



Guidelines on Quality Assurance for Open Educational Resources

- an international project

<http://www.open-ed.net/oer-quality.html>

WORKSHOP READING : QA Criteria for OER

This table of criteria is being continuously updated

<http://www.open-ed.net/oer-quality/criteria.pdf>

Please see the above link for the latest available version

A Comprehensive Model :

When we adopt fitness-for-purpose as the overriding concern for defining the quality of an OER, then this suggests we focus on the learning achieved by the students who use the OER. There are five and only five *Domains of Learning*, focusing on achieved learning by students, and which cover all known educational objectives. Thus the *Domains of Learning* could be a good Framework as a basis, and onto which to position the various components concerning quality for OER.

According to some reports the quality of an OER should be determined by the subject content material (which is in the *Cognitive Domain of Learning*), while others have said the OER should be interesting and fun for the student (in the *Affective Domain*). Built-in self-assessment has also been advocated (in the *Metacognitive Domain*), accessibility and localisation (in the *Environment Domain*), and discoverability as well (in the *Management Domain*) have been suggested.

A background Paper <http://www.open-ed.net/library/domains.pdf> and an associated Presentation <http://www.open-ed.net/library/domains.ppt> on the *Domains of Learning* are prepared. Briefly the five *Domains* and their respective coverage are summarised below. Together these constitute a full comprehensive model of learning, to serve as the basis of the Project-Framework here.

1. *Cognitive Domain* : the content knowledge, content skills, and reflective critical thinking skills to be learnt
2. *Affective Domain* : the motivations, attitude and decision to initiate performance, learner independence and autonomy
3. *Metacognitive Domain* : understanding how the task is performed, and the ability to self-monitor, evaluate and plan own future learning
4. *Environment Domain* : the localisation, artistic presentation, language, multimedia, interactivity, and embedded links to other content
5. *Management Domain* : discoverability, tagging, including for time management, transmissibility, business models

The following TABLE 1 includes all the criteria so far gathered from literature archives, from online discussions and other communications. For the *Affective Domain*, a background Paper is prepared on the motivations to learn at <http://www.open-ed.net/oer-quality/motivations.pdf>.

Some criteria here are marked by a superscript 1, 2 or 3 to suggest the user level. The three arbitrary levels are shown in FIGURE 1 below. Level 1 refers to the storekeeper users (the repositories, portals and organisations) at the internationalised context-free level fully capable for cross-cultural transmissibility. Level 2 refers to the intermediate users (the providers, teachers, or translators) at a globalised but not yet internationalised context. Level 3 refers to the intended end-users (notably the student learning) at the most localised context. The people at each of these levels can reasonably be expected to hold different perspectives and definitions of what constitutes ‘quality’ for the OER.

