Rubric Design for Assignment and Course Assessment

KCTL Spring Workshop

5/2/2024

KINGSBOROUGH COMMUNITY COLLEGE

★ DREAMS BEGIN HERE ★

KCTL

Kingsborough Center for Teaching and Learning

KCC ASSESSMENT FRAMEWORK

QUEST

QUALITY • UNDERSTANDING

EQUITY • SHARING • TRANSPARENCY

Today's Objectives

- Explain what rubrics are and how they differ from other assessment artifacts
- Explore a few different types of rubrics and identify where you may wish to use each type
- Discuss process of developing your own rubric

First: A Question for You

- Think of a time recently that you received formal feedback
  - What was the feedback about?
  - What form did it come in?
  - What was helpful about the feedback? What would have helped you more?

Example:

Category:	Berry Mead (M2C)
Required Info:	Blueberry standard mead. 14% ABV, still, semi-sweet.
Bottle Inspection:	☑ Appropriate size, cap, fill level, label removal, etc.

Aroma **5 / 10**

Very light blueberry that emerges as it warms, otherwise aroma is muted (low to no honey)

Appearance **5 / 6**

Deep red/purple, good clarity, still, legs that linger

Flavor **16 / 24**

Light acidity, some hot alcohol, honey forward with some light fruitiness, some light tannins for balance, finish is a bit dry for medium sweet, with a light lingering sweetness, a bit thin on body and a very light lingering bitterness

Overall Impression **7 / 10**

Well made mead, gorgeous color, slight alcohol burn and could perhaps have some more body as well as tannin or acidity to balance the sweetness, but enjoyable

Total **33 / 50**

Outstanding	(45-50)	World-class example of style.
Excellent	(38-44)	Exemplifies the style well, requires minor fine tuning.
Very Good	**(30-37)**	**Generally within style parameters, some minor flaws.**
Good	(21-29)	Misses the mark on style and/or minor flaws.
Fair	(14-20)	Off flavors/aromas or major style deficiencies. Unpleasant.
Problematic	(00-13)	Major off flavors and aromas dominate. Hard to drink.

What is a rubric?

A rubric is a **scoring tool** that **explicitly represents** the performance expectations for an assignment or piece of work.

A rubric **divides the assigned work into component parts** and **provides clear descriptions** of the characteristics of the work associated with each component, **at varying levels of mastery.**

From: The Eberley Center for Teaching and Learning Grading and Performance Rubrics

When might you use rubrics?

- For assessment of an assignment
- By students for self-assessment or peer assessment
- For course assessment
- For program assessment

Why rubrics?

- Create a faster, fairer, more consistent grading practice for instructors;
- Set up clear expectations and grading criteria;
- Provide focused, actionable feedback for students;
- Can create lasting evidence of temporary work (e.g., performances)
- When data is aggregated, highlight particularly challenging areas and help determine where curriculum changes or additional supports might be needed

Adapted from Stevens, D. & Levi, A. (2013) *Introduction to Rubrics*.

Holistic Rubric

One dimension/category
(with a few components)

Three levels of mastery

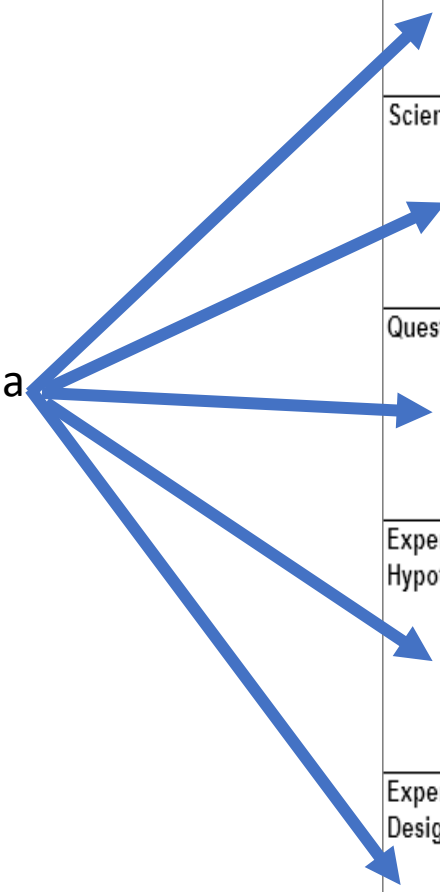
Score of 3 Proficient	**Project had a hypothesis, procedure, collected data, and analyzed results.** **Project is thorough and finding(s) are in agreement with data collected.** **May have minor inaccuracies that do not effect quality of project.**
Score of 2 Adequate	**Project may have a hypothesis, procedure, collected data, and analyzed results.** **Project not as thorough as it could be; there are a few overlooked areas.** **Has a few inaccuracies that effect quality of project.**
Score of 1 Limited	**Project may have a hypothesis, procedure, collected data, and analyzed results.** **Has several inaccuracies that effect quality of project.**

