



Quality Assurance Guidelines for

# Open Educational Resources:

## *TIPS Framework*

Version 2.0



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# **Open Educational Resources:** *TIPS Framework*

Version 2.0



Commonwealth Educational Media Centre for Asia  
New Delhi

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# CONTENTS

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|   |           |
|---|-----------|
| List of Tables, Figures, and Boxes .....  | 04        |
| Executive Summary .....                   | 05        |
| <b>1. INTRODUCTION .....</b>              | <b>09</b> |
| 1.1 <i>Background on OER</i>              |           |
| 1.2 <i>Rationale for these Guidelines</i> |           |
| 1.3 <i>Definitions of OER</i>             |           |
| 1.4 <i>Literature Review</i>              |           |
| 1.5 <i>Comprehensive Scaffold</i>         |           |
| 1.6 <i>TIPS Framework version 1.0</i>     |           |
| <b>2. METHODS .....</b>                   | <b>15</b> |
| 2.1 <i>Defining Quality</i>               |           |
| 2.2 <i>Revising the TIPS Framework</i>    |           |
| 2.3 <i>Discussions with OER Experts</i>   |           |
| <b>3. RESULTS .....</b>                   | <b>21</b> |
| 3.1 <i>Localisation of OER</i>            |           |
| 3.2 <i>Impact Studies</i>                 |           |
| <b>4. CONCLUSIONS .....</b>               | <b>23</b> |
| 4.1 <i>TIPS Version 2.0</i>               |           |
| <b>5. SUGGESTIONS .....</b>               | <b>27</b> |
| 5.1 <i>How to Use these Guidelines</i>    |           |
| 5.2 <i>Quality Improvement</i>            |           |
| 5.3 <i>Open Educational Practices</i>     |           |
| <b>6. SUMMARY .....</b>                   | <b>31</b> |
| <b>7. GLOSSARY .....</b>                  | <b>33</b> |
| <b>8. REFERENCES .....</b>                | <b>35</b> |

# List of Tables, Figures, and Boxes

- TABLE 1 :** The Minimum Averaged Value CVR for a Criterion to be Retained
- TABLE 2 :** The *TIPS Framework* of QA Criteria for Teachers as Creators of OER
- TABLE 3 :** The *TIPS Rubric* for Reused OER Quality Assessment
- TABLE 4 :** The *TIPS Rubric* for OEP and Reflection-in-Action
- FIGURE 1 :** Six open licences by the Creative Commons
- FIGURE 2 :** The four layers of the *TIPS Framework*
- FIGURE 3 :** The OER localisation processes
- BOX 1 :** Licensing Your OER
- BOX 2 :** Definition of OER
- BOX 3 :** Dimensions of Quality
- BOX 4 :** The *Content Validity Ratio* CVR

# Executive Summary

Defining quality in absolute terms is elusive because it depends upon whose perspective we choose to adopt. However, quality has been fairly well defined by Harvey & Green (1993) as being on five dimensions; - with *Fitness for Purpose* as the dimension most relevant to quality for open educational resources (OER), *Cost Efficiency* as another which is also relevant and *Transformative Learning*, (the other two dimensions are not concerned with education). The key dimension for quality of OER is thus *Fitness for Purpose*, and this indicates that the purpose needs to be defined, and this depends on *whose* perspective we adopt.

According to the third dimension of quality as *Fitness for Purpose*, we are grappling here with the issue of *Whose purpose?* and therefore here in version 2.0 we suggest a practical way forward to accommodate the different perspectives. The challenge is illustrated by *eg* an OER highly rated as excellent quality by students in their remedial learning, but which teachers elsewhere find terribly difficult to adapt, change the language, and relocalise to another culture and context. So, on one level (let's call this the basic or ground level with students in class) the OER is high quality, but on another higher level (of the teachers as reusers and translators) this same OER is low quality and unusable. The global institution and OER experts (say at the highest level) would rate this OER more critically because of the difficulty to remix.

In our earlier version 1.0 of this *TIPS Framework*, there were three levels of localisation each with their own specific quality criteria : (i) the upper-most level-1 of the repository containing the internationalised OER that have been standardised by OER experts and like a textbook are almost context-free, (ii) the intermediate level-2 of readily adaptable OER, and then (iii) the ground level-3 of the fully localised OER used by actual students. There has been feedback to version 1.0 that suggests our combined criteria covering these three levels should be disentangled and presented separately. Briefly, the upper-most level-1 is the most restrictive interpretation of quality by OER experts and institutions, the intermediate level-2 is complex involving ease of adapting through re-contextualising OER by teachers, and the ground level-3 is quality in the hearts and minds of the students learning with the fully localised OER version. Very few, if any, studies have yet gathered feedback from students about their achieving improved learning using OER, the present study here reports on quality perceived at the other two levels: at level-1 of the OER experts, and at level-2 of the teachers.

Our studies in the past year have subjected the earlier 2013 *TIPS Framework* version 1.0 to international content validation, according to Lawshe (1975). That version 1.0 consisted of 65 criteria. The referral back to OER experts, to OER online discussion forums, and to teacher-practitioners showed an overall *Content Validity Index*  $CVI_{E+U}$  at 0.86 which is  $> 0.80$  and indicates the *TIPS Framework* version 1.0 full instrument of 65 items is valid at  $p < 0.05$ . In more detail, the validation by OER experts identified 8 criteria as specific and characteristic of OER at level-1. These 8 (labelled from C-1 to C-65 of version-1.0) at  $CVI_E$  at 0.84 are:

Use a learner-centred approach. Don't use difficult or complex language, and do check the readability to ensure it is appropriate to age/level. Make sure that the knowledge and skills you want the student to learn are up-to-date, accurate and reliable. Consider asking a subject-matter expert for advice. Be sure the open licence is clearly visible. Ensure your OER is easy to access and engage. Present your material in a clear, concise, and coherent way, taking care with sound quality. Consider whether your OER will be printed out, usable off-line, or is suitable for mobile use. Use open formats for delivery of OER to enable maximum reuse and remix.

The rationale for the *TIPS Framework* nevertheless remains the same - to offer suggestions to teacher-practitioners as creators and authors of their own OER. The validation by teachers identified 38 criteria (and these included those identified by the OER experts) as useful in practical terms for themselves and for other teachers, with more general utility at level-2 and including pedagogic best practices. These 38 criteria are presented here as the 2014 *TIPS Framework* version 2.0.

