Rubrics for Evaluating Open Education Resource (OER) Objects

The following rubrics represent an evaluation system for objects found within Open Education Resources. An object could include images, applets, lessons, units, assessments and more. For the purpose of this evaluation, any component that can exist as a stand-alone qualifies as an object. The rubrics in this packet can be applied across content areas and object types.

In general, the rubrics are intended to be applied to the smallest meaningful unit. In some cases, this may be a single lesson or instructional support material, while in others it might be a complete unit of study or set of support materials. If multiple lessons are included in an OER, the reviewer needs to determine if all lessons will be examined, if only those lessons that deal with essential aspects of the curriculum are to be considered, or if it would be best to evaluate random lessons, looking at, for example, every third or fifth lesson.

These rubrics are typically used to rate the potential, not actual, effectiveness of a particular object in a learning environment. Each rubric should be scored independently of the others using the following five scores that describe levels of potential quality, usefulness, or alignment to standards:

- 3: Superior
- 2: Strong
- 1: Limited
- 0: Very Weak / None
- N/A: Rubric Not Applicable

The *not applicable* (*N/A*) rating should be used any time a particular rubric does not apply to the object being rated. This is not a pejorative score; it simply means it would be inappropriate to apply this rubric to this object. For example, Rubric IV: Quality of Assessment would not be applicable to an object that has no assessment component included.

The following rubrics are included:

- Rubric I.   Degree of Alignment to Standards
- Rubric II.   Quality of Explanation of the Subject Matter
- Rubric III. Utility of Materials as Tools to Teach Others
- Rubric IV.   Quality of Assessment
- Rubric V.   Degree of Interactivity
- Rubric VI.   Quality of Practice Exercises
- Rubric VII. Opportunities for Deeper Learning
- Rubric VIII. Assurance of Accessibility

Rubric I: Degree of Alignment to Standards

This rubric is applied to learning objects that have suggested alignments to standards. It is used to rate the degree to which an individual object actually aligns to each proposed standard. The rubric was designed specifically for the Common Core State Standards, but can be used with any set of standards. Before the rubric can be applied, the assumption is that a user has proposed an alignment between the object and the selected standard(s).

There are two major aspects of standards that are vital to a meaningful alignment review: content and performance expectations. It is important that the *content* addressed in the object matches the content addressed in each proposed standard. Evaluating the alignment of the *performances* required in both the object and the standard is equally essential and should be considered along with the content.

Rubric I Scoring Guide:

3: An object has *superior* alignment only if **both** of the following are true:
- All of the content and performance expectations in the identified standard are completely addressed by the object.
- The content and performance expectations of the identified standard are the focus of the object. While some objects may cover a range of standards that could potentially be aligned, for a superior alignment the content and performance expectations must not be a peripheral part of the object.

2: An object has *strong* alignment for either one of two reasons:
- Minor elements of the standard are not addressed in the object.
- The content and performance expectations of the standard align to a minor part of the object.

1: An object has *limited* alignment if a significant part of the content or performance expectations of the identified standard is not addressed in the object, as long as there is fidelity to the part it does cover. *For example, an object that aligns to CCSS 2.NBT.2, "Count within 1000; skip-count by 5s, 10s, and 100s," but only addresses counting numbers to 500 would be considered to have limited alignment. The object aligns very closely with a limited part of the standard.*

0: An object has *very weak* alignment for either one of two reasons:
- The object does not match the intended standards.
- The object matches only to minimally important aspects of a standard. These objects will not typically be useful for instruction of core concepts and performances covered by the standard.

N/A: This rubric does not apply for an object that has no suggested standards for alignment. *For example, the rubric might not be applicable to a set of raw data.*

Rubric II: Quality of Explanation of the Subject Matter

This rubric is applied to objects designed to explain content. It is used to rate how thoroughly the subject matter is explained or otherwise revealed in the object. Teachers might use this object with a whole class, a small group, or an individual student. Students might use the object to self-tutor.

Rubric II Scoring Guide:

3: An object is rated *superior* only if **all** of the following are true:
- The object provides comprehensive information so effectively that the target audience should be able to understand the content.
- The object connects important associated concepts within the content. *For example, a lesson on multi-digit addition makes connections with place value, rather than simply showing how to add multi-digit numbers*.
- The object does not need to be augmented with additional explanation or materials.
- The main ideas of the subject matter addressed in the object are clearly identified for the learner.