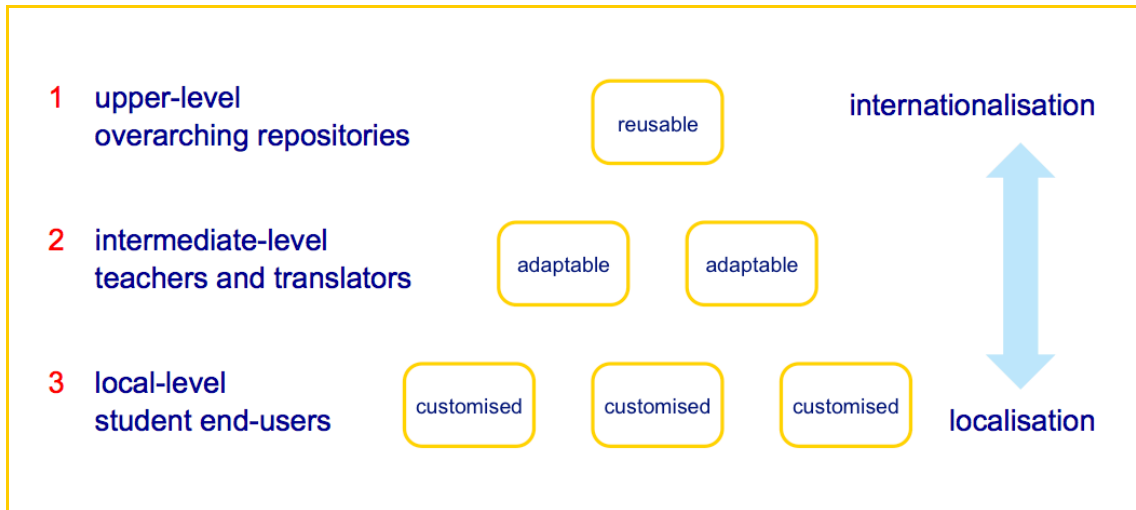


FIGURE 1 : The Arbitrary Levels of OER Users for this Study

The OER Quality TIPS Framework has been drawn from the criteria in this TABLE 1 below, in particular adopting simplified scales. The purpose of providing the current TABLE 1 is to offer readers a comprehensive full list in technical detail.

TABLE 1 : QA Criteria for OER
(this table is being continuously updated)

1. Content - Cognitive Domain :	
1.1 knowledge and skills content	
1.1.1	knowledge must be accurate
1.1.2	knowledge must be verifiable
1.1.3	knowledge must be up-to-date
1.1.4	³ should be appropriately localised
1.1.5	should include a date, and date of next revision
1.1.6	content should be clear, concise, and coherent

1.1.7	author(s) must include subject expert
1.1.8	content must be reliable and be seen to be reliable
1.1.9	aligned to national curriculum standards
1.1.10	all content presented must be relevant
1.1.11	matched to external accrediting examinations
1.1.12	content must be internally consistent
1.1.13	be appropriate to purpose
1.1.14	² aligned to local wants and needs
1.1.15	where possible related to practical employable skills
1.1.16	formative self-assessment is linked to help mechanisms
1.1.17	³ content should be easily transferrable to external situations
1.1.18	³ content should bring in the culture of the student
1.1.19	² should anticipate the current and future needs of the student
1.1.20	content should model future application by the student
1.1.21	
1.2 pedagogy	
1.2.1	must adopt a learner-centred approach
1.2.2	must use up-to-date pedagogy
1.2.3	must use appropriate pedagogy
1.2.4	content and pedagogy must be authentic
1.2.5	include anecdotal misunderstandings and consequences
1.2.6	must induce learning
1.2.7	student-created content should be encouraged
1.2.8	must be socially responsible
1.2.9	where possible draw on end-user prior learning and experience
1.2.10	must use up-to-date theory and practice
1.2.11	should draw on tacit beliefs
1.2.12	should draw from empirical and indigenous knowledge
1.2.13	language must be gender-free / language can be gendered
1.2.14	learning activities must be built in
1.2.15	learning activities must recycle new information
1.2.16	learning objectives should be achievable
1.2.17	learning activities must have clear instructions easily understandable
1.2.18	learning activities should be explained through examples
1.2.19	
2. Student Motivation - <i>Affective Domain</i> :	

2.1 extrinsic motivation	
2.1.1	should encourage further innovation
2.1.2	the OER should be extrinsically rewarding
2.1.3	a badge should be used to reward initial engagement
2.1.4	badges should reward progression through an OER
2.1.5	a badge should be used to reward final completion
2.1.6	completion badges should count towards academic credit
2.1.7	OER should be linked to examinations for credit
2.1.8	language should not be unduly difficult or complex
2.1.9	the active (not passive) voice should be used as far as possible
2.1.10	a user-friendly conversational style should be adopted
2.1.11	readability should be appropriate - and checked
2.1.12	should stimulate extrinsic motivation to learn
2.1.13	
2.2 intrinsic motivation	
2.2.1	the OER should be inherently interesting
2.2.2	should be fun
2.2.3	¹ no built-in voice or music - with code separate from content
2.2.4	² music files easily accessible, adaptable for localisation
2.2.5	³ short theme music appropriate to local culture and context
2.2.6	³ theme music should be added at the beginning
2.2.7	white-space and colours should be used effectively
2.2.8	schema activation cues should be included wherever possible
2.2.9	should stimulate learning
2.2.10	should stimulate intrinsic motivation to learn
2.2.11	should immerse the student in the discipline
2.2.12	should positively influence the personality of the end-user
2.2.13	self-assessment feedback should be empathic
2.2.14	feedback should be immediate
2.2.15	feedback should reveal as-yet-unseen complexity
2.2.16	must include the rationale behind the use of any task-work
2.2.17	must include the real-world relevance of any task-work
2.2.18	keep a high ratio of perceived-benefit-to-expended-effort
2.2.19	advanced-level content should include surprising anecdotes
2.2.20	must convey a passion for the discipline
2.2.21	should reveal the discipline through the eyes of the author