## The TIPS Framework of QA Criteria for Teachers as Creators of OER

| T : Teaching and learning processes   |
|---|
| Consider giving a study guide for how to use your OER, with an advance organiser, and navigational aids   |
| Use a learner-centred approach  |
| Use up-to-date appropriate and authentic pedagogy   |
| You should clearly state the reason and purpose of the OER, its relevance and importance                  |
| It should be aligned to local wants and needs, and anticipate the current and future needs of the student |



|  |
|--|
| Bear in mind your aim to support learner autonomy, independence, learner resilience and self-reliance                                      |
| You should adopt a gender-free and user-friendly conversational style in the active voice  |
| Don't use difficult or complex language, and do check the readability to ensure it is appropriate to age/level                             |
| Include learning activities, which recycle new information and foster the skills of learning to learn                                      |
| Say why any task-work is needed, with real-world relevance to the student, keeping in mind the work needed to achieve the intended benefit |
| Stimulate the intrinsic motivation to learn, <i>eg</i> through arousing curiosity with surprising anecdotes                                |
| Monitor the completion rate, student satisfaction and whether the student recommends your OER to others                                    |
| Include a variety of self-assessments such as multiple-choice, concept questions, and comprehension tests                                  |
| Provide a way for the student and other teachers to give you feedback and suggestions on how to improve                                    |
| Link formative self-assessment to help-mechanisms  |
| Try to offer learning support  |

## I : Information and material content

|   |
|---|
| Make sure that the knowledge and skills you want the student to learn are up-to-date, accurate and reliable. Consider asking a subject-matter expert for advice   |
| Your perspective should support equality and equity, promoting social harmony, and be socially inclusive, law abiding and non-discriminatory                      |
| All your content should be relevant and appropriate to purpose. Avoid superfluous material and distractions   |
| Your content should be authentic, internally consistent and appropriately localised   |
| Encourage student input to create localised content for situated learning : draw on their prior learning and experience, their empirical and indigenous knowledge |

Try to keep your OER compact in size, while allowing it to stand-alone as a unit for studying by itself. Consider whether it is small enough to reuse in other disciplines

Add links to other materials to enrich your content

## **P : Presentation product and format**

Be sure the open licence is clearly visible

Ensure your OER is easy to access and engage

Present your material in a clear, concise, and coherent way, taking care with sound quality

Put yourself in your student's position to design a pleasing attractive design, using white-space and colours effectively, to stimulate learning

Have some space for adding moderated feedback later on from your students

Consider whether your OER will be printed out, usable off-line, or is suitable for mobile use

Use open formats for delivery of OER to enable maximum reuse and remix

Consider suggesting which OER could come before your OER, and which OER could come afterwards in a learning pathway

## **S : System technical and technology**

Consider adding metadata tags about the content to help you and others later on to find your OER

Give metadata tags for expected study duration, for expected level of difficulty, format, and size

Try to use only free sourceware/software, and this should be easily transmissible across platforms

Try to ensure your OER is easily adaptable, *eg* separate your computer code from your teaching content

Your OER should be easily portable and transmissible, and you should be able to keep an off-line copy

Your OER and the student's work should be easily transmitted to the student's own e-portfolio

Include a date of production, and date of next revision

# 1 INTRODUCTION

## 1.1 Background on OER

Open educational resources (OER) offer an unprecedented opportunity to develop learning materials for the developing world. While OER cover teaching, learning, and research content at every level, the type of OER concerned here are those produced by pre-tertiary teachers for their own reuse and for their sharing with other teachers. Included here are those OER co-created by teacher(s) and students.

The early history of OER lies in the development of learning objects and in particular reusable learning objects, that have been described as ‘Lego’ blocks or like ‘Meccano’. The reusable learning object (RLO) movement seems to have slowed down in large part due to its lego-block one-size-fits-all industrialist approach and also because RLO do not cater to the teachers’ and learners’ individual needs at the point of consumption: it was difficult to adapt the RLO because of copyright concerns. The key difference between those RLO and the current OER is the legal copyright labels attached to OER to permit others to reuse and adapt them without needing to get any further copyright permissions. This is enabled by attaching an open licence signifying what rights are granted. There are several systems of open licences. One system is the respective open licences produced by Creative Commons. These are shown in FIGURE 1 below. In addition to these six, the Creative Commons also offer the CCO zero-rights-retained licence and the CCPD in-the-public-domain licence, which are also OER licences. For further information, see

[http://wiki.creativecommons.org/Marking\\_your\\_work\\_with\\_a\\_CC\\_license](http://wiki.creativecommons.org/Marking_your_work_with_a_CC_license).

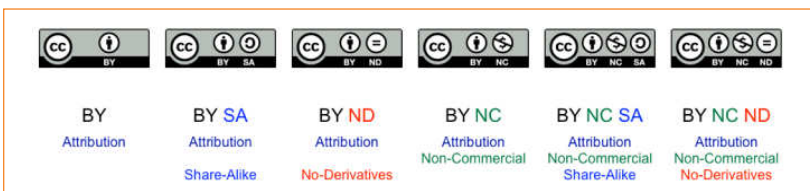


FIGURE 1 : Six open licences by the Creative Commons (from Kawachi, 2013b)

In our experience, we recommend to teachers that they publish their own OER with an attached Creative Commons Attribution Share-Alike CC-BY-SA licence, that says that others must keep the teacher's name as author, on any reuse and on any adaptation of the teacher's work. We recommend the teacher as author attaches this licence clearly, using wording similar to that shown in BOX 1 below.

### **BOX 1 : Licensing Your OER**

We recommend you add the following notice clearly onto your OER;-



Author Name © 2014, *The Title of My OER* is licensed under a Creative Commons Attribution Share-Alike (CC BY-SA) licence (international) agreement. The full legal code of this copyright contract is available at no cost from <http://creativecommons.org/licenses/by-sa/4.0/>

## **1.2 Rationale for these Guidelines**

The rationale for developing these *Guidelines* for teachers as creators of their own OER was given in the original *TIPS Framework* version 1.0 (Kawachi, 2013a) published in 2013. Good quality OER can widen informal access to education through independent study and widen formal access through prior learning. Good quality OER can also prevent dropout from formal education through offering remedial study resources. They therefore provide indirect cost benefits to the institution, community and governments. Moreover creating OER can empower the teacher as author, raise their self-esteem and social status, and help raise the profile of the school. Dhanarajan & Abeywardena (2013, pp.9-10) found that teachers' lack in own skills was a leading barrier against creating OER, and lack in ability to locate quality OER was a leading barrier against reusing OER. In order to expand the OER author base, guidelines may be helpful which offer suggestions to school teachers as potential authors. Guidelines which could be most helpful include examples of OER, demonstrations of OER in reuse, a checklist of aspects to be considered when designing OER, and hands-on practice workshops. The areas such as step-by-step examples, case studies, and training workshops are covered elsewhere. The current report deals with developing an instrument which consists of a checklist of criteria as suggestions to be considered by teachers when designing OER. This report on developing the *TIPS Framework* version 2.0 is predicated on the earlier version 1.0 (available at Kawachi 2013a) which should be read and understood, to avoid excessive repetition here.