2: An object is rated *strong* if it explains the content in a way that makes skills, procedures, concepts, and/or information understandable. It falls short of *superior* in that it does not make connections among important associated concepts within the content. *For example, a lesson on multi-digit addition may focus on the procedure and fail to connect it with place value*.

1: An object is rated as having *limited* value for content explanation if the content is correctly explained, but is very limited. This cursory treatment of the content is not sufficiently developed for a first –time learner of the content. The explanations are not thorough and would likely serve as a review for most learners.

0: An object is rated as having *very weak* or no value for content explanation if its explanations are confusing or contain errors. There is little likelihood that this object will contribute to understanding.

N/A: This rubric is *not applicable* (N/A) for an object that is not designed to explain content, for example, a sheet of mathematical formulae or a map. It may be possible to apply the object in some way that aids a learner's understanding, but that is beyond any obvious or described purpose of the object.

Rubric III: Utility of Materials as Tools to Teach Others

This rubric is applied to objects designed to be used as an instructional tool to teach others. The primary user would be a teacher looking for classroom tools. This rubric evaluates the potential utility of an object at the intended grade level for the majority of instructors.

Rubric III Scoring Guide:

3:   An object is rated as having *superior* utility only if **all** of the following are true:
- The object provides materials that are comprehensive and easy to understand and use.
- The object includes suggestions for ways to use the materials with a variety of learners. These suggestions include materials such as "common error analysis tips" and "precursor skills and knowledge" that go beyond the basic lesson or unit elements.
- All objects and all components are provided and function as intended and described. For example, the time needed for lesson planning appears accurately estimated, materials lists are complete, and explanations make sense.
- For larger objects like units, materials facilitate the use of a mix of instructional approaches (direct instruction, group work, investigations, etc.).

2:   An object is rated as *strong* if it offers materials that are comprehensive and easy to understand and use but falls short of "superior" for either one of two reasons:
- The object does not include suggestions for ways to use the materials with a variety of learners (e.g., error analysis tips).
- Some core components (e.g., directions) are underdeveloped in the object.

1:   An object is rated as having *limited* value when it includes a useful approach or idea to teach an important topic but falls short of "strong" for either one of two reasons:
- The object is missing important elements (e.g. directions for some parts of a lesson are not included).
- Important elements do not function as they are intended to (e.g. directions are unclear or practice exercises are missing or inadequate). Teachers would need to supplement this object to use it effectively.

0:   An object is rated as having no or *very weak* value for instructional purposes when it is confusing, contains errors, is missing many important elements, or is for some other reason simply not useful.

N/A: This rubric is *not applicable* (N/A) for an object that is not designed as a teacher's instructional tool. It may be possible that an educator could find an application for such an object during a lesson, but that would not be the intended use.

Rubric IV: Quality of Assessments

This rubric is applied to those objects designed to determine what a student knows before, during, or after a topic is taught. When many assessment items are included in one object, as is often the case, the rubric is applied to the entire set.

Rubric IV Scoring Guide:

3:   An object is rated as having a *superior* assessment only if **all** of the following are true:

- All of the skills and knowledge assessed align clearly to the content and performance expectations intended, as stated or implicit in the object.
- Nothing is assessed that is not included in the scope of intended material unless it is differentiated as extension material.
- The most important aspects of the expectations are targeted and are given appropriate weight/attention in the assessment.
- Any assessment modes offered in the object, such as selected response, long and short constructed response, and individual and group work, require demonstration of proficiency in the intended concept/skill.
- The level of difficulty is a result of the complexity of the subject-area content and performance expectations and of the degree of cognitive demand, rather than a result of unrelated issues (e.g. overly complex vocabulary used in math word problems).

2:   An object is rated as having a *strong* assessment if it assesses all or nearly all of the content and performance expectations intended, but the assessment mode(s) offered fail(s) to require that the student demonstrate proficiency in the intended concept/skill.

1:   An object is rated as having *limited* value if it assesses some of the content or performance expectations intended, as stated or implicit in the object, but omits some important content or performance expectations.

0:   An object is rated as having *very weak* assessments if it contains significant errors, does not assess important content or performance, or is written in a way that is confusing to students. These are not the only reasons an assessment may fall short, but are illustrations of the type of objects that fall into this category.