2.2.22	
3. Student Autonomy - Metacognitive Domain :	
3.1 self-awareness & self-assessment of learning	
3.1.1	self-assessments must be built-in
3.1.2	self-assessment tools should be built-in
3.1.3	self-assessment should be multiple-choice closed response
3.1.4	self-assessment should use concept questions
3.1.5	self-assessment should adopt semi-open-book methods
3.1.6	comprehension tests should be built-in
3.1.7	comments by student end-users should be given anonymously
3.1.8	comments by student end-users should be not anonymous
3.1.9	moderated feedback from end-users should be added
3.1.10	³ external tutoring should be available
3.1.11	² external counselling should be available
3.1.12	³ external accreditation and credit banking should be offered
3.1.13	fosters the skills of learning to learn
3.1.14	a study guide should be included / involved
3.1.15	should support learner independence
3.1.16	should support learner autonomy
3.1.17	should support learner resilience and self-reliance
3.1.18	³ advance organiser must be built in
3.1.19	technologies used given as orientation advance organiser
3.2 external evidence	
3.2.1	comments from employers should be included
3.2.2	end-user behaviour after completion is commendable
3.2.3	outcome is effective and beneficial to end-user and/or community
3.2.4	outcome empowered the end-user
3.2.5	outcome empowered the intermediate-level reuser
3.2.6	outcome engendered a sense of self-worth in the end-user
3.2.7	end-users continued functioning as a community of practice
3.2.8	end-users engaged other OER on their own initiative
3.2.9	intermediate-level reusers continue to use other OER
3.2.10	intermediate-level reusers advocate OER creation and reuse
3.2.11	OER are shown to be cost-effective and sustainable
3.2.12	OER act as a catalyst for further or other developments
3.2.13	new partners and stakeholders join the OER movement

3.2.14	end-users recommend OER to others
3.2.15	new repository initiatives are developed
3.2.16	the completion rate is good
3.2.17	
4. Access - <i>Environment Domain</i> :	
4.1 financial cost	
4.1.1	³ the cost should be clearly indicated
4.1.2	² a copyright licence should be attached
4.1.3	² translators and localisation agents can charge
4.1.4	opportunity cost should be given to authors
4.1.5	authors should be able to keep an off-line copy
4.1.6	¹ repositories must offer access free-of-cost to all OER
4.1.7	¹ repositories can charge for access
4.1.8	¹ copyright is determined and correctly expressed
4.1.9	² copyright licence is clearly visible
4.1.10	advertisements should be avoided
4.1.11	
4.2 technical accessibility	
4.2.1	² content should be clearly separate from code
4.2.2	² free sourceware should be used at all times
4.2.3	² free sourceware should be recommended to authors
4.2.4	³ alternate fonts and font-sizes should be offered to end-users
4.2.5	³ the format should be suitable to be printed out
4.2.6	³ the format should be suitable for mobile use
4.2.7	³ web-based OER must be usable off-line
4.2.8	OER must be transmissible across platforms
4.2.9	OER must be transmissible across repositories
4.2.10	technically must be easily adaptable
4.2.11	content must be externally reliable
4.2.12	necessary computers and OER terminals are available
4.2.13	technical support is easily available
4.2.14	OER course should be built incorporating no OER components
4.2.15	OER course should be built incorporating some OER components
4.2.16	OER course should be built incorporating only OER components
4.2.17	
4.3 cultural and contextual localisation	