This *TIPS Framework* sets out to present ideas to teachers as prospective creators of OER: offering ways they could reflect upon in order to develop a culture of quality within their own respective local communities of practice. We also expect institutions supporting development and use of OER to adopt these *Guidelines* in their internal quality assurance practices. By offering these *Guidelines*, we are interested in nurturing the idea of quality as a culture. Developing a culture of quality through teacher continuous professional reflection may be the best way forward rather than simply aiming to digitally store somewhat permanently an individual teacher's own lesson materials. To this end we have added rubrics for *Quality Improvement* to go alongside OER and these *Guidelines*.

### 1.3 Definitions of OER

There are many definitions for OER. Some mention that OER may be digital or non-digital, while others do not mention being digital at all. The Creative Commons organisation <https://creativecommons.org/education#OER> uses the Hewlett definition which says “*Open Educational Resources (OER) are teaching, learning, and research materials in any medium that reside in the public domain or have been released under an open license that permits their free use and re-purposing by others*”. This essentially says that an OER must allow free adaptation. Among their own six open licences, shown in FIGURE 1, the two BY-ND and BY-NC-ND therefore do not apply to OER since they allow no derivatives; in other words they do not allow any future adaptation.

In a similar way, we are aware that at the local level in rural developing regions there is a need for an entrepreneur to translate the OER into local ethnic language. To promote reaching the unreached, it is reasonable to allow the translator to charge some little repayment from reusers in order to stimulate the local economy and support the philanthropy of local experts: on simple economic grounds the entrepreneur will judiciously only chose those OER that are best suited to the local market, will work hard to promote the translated OER and ensure its sustainability with support mechanisms. Previous studies on costing (Robinson, 2008; Kawachi 2008) for rural social development found that the optimum balance is for public funding and international philanthropic funding to create the OER initially and then allow private enterprise to localise OER and deliver afterwards. Thus we would hope that the two NC licences (allowing no commercial future reuse) are not used for OER, and since we recommend this licence also be retained on future derivative work (Share-Alike SA).

OER have been defined variously since 2002 (for a review see Kawachi, 2013a). In this Project, we define OER as free-of-cost, with an open licence attached,

allowing adapting or adding into other resources, and derivatives to be created, and at some time in digital format, expressed in BOX 2 below. In particular, we state that OER are digital, at least at some time, although others do not always share this view. The various quality characteristics for OER depend on the context such as reuse in highly-mediated face-to-face classrooms or reuse in independent learning at a distance (COL, 2011, p.25), and in consideration of this context continuum, it has been concluded that a universal characteristic criterion for quality OER would be being at some point in time in digital format to enhance storing, searching and retrieving, reusing and sharing - and thereby promote more efficiently the benefits of OER. Although the digital essence was not stipulated by UNESCO initially in 2002, it was clearly a theme in the 2011 UNESCO-COL guidelines (COL, 2011), and is now included here expressly in the current OER definition given in BOX 1 below. As educational resources are more commonly being produced and shared in digitised format, the OER movement will be promoted (CoL, 2011, p.20) where these resources are published as OER. Indeed OER are recognised as being stored in online repositories (Williams, Kear & Rosewell, 2012, pp.41-42). Conole & McAndrew (2009) and Andrade, Ehlers, et al (2011, p.176) also support the definition of OER as digital resources.

### **BOX 2 : Definition of OER**

An open educational resource (OER) is defined as a digital self-contained unit of self-assessable teaching with an explicit measurable learning objective, having an open licence clearly attached to allow adapting, and generally being free-of-cost to reuse.

While being digital is not explicit in several definitions, OER are characterised as allowing re-distribution. This could mean via a digital repository. Apart from OER, some useful definitions of other technical terms are given in a short GLOSSARY at the end.

## **1.4 Literature Review**

More than forty frameworks of quality dimensions have been discovered in the literature, and fifteen of those were reviewed in the *TIPS Framework* version 1.0. In the year since then a further five have been discovered, and a review of all these are presented in Kawachi (2014a). In each case the framework gave an *ad hoc* number of various dimensions or aspects to determine or measure quality. Unfortunately these other frameworks were generally lists of opinions from

anonymous persons asked about personal concepts of OER or e-learning quality, institutional infrastructure and OER practices. It was not possible to align these frameworks with each other, and therefore a scaffold was used onto which each aspect could be positioned in order to collate the criteria, for further analysis. These other frameworks together with a critical review of several leading journals in the field resulted in collecting a mass of 205 criteria related to OER quality. These 205 criteria are published by Kawachi (2014b) and constitute the most comprehensive set of quality assurance criteria for OER available to date.

## 1.5 Comprehensive Scaffold

A comprehensive scaffold was employed in order to investigate any overlap among the other frameworks in the literature, which give the multifarious criteria in categories covering different content. The only fully comprehensive scaffold is that of the learning objectives which comprise the five *Domains of Learning*.

The theory and practice underlying the *Domains of Learning* are available in more detail in Kawachi (2014c). All the known learning objectives can be categorised into one of the five domains: the *Cognitive*, the *Affective*, the *Metacognitive*, the *Environment*, and the *Management Domain*. Briefly the five *Domains* and their respective coverage are summarised below. Together these constitute a full comprehensive model of learning, to serve as the collation scaffold for the various criteria being discovered.

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

A total of 205 criteria have been discovered to date and positioned on this *Domains* scaffold. Continuing research and conversations have not led to any additional criterion added to the list.

## 1.6 TIPS Framework version 1.0

The comprehensive list of 205 criteria for OER quality were collated onto the *Domains of Learning* scaffold, and discussed at length with OER experts and teachers globally. Specifically a Regional Consultation Meeting was held in Hyderabad, India, on 13-15 March, 2013 at Maulana Azad National Urdu University, and an International Workshop was held in Islamabad, Pakistan, on the 1st October, 2013 at Allama Iqbal Open University. Other face-to-face and online discussions were held at other universities around the world.

The various consultations and feedback discussion resulted in these 205 criteria being reduced to 65 criteria (these are given in Kawachi, 2013a). Many of these criteria were in technical or complex English, which teachers in developing countries might find inaccessible. Feedback conversations also asked for the *Domains of Learning* scaffold to be simplified and re-categorised for ease in use by teachers. The outcome was four groups of criteria which through a grounded theory approach were subsequently labelled as (T) *Teaching and Learning Processes*, (I) *Information and Material Content*, (P) *Presentation, Product and Format*, and as (S) *System Technical and Technology*, giving the acronym TIPS. These four groups are presented in FIGURE 2 as layers of quality concerns.