Source: Luft, J. (1997). Design Your Own Rubric. *Science Scope*, Feb. 97, p. 25-27

Analytical Rubric

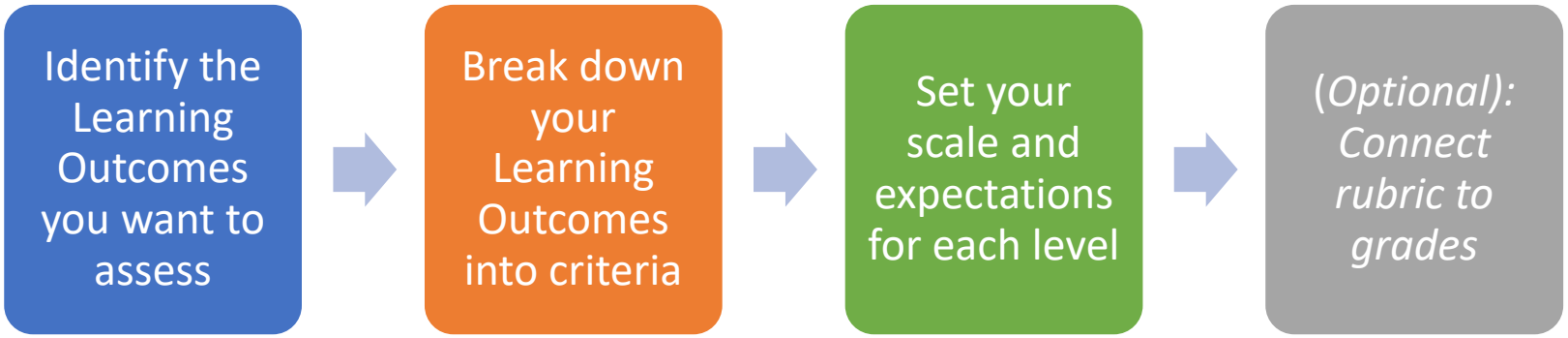
Four levels of mastery

Five criteria



CATEGORY	Accomplished (4)	Proficient (3)	Developing (2)	Novice (1)
Components of the report	All required elements are present and additional elements that add to the report (e.g., thoughtful comments, graphics)	All required elements are present.	One required element is missing, but additional elements that add to the report (e.g., thoughtful comments, graphics)	Several required elements are missing.
Scientific Concepts	Report illustrates an accurate and thorough understanding of scientific concepts underlying the lab.	Report illustrates an accurate understanding of most scientific concepts underlying the lab.	Report illustrates a limited understanding of scientific concepts underlying the lab.	Report illustrates inaccurate understanding of scientific concepts underlying the lab.
Question/Purpose	The purpose of the lab or the question to be answered during the lab is clearly identified and stated.	The purpose of the lab or the question to be answered during the lab is identified, but is stated in a somewhat unclear	The purpose of the lab or the question to be answered during the lab is partially identified, and is stated in a somewhat unclear	The purpose of the lab or the question to be answered during the lab is erroneous or irrelevant.
Experimental Hypothesis	Hypothesized relationship between the variables and the predicted results is clear and reasonable based on what has been studied.	Hypothesized relationship between the variables and the predicted results is reasonable based on general knowledge and observations.	Hypothesized relationship between the variables and the predicted results has been stated, but appears to be based on flawed logic.	No hypothesis has been stated.
Experimental Design	Experimental design is a well-constructed test of the stated hypothesis.	Experimental design is adequate to test the hypothesis, but leaves some unanswered questions.	Experimental design is relevant to the hypothesis, but is not a complete test.	Experimental design is not relevant to the hypothesis.

Designing an Analytic Rubric



Identify the Learning Outcomes you want to assess

What is the purpose of the assessment? Are you assessing?

- Institutional Learning Outcomes?
- Program Learning Outcomes?
- Course Learning Outcomes?
- Unit Learning Outcomes?

Final project: A research report designed to assess Course Learning Outcomes:

1. Identify and describe domain-specific theories and phenomena across the major domains of cognition
2. Identify the elements of experimental designs that create opportunity to test a theoretical idea.
3. Form inferences about an observed result and evaluate whether or not a result conforms to a prediction made by a theory in cognitive psychology.