4.3.1	¹ new OER should be in an international language
4.3.2	³ old OER should be in a local dialect for end-users
4.3.3	³ horizontal links to enrich content must be built in
4.3.4	must support equality and equity
4.3.5	must be non-discriminatory
4.3.6	must be socially inclusive wherever possible
4.3.7	can be religious but not evangelist
4.3.8	can be political but not biased
4.3.9	must not present a political bias
4.3.10	must be law abiding
4.3.11	must promote social harmony
4.3.12	explicitly labelled if content may be inappropriate
4.3.13	explicitly labelled if localized to a specific culture
4.3.14	should be world-ready (see <i>Glossary</i> for 'world-readiness')
4.3.15	
4.4 presentation and multimedia	
4.4.1	multimedia should be used as far as possible
4.4.2	³ multimedia should be limited to two or three types
4.4.3	³ different learning styles must be served
4.4.4	serves aged end-users and those with disabilities
4.4.5	avoids use of 'talking head'
4.4.6	distractions should be avoided
4.4.7	high signal-to-noise ratio should be present
4.4.8	appropriate technology is used
4.4.9	design must present a consistent format
4.4.10	
4.5 community	
4.5.1	each repository should be registered
4.5.2	each repository should be under an umbrella group
4.5.3	each repository should abide by quality regulations for repositories
4.5.4	OER should point users to community groups
4.5.5	OER should reward an end-user for group participation
4.5.6	communities should be moderated
4.5.7	community participation should be compulsory
4.5.8	
5. Packaging - Management Domain :	

5.1 tagging for discoverability	
5.1.1	metadata tags should give format and size
5.1.2	learning pathway vertical links to other OER must be given
5.1.3	² metadata tags should link OER into coherent learning pathways
5.1.4	² repositories should be linked together
5.1.5	³ metadata tags should give expected study duration
5.1.6	² metadata tags should indicate the level of difficulty
5.1.7	² metadata tags should give appropriate end-user age range
5.1.8	³ navigational aids should be built-in, and these should be efficient, consistent and predictable
5.1.9	³ institution or brand-name tags should be attached
5.1.10	images must have alternate ALT text
5.1.11	file source author identity should be removed
5.1.12	author identity should be explicitly expressed
5.1.13	metadata tag indicates required prior knowledge and skills
5.1.14	metadata tags suggest other OER to gain prior knowledge and skills
5.1.15	metadata tags suggest intended end-user characteristics
5.1.16	there is appropriate publicity
5.1.17	³ metadata tags should give the intended purpose
5.1.18	³ metadata tags should give the intended benefit to end-user
5.1.19	³ metadata tags should give the relevance and importance
5.1.20	
5.2 utility	
5.2.1	must be compact size
5.2.2	easily portable and transmissible
5.2.3	inter-linked into pathways
5.2.4	environmentally 'green'
5.2.5	stand-alone : can be studied by itself
5.2.6	study-time should be limited to within 15 hours per OER
5.2.7	inter-compatibility checks should be done for multiple OER
5.2.8	study work-load must be accurately expressed
5.2.9	feedback on future employability should be included
5.2.10	the student attention span should be considered
5.2.11	current localization data must be clearly indicated
5.2.12	suggest intended end-user level (1°, 2°, HE, 3°, NFE, LL, on-the-job)
5.2.13	should give author contact information

5.2.14	easy to access : register, enrol, engage <i>etc</i>
5.2.15	transfer to formal education is available
5.2.16	must be small enough to facilitate adoption in other disciplines
5.2.17	
5.3 external validity	
5.3.1	completion rate is measured - and included as metadata tag
5.3.2	a high completion rate is achieved
5.3.3	immediate output is monitored
5.3.4	short-term outcome is monitored
5.3.5	long-term impact is monitored
5.3.6	continuing support is available after OER completion
5.3.7	any reuser can add review as social tag metadata
5.3.8	only end-users who complete the OER can add comment tag
5.3.9	intermediate reusers <i>eg</i> teachers / translators can add comment tag
5.3.10	mechanisms are built in for feedback and quality assessment
5.3.11	easily transmitted to end-user e-portfolio
5.3.12	public acceptance and recognition is actively sought
5.3.13	government support is actively sought
5.3.14	

Readers are invited to suggest additional criteria directly to the Author using email kawachi@open-ed.net