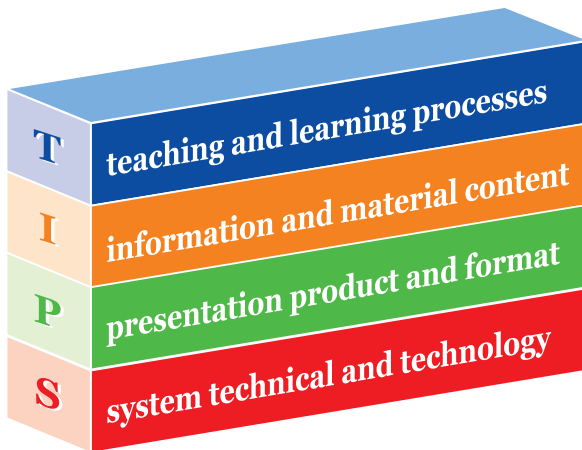


FIGURE 2 : The four layers of the TIPS Framework

These four layers comprising the *TIPS Framework* are presented in easy accessible English in a pamphlet for teachers to use in the field. The *Framework* has also been translated into other local languages.



# 2 METHODS

## 2.1 Defining Quality

Any definition of quality in absolute terms is elusive because it depends upon whose perspective we choose to adopt, and moreover their perspective(s) may evolve over time, with experience and developing knowledge. As a useful starting point, an historic definition of quality was given by Harvey & Green (1993) presenting five dimensions of quality, shown in BOX 3 below. Briefly they suggest that high quality is being (i) excellent, (ii) perfect, (iii) fit for purpose, (iv) cost efficient, and/or (v) transformative. The first two dimensions are not concerned with education. Of the other three dimensions, *Fitness for Purpose* is the dimension most relevant to quality for open educational resources (OER), *Cost Efficiency* is another which is also relevant as well as *Transformative Learning*. We will consider quality as *Transformative Learning* later on in impact studies that are in progress. The key dimension for quality of OER is thus *Fitness for Purpose*, and this indicates that the purpose needs to be defined, and this depends on *whose* perspective we adopt.

Defining quality is included here under METHODS because the characteristic of *Fitness for Purpose* directly influences our methodology: in particular the decision to survey OER experts separately from teacher-practitioners, to discern their potentially different perspectives on what constitutes quality.

According to the third dimension of quality as *Fitness for Purpose*. We are grappling here with the issue of *Whose purpose?* The challenge is illustrated by *eg* an OER highly rated as excellent quality by students in their remedial learning, but which teachers elsewhere find terribly difficult to adapt, change the language, and localise to another culture and context. So, on one level (let's call this the basic or ground level with students in class) the OER is high quality, but on another higher level (of the teachers as reusers and translators) this same OER is low quality and unusable. The global institution and OER experts (say at the highest level) would rate this OER more critically because of the difficulty to remix.

### BOX 3 : Dimensions of Quality

- i. Achieving Exceptional Excellence: surpassing some pre-set criterion-referenced standard
- ii. Achieving Perfection: focusing on first making a machine that is successful 100% of the time, rather than trial-and-error or envisaging improving it later on
- iii. Achieving Fitness for Purpose: satisfying the aims or reasons for producing the item, according to the judgements of the various stakeholders - particularly the consumers
- iv. Achieving Value for Money: focusing on relative efficiency, and the (immediate output, mid-term outcome, and long-term impact) effectiveness
- v. Achieving Transformation: enhancing and empowering the consumer, eg equipping the student with the 21st-century knowledge-creative skills

## 2.2 Revising the TIPS Framework

A short Report on revising the *TIPS Framework* version 1.0 through *Content Validation* has been presented to the OER-Asia-2014 Symposium, available at Kawachi (2014d). The *TIPS Framework* version-1.0 is revised through referring the 65 criteria back to OER experts and teachers for *Content Validation* according to Lawshe (1975). The numbers of respondents were more than sufficient for *Content Validation*. Nevertheless, a visual wave analysis (Leslie, 1972) was also carried out to establish confidence on the ratings. Wave analysis is a method to increase confidence in survey data being complete and comprehensive. Where successive waves show similar distributions of response ratings, then confidence is increased.

*Content Validity* is a term with an imprecise meaning: according to Fitzpatrick (1983) it can refer to (i) how well the items cover the whole field, (ii) how well the user's interpretations or responses to the items cover the whole field, (iii) the overall relevance of all the items, (iv) the overall relevance of the user's interpretations, (v) the clarity of the content domain definitions, and/or (vi) the technical quality of each and all the items. The first two concern the adequacies of the sampling, and come under *Construct Validity*. Notwithstanding that *Content Validity* is an imprecise term, it can be measured quantitatively by asking content experts to rank each item as (i) *Essential*, (ii) *Not-essential but useful*, or (iii) *Not necessary*, according to Lawse (1975). Those items ranked as not necessary are likely to be

discarded. Among a large number (N) of experts, the numbers who rank the item as essential  $N_E$  is used to calculate the *Content Validity Ratio* for each item as shown in BOX 4 below. This formula gives a *Ratio* of zero if only half the experts rank the item as essential, and if more than half the experts rank the item as essential then a positive *Ratio* between zero and one.

**BOX 4 : The Content Validity Ratio CVR (from Lawshe, 1975)**

$$CVR = \frac{N_E - \frac{N}{2}}{\frac{N}{2}}$$

For relatively small groups of experts, the average *Ratio* for each item retained in the instrument should be close to one to decide the specific item has content validity with a probability of  $p < 0.05$ . For larger groups of experts, the likelihood decreases that co-agreement as essential occurred by chance, and the *Ratio* value can be lower while still reaching a probability of  $p < 0.05$ , with these values (corrected and extended from Lawshe, 1975) shown in TABLE 1 below for various group sizes. Items obtaining minimum value, or above, are retained in the instrument. Then the average *Content Validity Ratio* over all items is termed the *Content Validity Index*. Generally the instrument should have an *Index* of 0.80 or above to be judged as having content validity. Some outliers can be discarded on the basis of a low ranking by the experts, while others can be retained despite a low ranking provided there is some other procedure supporting their inclusion. The important point here is that for increasing numbers of respondents, the number of retained items or criteria (that are above the cutoff threshold) increases.