N/A: This rubric is deemed *not applicable* (N/A) for an object that is not designed to have an assessment component. Even though one might imagine how aspects of this object could be used for assessment purposes, *not applicable* is the appropriate score.

Rubric V: Degree of Interactivity

This rubric is applied to objects that are designed with an interactive component. It is used to rate the degree and quality of an object's interactivity. "Interactivity" is used broadly to mean that the object responds to the user, in other words, the object behaves differently based on what the user does.

Rubric V Scoring Guide:

3:   An object is rated as having *superior* interactivity only if **all** of the following are true:
- The object is responsive to student input in a way that creates an individualized learning experience. This means the object adapts to the learner based on what the learner does, or the object allows the learner to have some flexibility or individual control during the learning experience.
- The interactive element is purposeful and directly related to learning. *For example the object includes an applet that the user manipulates to learn about slope.*
- The object is well-designed and easy-to-use, encouraging learner use.
- The object appears to function flawlessly on the expected platform.

2:   An object is rated as having *strong* interactivity if it has an interactive feature that is purposeful and directly related to learning, even if it does not provide an individualized learning experience. Similarly to the *superior* objects, *strong* interactive objects must be well designed, easy-to-use, and function flawlessly on the expected platform.

1:   An object is rated as having *limited* value for interactivity if its interactive element neither relates to nor detracts from learning. These kinds of interactive elements, such as earning points or achieving levels for correct answers, might be designed to increase student motivation and to build content understanding by rewarding or entertaining the learner and extending the time the user engages with the content.

0:   An object is rated as having *very weak or no* value for interactivity if it has interactive features that are poorly conceived and/or executed. The interactive features might fail to operate as intended, or the "bells and whistles" distract the user or unnecessarily take up user time.

N/A: This rubric is *not applicable* (N/A) for an object that does not have an interactive element.

Rubric VI: Quality of Practice Exercises

This rubric is applied to objects that contain collections or sets of practice exercises designed to help students strengthen skills and knowledge. The purpose of practice exercises is to help students deepen their understanding of subject matter and to strengthen their knowledge by performing tasks that help skills and procedures become routine. Typically a collection or pool of practice exercises is treated as a single object, so the rubric is applied to the entire set.

Rubric VI Scoring Guide:

3:　An object is rated as having *superior* practice exercises only if all of the following are true:
- The object offers an extensive number of practice exercises that cover and support mastery of the content and the performance expectations intended, as stated or implicit in the object (e.g. 25 or more multiplication problems).
- The exercises are clearly written and supported by accurate answer keys as applicable.
- There are a variety of exercise types **and/or** the exercises are available in a variety of formats, as appropriate to the content and performance expectations. *For example, there are selected response, short and long constructed response, and extended response exercises and tasks that cover the same content and performance expectations.*

2:　An object is rated as having *strong* practice exercises if it offers a sufficient number of well-written exercises (e.g. 10–20 multiplication problems) that are well aligned to the content and performance expectations, supported by accurate answer keys, but provides little variety of exercise types or formats, as appropriate to the exercise type.

1:　An object is rated as having *limited* value if it has only a few (e.g. 5 multiplication problems) well-written exercises, without answer keys, and with no variation in format or type.

0:　An object is rated as having *no or very weak* value as a set of practice exercises if its exercises do not cover the content and performance expectations as stated or implicit in the object, have errors in the answer keys, lack an answer key, or are unsound for another reason.

N/A:　This rubric is *not applicable* (N/A) to an object that is not designed to provide learner practice. Even though one might imagine ways it could be used is this way, *not applicable* is the appropriate score. In general, an OER with only one or two practice exercises should be scored *N/A* rather than *0*.

Rubric VII: Opportunities for Deeper Learning

This rubric is applied to objects designed to engage learners in one or more of these skills, which can be applied across all content areas:

- Think critically and solve complex problems.
- Reason abstractly.
- Work collaboratively.
- Learn how to learn.
- Communicate effectively.
- Construct viable arguments and critique the reasoning of others.
- Apply discrete knowledge and skills to real-world situations.
- Construct, use, or analyze models.

Rubric VII Scoring Guide:

3:   An object is rated as having *superior* opportunities for deeper learning only if **all** of the following are true:

- At least three of the practices from the list above are required.
- The object offers a range of cognitive demand that is appropriate and supportive of the material targeted.
- Appropriate scaffolding and direction are provided or available.