Break down your Learning Outcomes into criteria

Course Learning Outcome	What do they do in this assignment that demonstrates their learning of this LO?	Rubric Criterion
1. Identify and describe domain-specific theories and phenomena across the major domains of cognition	Clearly describe the theory or phenomenon related to cognition that will be discussed in the paper Explain its importance and why it is worth studying Develop a question to explore this topic	Developing/Explaining a Research Question
2. Identify the elements of experimental designs that create opportunity to test a theoretical idea.	Understand and explain different research methodologies Highlight key parts of the studies that will help answer the research question	Describing Research Studies
3. Form inferences about an observed result and evaluate whether or not a result conforms to a prediction made by a theory in cognitive psychology.	Interpret results of individual studies and evaluate whether or not they support existing theories Consolidate results of multiple studies to find a cohesive answer to your research question	Drawing Conclusions from Results

Set your scale and expectations for each level

- Choose the number of levels you want.
- Pick the language you want to use.
  - Unacceptable…Marginal…Proficient…Distinguished
  - Beginning…Developing…Competent…Exemplary
  - Novice…Intermediate…Proficient…Distinguished
  - Needs Improvement…Satisfactory… Accomplished
  - Unacceptable…Emerging…Minimally Acceptable…Acceptable…Accomplished…Exemplary

The Kingsborough “Official” Scale:

Does Not Meet Expectations -> Partially Meets Expectations -> Meets Expectations -> Exceeds Expectations

Set your scale and expectations for each level

- For each criteria, define what you think is an "acceptable" level of performance.
  - Then, expand out – what are the characteristics of an "exemplary" level? What are the characteristics of a sample that falls short of expectations?

Hints for performance level descriptions:

- Look at examples of existing rubrics and adapt them.
- Describe the characteristics of the "ideal" and the "worst" case. Identify the most common errors that make an example fall short of "ideal" or the qualities that make it better than the "worst" case.
- Using samples of existing work, divide into levels corresponding to the levels you set. What are the qualities of the best work? The poorest work? Add descriptors to the appropriate categories.

Criterion	*Activities/Evidence of Meeting Criteria*	Meets Expectations	Approaches Expectations	Does Not Meet Expectations
Developing/Explaining a Research Question	*Clearly describe the theory or phenomenon related to cognition that will be discussed in the paper* *Explain its importance and why it is worth studying*	Student thoroughly explains a key theory or phenomenon and why it is important to the field	Student has selected a key topic for discussion but does not thoroughly explain key concepts or why it is important to the field	Topic selected for the paper is not completely explained or it is not clear why it is worth studying
Describing Research Studies	*Understand and explain different research methodologies* *Highlight key parts of the studies that will help answer the research question*			

(Optional): Connect rubric to grades

Term Paper Grading Rubric

Title of Paper: _____

Team Members: _____

	Exemplary 5	**Good 4**	**Adequate 3**	**Marginal 2**	**Poor 1**	**Score**
Explanation of Topic (25 points)	Topic is clearly stated and the current status is well described	Topic is clearly stated and the current status is described	Topic is stated & the current status is could be described more clearly	Topic is stated but the current status is unclear	Topic is not stated and is current status is not defined	___ x 5 =
Microbiology of Topic (research findings) (30 points)	Several studies and their results are described. Studies are from different sources, including journal articles	Several studies and their results are described. Studies are from different sources but do not include journal articles	More than one study is described from a journal article and other source	One study from a journal article is described	One study is described and the source is not a journal article	___ x 6 =
Application to other fields (Legal, ethical, social issues) (15 points)	The issues are stated and clearly explained	The issues are stated and explained	The issues are stated but they are not clearly explained	The issues are stated but they are not explained	No relationship to other fields is mentioned in the paper	___ x 3 =
Opinion based on research (10 points)	Opinion is mentioned and it is based on scientific evidence	Opinion is mentioned and it is based on some scientific evidence	Opinion is mentioned but it is based on little scientific evidence	Opinion is mentioned but it is not based on scientific evidence	Opinion is not mentioned	___ x 2 =
Bibliography (10 points)	More than 3-5 references, from 2005-2011, written in proper format	Between 3-5 references, from 2005-2011, written in proper format	3 references, from 2005-2011, written in proper format	3 references, some are not between 2005-2011 and there are not presented in the proper format	No references cited	___ x 2 =
Format (5 points)	Paper is well organized; spelling and grammatical errors are minor	Paper is well organized; a few spelling and grammatical errors	Paper is organized; a few spelling and grammatical errors	The organization of the paper could be improved; the number of spelling and grammatical is high	Paper is not well organized and there are many spelling and grammatical errors that make the paper hard t o understand	___ x 1 =
Attended meeting and supplied references (0 or 5)						
Paper submitted on time (0 or -5)						
TOTAL (100)						