**TABLE 1 : The Minimum Averaged Value CVR for a Criterion to be Retained**

|              |     |     |     |     |     |     |     |     |     |     |
|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| N of experts | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  |
| minimum CVR  | .99 | .99 | .99 | .75 | .68 | .62 | .59 | .56 | .54 | .51 |
| N of experts | 15  | 20  | 25  | 30  | 35  | 40  | 45  | 50  | 55  | 60  |
| minimum CVR  | .49 | .42 | .37 | .33 | .31 | .29 | .27 | .26 | .26 | .25 |

To determine the valid criteria of quality as *Fitness for Purpose*, we surveyed individual OER experts, separately from individual teacher-practitioners, to discover their respective sets of criteria. In each case the individual was invited by personal email. Of the three arbitrary levels (see FIGURE 3), we thus are surveying level-1 of the OER-experts, and level-2 of the teachers.

Other frameworks have used anonymous surveys through mass mailings, and such a way could be open to mischievous responses, as well as to careless completion. Therefore we set out to invite each respondent by personal email individually. In order to ascertain if any difference in returns occurred, the same survey was administered through anonymous mass mailings to OER discussion forums.

In the event, three sets of survey were performed in parallel; - (i) Set-1 of OER experts who were invited individually by personal email, (ii) Set-2 of OER online communities invited by posting a message to the respective group discussion forum, and (iii) Set-3 of school teachers at-the-chalkface who were each invited by personal email. A copy of the survey instrument is available at <http://www.open-ed.net/oer-quality/survey.pdf>. Those authors who presented a paper on OER quality to the 2013 *Seventh Pan-Commonwealth Forum on Open Learning* PCF7 were added to the OER experts list and also invited to respond.

The wave analysis results show that those OER experts at level-1 gave different ratings from those teachers at level-2, confirming that these levels hold different perspectives of what constitutes quality. Of note, the OER experts at level-1 were technically more critical and rejected most of those criteria related to classroom pedagogy out-of-hand as not relevant to OER specifically, although being relevant to educational resources more widely. And the teachers at level-2 were more generous considering their fellow teachers who might need to incorporate more consciously pedagogic good practices into their OER. Both groups ranged in age across the spectrum, and also both groups showed a balance by gender.

The *Content Validation* analysis was performed many times as the number of respondents increased over time. The visible outcome here was that at higher numbers of respondents, the Content Validity Ratio was reduced, according to Lawshe 1975, and TABLE 1, while still surpassing the cutoff threshold for validity. With only 32 respondents of OER experts at level-1, there were six criteria highest rated as essential and collectively reaching the  $CVR_E = 0.80$  threshold. (These six are C-13, C-28, C-37, C-40, C-44, and C-51.) Then with 35 respondents by the final closure of the survey, the number of criteria was increased to 8 while still reaching beyond the threshold at  $CVR_E = 0.84$ . Similarly the earlier analysis involving 19 respondents of teachers at level-2 gave 24 criteria retained at the cutoff threshold

of  $CVR_E = 0.80$ , which increased by the final 21 respondents to give 38 criteria retained. These 38 criteria incorporated those 8 criteria indicated by the OER experts at level-1. They are listed in TABLE 5 as the essential valid criteria for the *TIPS Framework* version 2.0.

Somewhat aside from these two surveys of individual OER experts at level-1 and of individual teachers at level-2, a third anonymous survey was performed, and collected 14 respondents giving 17 retained criteria with collective  $CVR_E = 0.81$ . These anonymous findings are fairly similar to those by the OER experts, but they tended to be younger respondents and more generous, approaching the views of the teachers at level-2. These results suggest that anonymous surveys could be valid, although less precise, with wider spectrum in ratings, and with higher incidence of spurious incomplete returns that warranted each to be inspected one-by-one before treating in *Content Validation* analysis. Caution should be applied to interpreting rating results from anonymous surveys.

A pilot study survey was performed initially, and the survey improved before using here. And a fourth survey of anonymous teachers showed no results.

## 2.3 Discussions with OER Experts

Many OER experts and teachers freely contributed their wisdom in shaping and improving the *TIPS Framework* version 2.0. In particular the OER-Asia-2014 Symposium in Penang afforded the opportunity to present and discuss the validation process. At that time there were comments on the distinction between *Fitness of Purpose*, and *Fitness for Purpose* (see the Keynote by Prasad, 2014). The point here is that *Fitness of Purpose* refers more to the institutional level-1 and involves quality control or internal assessment. Whereas *Fitness for Purpose* refers to the student learning at level-3, which is assessed externally *eg* by interviews or examination grades. Findings from the validation processes here indicate that indeed the quality criteria concerns are different between level-1 and level-2. However impact studies on achieved improved quality of learning using OER by students and of the *TIPS Framework* in actual use by teachers are not yet completed. It is likely that findings from impact studies will confirm that QA concerns as *Fitness of Purpose* at the institutional level are distinct from those at the cognitive learning level, but that the *Fitness of Purpose* (relatively few) criteria at the institutional level-1 will be subsumed and within the (relatively many) *Fitness for Purpose* criteria of quality of achieved learning level-3. This would be consistent with the current validation findings where there are 8 criteria at level-1 which are within the 38 criteria at level-2.



# 3 RESULTS

## 3.1 Localisation of OER

The processes of localisation and internationalisation were reported in version 1.0 (Kawachi, 2013a) using three arbitrary levels, shown here in FIGURE 3 below. At that time these levels were designed to visualise the degree of localisation according to the level of the re-users: depending on whether they were the intended end-users (notably the student learning), were the intermediate users (the providers, teachers, or translators), or were the storekeeper users (the repositories, portals and institutions). Here in version 2.0 these three levels are employed to illustrate their three respective views on quality.

This FIGURE 3 shows there are more OER at the base of a pyramid structure, to represent the reality that there are many versions *eg* one version in each context, while at the higher intermediate level-2 there are fewer, and even less in the highest level-1. An example here would be a national curriculum textbook at the repository level-1, lesson plans at the teacher level-2, and individualised interpretations to each student in his or her native language at level-3. The teacher enjoys some autonomy within the four walls of the classroom, and can use humour, exaggeration, gestures etc. to convey the teaching points. But if a student asks to record the lesson for later revision study, the teacher could be advised to use clearer language, without idiomatic or local slang (this copy would be level-2 for sharing with others). And when the teacher writes all this up into a publishable textbook the product would be at level-1.