2:   An object is rated *strong* on opportunities for deeper learning if it includes one or two practices identified in this rubric. *For example, the object might involve a complex problem that requires abstract reasoning skills to reach a solution.*

1:   An object is rated as having *limited* value for deeper learning if it contains a complex problem but is missing clear guidance on how to tap into the various aspects of deeper learning. *For example, an object might contain a provision for learners to collaborate, but the process and product are unclear.*

0:   An object is rated as having *very weak* deeper learning opportunities if it appears to be intended to provide some of the deeper learning opportunities identified in this rubric, but it is not useful as it is presented. *For example, the object might be based on poorly formulated problems and/or unclear directions, making it unlikely that this lesson or activity will lead to skills like critical thinking, abstract reasoning, constructing arguments, or modeling.*

N/A: This rubric is *not applicable* (N/A) to an object that does not appear to be designed to provide the opportunity for deeper learning. Even though one might imagine how it could be used to do this, *not applicable* is the appropriate score.

Rubric VIII: Assurance of Accessibility Standards

This rubric is used to assure materials are accessible to all students, including students identified as blind, visually impaired or print disabled, and those students who may qualify under the Chafee Amendment to the U.S. 1931 Act to Provide Books to the Adult Blind as Amended. It was developed to assess compliance with U.S. standards and requirements, but could be adapted to accommodate differences in other sets of requirements internationally.

Accessibility is critically important for all learners and should be considered in the design of all online materials. Identification of certain characteristics will assist in determining if materials will be fully accessible for all students. Assurance that materials are compliant with the standards, recommendations, and guidelines specified assists educators in the selection and use of accessible versions of materials that can be used with all students, including those with different kinds of challenges and assistive devices.

The Assurance of Accessibility Standards Rubric does not ask reviewers to make a judgment on the degree of object quality. Instead, it requests that a determination (yes/no) of characteristics be made that, together with assurance of specific Standards, may determine the degree to which the materials are accessible. Only those who feel qualified to make judgments about an object's accessibility should use this rubric.

Rubric VIII Scoring Guide (see table next page):

Yes: The object displays the characteristic or complies with the standards, recommendations or guidelines.

No: The object does NOT display the characteristic or comply with the standards, recommendations or guidelines.

Comment: Comments on Rubric 8 Object determination may include notes that describe the reason materials do not comply with the standard, recommendations or guidelines or further description that may clarify the characteristics of the object.

	YES/NO/NA	Comment or Explanation	Organization that Maintains the Standard
Available in Tagged PDF Format			Adobe
Available in ePUB Format			International Digital Publishing Form
Accessible Course within an Open Learning Management System (LMS)			Moodle
Accessible Course within another Learning Management System (LMS)			LMS Provider
Available in an accessible media format and includes alternate text or subtitles			Provider or Publisher
Includes alternative text (image)			Provider or Publisher
Includes captions and subtitles (video)			Provider or Publisher
Includes flash accessibility functions (SWF)			Adobe
Includes functionality that provide accessibility			Provider or Publisher
Complies with WC3 WCAG2 Recommendations for web pages			WC3 Recommendations
Compliant with Section 508 of the Rehabilitation Act			US Government
Is accessible as determined by Utah State WebAIM Web Accessibility Evaluation (WAVE) Tool			Utah State WebAIM
Available in National Accessible Instructional Materials Standard (NIMAS) Format – Accessible XML			NIMAS Center at CAST
Complies with Audio/Video Cassette Production Standards			ITA Standards
Complies with DVD/DVD-ROM Production Standards			DVD Forum Specifications
Complies with Blue-ray Disk Production Standards			UDF 2.5 – Blue-ray Disk Association
Complies with NCAM Guidelines for Movies, Web and Multimedia			NCAM Guidelines

Additional references for accessibility:
Accessible Instructional Materials at the Center for Applied Special Technology
- http://aim.cast.org/learn/e-resources/accessibility_resources
National Center for Accessible Media
- http://ncam.wgbh.org/about/accessibility-links
Accessible Publishing: Best Practice Guidelines for Publishers.
-PDF: http://www.editeur.org/109/Enabling-Technologies-Framework/
-HTML: http://www.editeur.org/files/Collaborations/Accessibility/WIPO.html