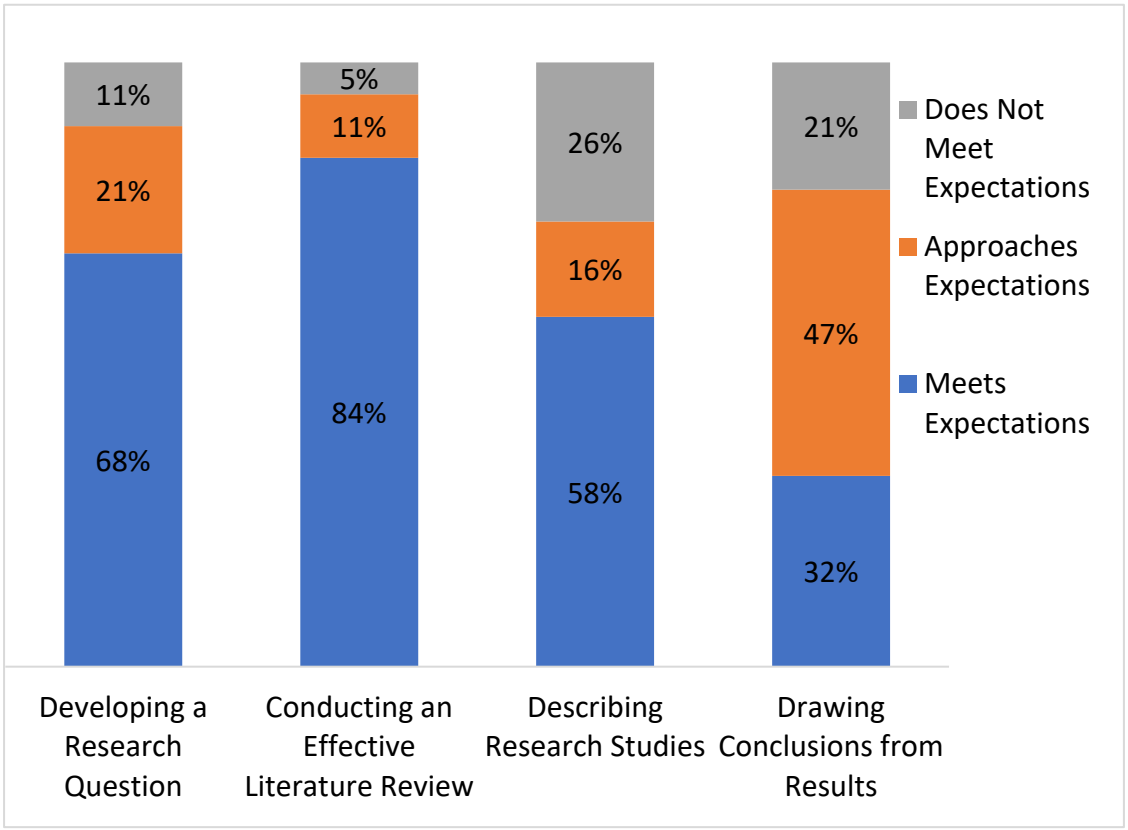
(Optional): Connect rubric to grades

Criterion	Out of:	Scale
Developing/Explaining a Research Question	10	>8 : Meets Expecations 6-8: Approaches Expectations <6: Does Not Meet Expectations
Conducting an Effective Literature Review	10	>8 : Meets Expectations 6-8: Approaches Expectations <6: Does Not Meet Expectations
Describing Research Studies	15	>13: Meets Expectations 10-13: Approaches Expectations <10: Does Not Meet Expectations
Drawing Conclusions from Results	10	>8 : Meets Expecations 6-8: Approaches Expectations <6: Does Not Meet Expectations
Use of Feedback from Initial Draft	*5*	

Once You've Designed Your Rubric:

1. Test/Revise/Refine It!
   - Get feedback from peers
   - Try it out with previous assignments
   - See what your students think!
2. Share it with your students to review as they complete their assignment
3. Use to provide feedback to your students
4. Use the results to guide your teaching!

Example: Using Rubric Results



- Where are my students doing well? Where are they struggling?
- What do I do in my class to help support each of these criteria? Where can I do more?

Designing a Rubric – Resources

Books

Arter, J. & McTighe, J. (2001). *Scoring Rubrics in the Classroom.*
Huba, M.E. & Freed, J.E. (2000). *Learner-Centered Assessment on College Campuses.*
Maki, P.L. (2004). *Assessing for Learning.*
Stevens, D.D. & Levi, A.J. (2013) *Introduction to Rubrics: An Assessment Tool To Save Grading Time, Convey Effective Feedback and Promote Student Learning*.