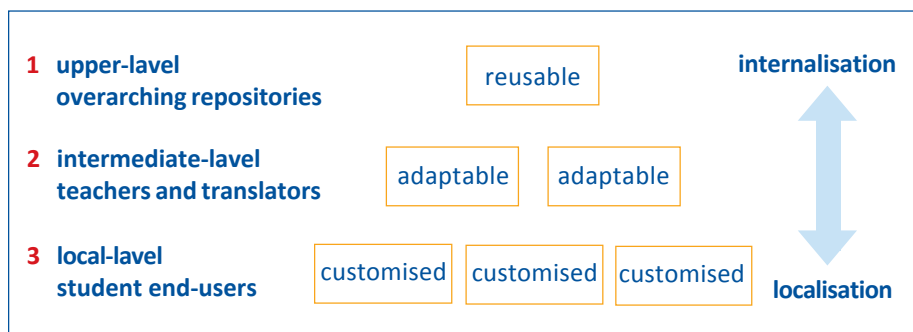


FIGURE 3 : The OER localisation processes

When the teacher is preparing the lesson plans for unknown other contexts, he or she may prepare several different images as possible alternatives, if the lesson is on local foods then the teacher may include a wider variety of images in order to have those ready for any potential context. In this way the internationalisation process involves making the local OER into one that is *World-Ready* (see the GLOSSARY at the end for World-Readiness). Simply re-formatting a lesson plan by changing the images and the language into those for a specific known other context (going up from one old level-3 context to a bridging level-2 then back down into a new level-3 context) would be termed *Globalising* the original OER. (This happens in the retail business when a manufacturer open a new franchise outlet in a foreign new market.)

### 3.2 Impact Studies

The present *TIPS Framework* version 2.0 incorporates the perspectives of global OER experts at level-1, and the perspectives of teacher-practitioners as prospective OER authors at level-2. While teachers indicated their imaginative use of the *TIPS Framework* for future authoring their own OER, the *Framework* does not yet include feedback from actual use in the field. Moreover the current *Framework* does not yet include the students' perspectives on quality, or the results from impact studies on improved learning using OER by students at level-3.

Impact studies are in progress in a range of countries to see how well the *TIPS Framework* can assist teachers in creating their own OER. Here we also hope to see how helpful the *Framework* is for students as co-creators of OER - particularly if students after completing a regular course can build OER from their notes and other experiences in order to offer these OER to the following cohort of students. These ongoing studies are further described in the SUMMARY below where a simplified *Feedback Form* is offered.



# 4 CONCLUSIONS

## 4.1 TIPS version 2.0

The *Content Validation* processes resulted in criteria rated as *Essential*, or as *Useful*, or as *Not Necessary*, for teachers in their efforts to build their own OER. As the numbers of respondents increased, and where these showed good co-agreement with each other, then the number of criteria, that reach and surpass the cut-off point at  $CVI > 0.80$  for instrument validity at  $p < 0.05$ , increases slightly. The surveys were finally closed on the 5th June, 2014 with a total of 70 respondents, and all the analyses were re-computed. The basic effect from having larger numbers is that according to TABLE 1 the cut-off level for  $CVR_E$  is lower and the number of retained items may be more. The following TABLE 2 below gives the final 38 criteria that can be reasonably retained. They are presented here with the original labels C1-C-65 of the 65 criteria of version-1.0. These 38 criteria constitute the new revised *TIPS Framework* version-2.0.

**TABLE 2 :** The *TIPS Framework* of QA Criteria for Teachers as Creators of OER

| <b>T : Teaching and learning processes</b> |   |
|--|---|
| C-1  | Consider giving a study guide for how to use your OER, with an advance organiser, and navigational aids   |
| C-2  | Use a learner-centred approach  |
| C-3  | Use up-to-date appropriate and authentic pedagogy   |
| C-6  | You should clearly state the reason and purpose of the OER, its relevance and importance                  |
| C-7  | It should be aligned to local wants and needs, and anticipate the current and future needs of the student |

|   |  |
|---|--|
| C-10  | Bear in mind your aim to support learner autonomy, independence, learner resilience and self-reliance  |
| C-12  | You should adopt a gender-free and user-friendly conversational style in the active voice  |
| C-13  | Don't use difficult or complex language, and do check the readability to ensure it is appropriate to age/level   |
| C-14  | Include learning activities, which recycle new information and foster the skills of learning to learn  |
| C-15  | Say why any task-work is needed, with real-world relevance to the student, keeping in mind the work needed to achieve the intended benefit                       |
| C-18  | Stimulate the intrinsic motivation to learn, <i>eg</i> through arousing curiosity with surprising anecdotes  |
| C-21  | Monitor the completion rate, student satisfaction and whether the student recommends your OER to others  |
| C-23  | Include a variety of self-assessments such as multiple-choice, concept questions, and comprehension tests  |
| C-24  | Provide a way for the student and other teachers to give you feedback and suggestions on how to improve  |
| C-25  | Link formative self-assessment to help-mechanisms  |
| C-26  | Try to offer learning support  |
| <b>I : Information and material content</b> |  |
| C-28  | Make sure that the knowledge and skills you want the student to learn are up-to-date, accurate and reliable. Consider asking a subject-matter expert for advice  |
| C-29  | Your perspective should support equality and equity, promoting social harmony, and be socially inclusive, law abiding and non-discriminatory                     |
| C-30  | All your content should be relevant and appropriate to purpose. Avoid superfluous material and distractions  |
| C-32  | Your content should be authentic, internally consistent and appropriately localised  |
| C-34  | Encourage student input to create localised content for situated learning: draw on their prior learning and experience, their empirical and indigenous knowledge |

|  |  |
|--|--|
| C-35                                       | Try to keep your OER compact in size, while allowing it to stand-alone as a unit for studying by itself. Consider whether it is small enough to reuse in other disciplines |
| C-36                                       | Add links to other materials to enrich your content  |
| <b>P : Presentation product and format</b> |  |
| C-37                                       | Be sure the open licence is clearly visible  |
| C-40                                       | Ensure your OER is easy to access and engage   |
| C-44                                       | Present your material in a clear, concise, and coherent way, taking care with sound quality  |
| C-47                                       | Put yourself in your student's position to design a pleasing attractive design, using white-space and colours effectively, to stimulate learning                           |
| C-48                                       | Have some space for adding moderated feedback later on from your students  |
| C-49                                       | Consider whether your OER will be printed out, usable off-line, or is suitable for mobile use  |
| C-51                                       | Use open formats for delivery of OER to enable maximum reuse and remix   |
| C-52                                       | Consider suggesting which OER could come before your OER, and which OER could come afterwards in a learning pathway  |
| <b>S : System technical and technology</b> |  |
| C-54                                       | Consider adding metadata tags about the content to help you and others later on to find your OER   |
| C-55                                       | Give metadata tags for expected study duration, for expected level of difficulty, format, and size   |
| C-56                                       | Try to use only free sourceware/software, and this should be easily transmissible across platforms   |
| C-57                                       | Try to ensure your OER is easily adaptable, <i>eg</i> separate your computer code from your teaching content   |
| C-59                                       | Your OER should be easily portable and transmissible, and you should be able to keep an off-line copy  |
| C-60                                       | Your OER and the student's work should be easily transmitted to the student's own e-portfolio  |
| C-62                                       | Include a date of production, and date of next revision  |



# 5 SUGGESTIONS

## 5.1 How to Use these Guidelines

Teachers will find these *Guidelines* helpful (i) to remind them of aspects worthwhile considering in their creation of their own OER, and (ii) to offer suggestions on how to judge the quality of other OER they may find on the internet. In both cases of authoring and of reusing OER, these *Guidelines* aim to stimulate the gradual development of a culture of quality surrounding the use, reuse and sharing of OER to generally improve teaching and learning. As such, institutions should also be able to use these *Guidelines* for their OER. To help in this respect a rubric is designed based on these *Guidelines* to offer assistance in *Quality Improvement* (discussed below) and faculty continuous professional development through iterative self-appraisal, or in other words for professional reflection-in-action.

