  - Resources for institutional effectiveness (continuous quality improvement) assessment and for designing high quality rubrics, including my "meta-rubric"
  - Links to AAC&U LEAP Initiative information and VALUE Rubrics
  - Link to National Institute for Learning Outcomes Assessment (NILOA)
  - Article: "Principles for Measures Used in the CAEP Accreditation Process" (Peter Ewell, May 29, 2013)
  - For those of you in educator preparation:
    - CAEP Accreditation Handbook v3 March 2016
    - CAEP Evidence Guide January 2015
    - CAEP Instrument Rubric June 2016
    - CAEP article, "When States Provide Limited Data: Guidance on Using Standard 4 to Drive Program Improvement," July 14, 2016
    - InTASC Model Core Teaching Standards and Learning Progressions for Teachers (2013)
    - Links to the latest versions of CAEP standards for initial and advanced programs
    - Link to CAEP's Accreditation Resources web page

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**Questions/Comments?**



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