Online Resources

Good "how to" site focusing on assessment, including rubrics
http://jonathan.mueller.faculty.noctrl.edu/toolbox/rubrics.htm
Grading & performance rubrics with links to sample rubrics
http://www.cmu.edu/teaching/designteach/teach/rubrics.html
Links to rubrics samples from University of Alabama
http://www.assessment.ua.edu/Rubrics/Non_UA_Rubrics.html
Rubistar online primary traits analysis rubric generator
http://rubistar.4teachers.org/
Another free online analytical rubric generator
http://myt4l.com/index.php?v=pl&page_ac=view&type=tools&tool=rubricmaker

Sample Rubrics:

WRITTEN COMMUNICATION VALUE RUBRIC

for more information, please contact value@aacu.org

Definition

Written communication is the development and expression of ideas in writing. Written communication involves learning to work in many genres and styles. It can involve working with many different writing technologies, and mixing texts, data, and images. Written communication abilities develop through iterative experiences across the curriculum.

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

	Capstone 4	Milestones 3	Milestones 2	Benchmark 1
Context of and Purpose for Writing *Includes considerations of audience, purpose, and the circumstances surrounding the writing task(s).*	Demonstrates a thorough understanding of context, audience, and purpose that is responsive to the assigned task(s) and focuses all elements of the work.	Demonstrates adequate consideration of context, audience, and purpose and a clear focus on the assigned task(s) (e.g., the task aligns with audience, purpose, and context).	Demonstrates awareness of context, audience, purpose, and to the assigned tasks(s) (e.g., begins to show awareness of audience's perceptions and assumptions).	Demonstrates minimal attention to context, audience, purpose, and to the assigned tasks(s) (e.g., expectation of instructor or self as audience).
Content Development	Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.	Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.	Uses appropriate and relevant content to develop and explore ideas through most of the work.	Uses appropriate and relevant content to develop simple ideas in some parts of the work.
Genre and Disciplinary Conventions *Formal and informal rules inherent in the expectations for writing in particular forms and/or academic fields (please see glossary).*	Demonstrates detailed attention to and successful execution of a wide range of conventions particular to a specific discipline and/or writing task (s) including organization, content, presentation, formatting, and stylistic choices	Demonstrates consistent use of important conventions particular to a specific discipline and/or writing task(s), including organization, content, presentation, and stylistic choices	Follows expectations appropriate to a specific discipline and/or writing task(s) for basic organization, content, and presentation	Attempts to use a consistent system for basic organization and presentation.
Sources and Evidence	Demonstrates skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing	Demonstrates consistent use of credible, relevant sources to support ideas that are situated within the discipline and genre of the writing.	Demonstrates an attempt to use credible and/or relevant sources to support ideas that are appropriate for the discipline and genre of the writing.	Demonstrates an attempt to use sources to support ideas in the writing.
Control of Syntax and Mechanics	Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.	Uses straightforward language that generally conveys meaning to readers. The language in the portfolio has few errors.	Uses language that generally conveys meaning to readers with clarity, although writing may include some errors.	Uses language that sometimes impedes meaning because of errors in usage.

[AAC&U VALUE Rubrics]

Assessment rubric for open-ended concept questions

	Beginning 1	Developing 2	Accomplished 3	Exemplary 4
Terminology	Description of identifiable use of terminology reflecting a beginning level of use (e.g. 'stuff' or 'things')	Description of identifiable terminology reflecting development and movement toward use	Description of identifiable terminology reflecting use	Description of identifiable terminology reflecting the highest level of use (e.g. lysis, buffering)
Understanding	No evidence of understanding or evidence of misunderstanding	Evidence of understanding is poorly stated, few if any misunderstandings	Evidence of understanding is reflected	Evidence of understanding at its highest level (manuscript level)
Methodology	Methods not stated or wrongly stated	Methods poorly stated (e.g. got agarose and heated it)	Methods stated clearly with minor detail	Methods stated with high level of descriptors (manuscript level)
Calculations	Calculations not attempted	Calculations poorly attempted	Calculations mostly correct	Calculations completely correct
Mechanics	Poor spelling, words used incorrectly, poor sentence structure	Words used mostly correct, adequate sentence structure	Words used correctly, good sentence structure, displays good scientific writing	High level of word usage - well formulated sentences, displays excellent scientific writing

Regassa and Morrison-Shetlar, JCST 2009