The explanation to FIGURE 3 above gives some ideas to the teacher how to use these *Guidelines*. The teacher normally keeps a diary-type learning journal of ideas to present in class - including any anecdotes, jokes, or emphasis, especially relating to the student's own culture and language. Making a video or recording of the lesson as an OER could be done at level-3 for own reuse the following year (the *TIPS Framework* criteria C-2, C-7, C-18, C-32, C-40, and C-47, would be upper-most in the teacher's mind). If the teacher was intending this to be used in a different classroom context, the language would be clearer with less anecdotes - if for no other reason than the teacher does not know the culture of those students in the nearby city, or believes there will be a diversity of ethnicities in the future class (the *TIPS Framework* criteria C-13, C-21, C-29, C-34, C-44, and C-57, would be upper-most in the teacher's mind). And at a highest level, preparing a textbook as an OER for unknown faraway contexts would be at level-1 ((the *TIPS Framework* criteria C-1, C-6, C-24, C-28, C-37, C-49, C-51, C-54, and C-56 would be upper-most in the teacher's mind). The suggested criteria that may be in the teacher's mind while creating his or her own OER here indicate that not all the 38 criteria of the *TIPS Framework* are intended to be applied at all times and at all levels. The

teacher can pick and choose those which might seem most suitable and *Fit for Purpose* in the situated context of each OER.

## 5.2 Quality Improvement

Quality assurance is not the same as quality improvement (see *eg* the blog posting by Kawachi, 2013b). *Quality Assurance* compares ones own OER product with ones own predetermined standard, irrespective of any outside standards, with the aim of the OER being *Fit for Purpose*: QA compares internal OERs. Whereas *Quality Improvement* compares the current standard for OER soon to be created against an old standard produced in the past: QI compares internal standards. A properly formatted rubric can be an effective tool for comparing quality concerns internally, as a means for reflecting upon ones own development. A rubric could be constructed based on the *TIPS Framework* criteria for teachers to metacognitively reflect and self-assess their OER authoring skills.

Moreover there are reports (see *eg* Kawachi & Yin, 2012) on the need to add social tagging to somehow annotate OER with regard to users' reflection on perceived quality. One way to do this is to add a feedback form at the end of each OER. This could be done at the repository level-1 by the librarian if funding permitted. Alternatively it could be built onto each OER. In any case, there is the task to know what points to ask any user to give feedback about. The current *TIPS Framework* goes a long way to resolving this by suggesting those criteria that cover quality concerns of teachers as OER users. This *TIPS Rubric* is given in TABLE 3 in abbreviated form.

**TABLE 3 : The *TIPS Rubric* for Reused OER Quality Assessment**

|   | Quality Assessment |          |             |           |
|---|--------------------|----------|-------------|-----------|
|   | not yet            | a little | fairly well | very much |
| There is a study guide for how to use the OER   |                    |          |             |           |
| The OER uses a learner-centred approach         |                    |          |             |           |
| The language used is appropriate at right level |                    |          |             |           |
| etc.  |                    |          |             |           |

### 5.3 Open Educational Practices

Open educational practice (OEP) normally refers to the institutional way or activities to promote the creation of OER, reuse and remixing of OER, to support learner autonomy, eventually leading to independent learning by the students involved. OEP can also refer to the activities of an individual teacher. OEP as activities can be improved or increased over time, and a self-assessment rubric can help reflection-in-action. Notwithstanding the usefulness of having a rubric, the challenge lies in identifying what dimensions or criteria are to be assessed. Here the criteria of the TIPS Framework are invaluable, since they are open, widely recognised and validated. An OEP *TIPS Rubric* is designed and presented in TABLE 4 below, again in abbreviated form. This can be printed out and used by individuals who author OER to raise their own awareness on their practice with respect to quality assurance aspects.

**TABLE 4 :** The *TIPS Rubric* for OEP and Reflection-in-Action

|  | Own Activity Level |          |             |           |
|--|--------------------|----------|-------------|-----------|
|  | not yet            | a little | fairly well | very much |
| I give a study guide for how to use my OER |                    |          |             |           |
| I use a learner-centred approach           |                    |          |             |           |
| I use language at the student's level      |                    |          |             |           |
| etc.                                       |                    |          |             |           |





# 6

## SUMMARY

Through several rounds of validation over the past few years involving hundreds of OER experts and teaching professionals, we have confirmed the efficacy of the *TIPS Framework* as quality assurance guidelines for teachers as creators of their own OER. This new revised *Framework* version 2.0 is given in Section-4.1.

Also within this *Project* we have identified the key criteria that denote quality for OER and these criteria can be re-framed as a rubric to tag existing OER to indicate the intrinsic quality of the OER. There are wide concerns that the quality of existing OER is dubious or difficult to discern. OER usage and OER institutional origin do not adequately or reliably indicate desirable quality. Our TIPS-derived *Rubric* can be attached to OER for QA purposes.

There are impact studies being performed and these will add confidence and another layer of content validation to the current *TIPS Framework*. The whole instrument has been translated into local languages and these will also yield impact and feedback data. There are user impact studies in progress in Pakistan with the Urdu language version, and in India, in Sri Lanka, and in Bangladesh with the English version, as well as elsewhere with other local language version. There is no set timeline for the next revision. Teachers and students as prospective authors or co-authors of OER who try to adopt any criteria here are invited to email their comments, challenges and suggestions to the author.

A feedback form ( <http://www.open-ed.net/oe-quality/tips-feedback.pdf> ) is given here with ideas of what might be useful to us for developing and further improving the guidelines. We know some criteria are difficult to understand for those new to OER, and some are technically difficult to implement. We therefore think it is expedient initially to ask you to tell us only about the easy useful and practical criteria. Please feel free to add more details wherever you think these may be helpful to us. We hope we can support your professional development through some online conversations via email.

## SUGGESTED FEEDBACK on the *TIPS* Framework :

Please comment on each of the four layer in this Framework.

### **T : Teaching and Learning Processes**

- T-1 Which criterion is easiest or just plain common-sense ?
- T-2 Which criterion is most helpful to you ?
- T-3 Which criterion do you think is the most important ?
- T-4 Which criterion have we missed out ? Please suggest any.

### **I : Information and Material Content**

- I-1 Which criterion is easiest or just plain common-sense ?
- I-2 Which criterion is most helpful to you ?
- I-3 Which criterion do you think is the most important ?
- I-4 Which criterion have we missed out ? Please suggest any.

### **P : Presentation, Product and Format**

- P-1 Which criterion is easiest or just plain common-sense ?
- P-2 Which criterion is most helpful to you ?
- P-3 Which criterion do you think is the most important ?
- P-4 Which criterion have we missed out ? Please suggest any.

### **S : System, Technical and Technology**

- S-1 Which criterion is easiest or just plain common-sense ?
- S-2 Which criterion is most helpful to you ?
- S-3 Which criterion do you think is the most important ?
- S-4 Which criterion have we missed out ? Please suggest any.

### **Any Other Comments**

#### **Personal Information :**

Your students' age range :

Your geographic location :

Your name and email address (optional) :

Gender and Age (we really want to understand how well we are reaching the teacher population) :

# 7

## GLOSSARY

**Globalisation:** taking an old OER and retrofitting it to suit other local context(s), *eg* taking an OER from an old local context, internationalising it, then re-localising it into a new local context

**Internationalisation:** creating a new context-free OER that is transmissible and enables later easy adaptation to a local context, having the capabilities built in to be adapted but not local-contents built in

**Learning Object:** any-sized unit of information or material (whether digital or not) that can be used to support learning

**Localisation:** adaptation of OER from any other place to suit the culture, language, and other requirements of a new other specific local context, where the resulting OER appears to have been created in the end-user local culture

**Open Educational Practice:** is an institutional way or activities to promote the creation of OER, reuse and remixing of OER, to support learner autonomy, eventually leading to independent learning

**Open Educational Resource:** a digital self-contained unit of self-assessable teaching with an explicit measurable learning objective, having an open licence clearly attached to allow adapting, and generally being free-of-cost to reuse

**Open Licence:** there are about six systems (*eg* creative commons) each of which aims to provide a tag or licence for anyone legally to reuse materials without having to obtain additional permission from the author or copyright owner - provided reuse includes the original author citation, and subject to any other restrictions in the licence set by the copyright owners

**Quality:** here refers to Fitness of purpose, Fitness for purpose, Improved cost efficiency, and Achieving transformative learning

**Repository:** a place on the internet as well as in the physical world for storing digital OER for later search and retrieval

**Reusable Learning Object:** a smallest stand-alone unit of information at some point of time in digital format which can be reused to support learning

**World-Readiness:** creating a new OER that is internationalised and has a wide range of or all localisations / local-contents built into it, where simpler versions allow intermediate-level users to add-in local culture (self-localisation)

# 8

## REFERENCES

- Abeywardena, I.S. (2013). Development of OER-based undergraduate technology course material 'TCC242/05 Web Database Application' delivered using ODL at Wawasan Open University. In G. Dhanarajan, & D. Porter (Eds.), *Open educational resources : An Asian perspective*, (pp.173-184). Vancouver, BC: Commonwealth of Learning. Retrieved January 20, 2013, from <http://www.col.org/resources/publications/Pages/detail.aspx?PID=441>
- Andrade, A., Ehlers, U-D, Pryce, N., Munding, P., Nozes, J., Reinhardt, R., Richter, T., Silva, G., & Holmberg, C. (2011). *Beyond OER : Shifting focus to open educational practices* (OPAL Report). University Duisberg-Essen : Due-Publico. Retrieved December 10, 2012, from <http://duepublico.uni-duisburg-essen.de/servlets/DerivateServlet/Derivate-25907/OPALReport2011-Beyond-OER.pdf>
- Camilleri, A.F., & Ehlers, U.D. (Eds.) (2011). *Mainstreaming Open Educational Resources : Recommendations for Policy*. Brussels, Belgium : EFQUEL – European Foundation for Quality in e-Learning. (for the OPAL Consortium). Retrieved December 10, 2012, from [http://cdn.efquel.org/wp-content/uploads/2012/03/Policy\\_Support\\_OEP.pdf](http://cdn.efquel.org/wp-content/uploads/2012/03/Policy_Support_OEP.pdf)
- CoL (2011). *UNESCO-CoL Guidelines for Open Educational Resources (OER) in Higher Education : OER Workshop*, 25 May, Dar-es-Salaam. Retrieved April 25, 2014, from [http://oerworkshop.weebly.com/uploads/4/1/3/4/4134458/2011.04.22.oer\\_guidelines\\_for\\_higher\\_education.v2.pdf](http://oerworkshop.weebly.com/uploads/4/1/3/4/4134458/2011.04.22.oer_guidelines_for_higher_education.v2.pdf)
- Conole, G., & McAndrew, P. (2009). A new approach to supporting the design and use of OER : Harnessing the power of web 2.0. In M. Ebner, & M. Schiefner (Eds.), *Looking toward the future of technology enhanced education : Ubiquitous learning and the digital nature*, (pp.123-145). Hershey, PA : IGI Global.
- Dhanarajan, G., & Abeywardena, I.S. (2013). Higher education and open educational resources in Asia : An overview. In G. Dhanarajan, & D. Porter (Eds.), *Open educational resources : An Asian perspective*, (pp. 3-20). Vancouver, BC : Commonwealth of Learning. Retrieved July 7, 2014, from [http://www.col.org/PublicationDocuments/pub\\_PS\\_OER\\_Asia\\_web.pdf](http://www.col.org/PublicationDocuments/pub_PS_OER_Asia_web.pdf)
- Fitzpatrick, A.R. (1983). The meaning of content validity. *Applied Psychological Measurement*, 7 (1), 3-13. Retrieved February 21, 2014, from <http://conservancy.umn.edu/bitstream/11299/101621/1/v07n1p003.pdf>

- Kawachi, P. (2014a). *Others : Review of quality assurance frameworks*. Retrieved July 12, 2014, from <http://www.open-ed.net/oer-quality/others.pdf>
- Kawachi, P. (2014b). *Criteria : Comprehensive collation of quality assurance criteria for OER*. Retrieved July 12, 2014, from <http://www.open-ed.net/oer-quality/criteria.pdf>
- Kawachi, P. (2014c). *The domains of learning : Comprehensive taxonomy of educational objectives*. Retrieved July 12, 2014, from <http://www.open-ed.net/oer-quality/domains.pdf>
- Kawachi, P. (2014d). The TIPS quality assurance framework for creating open educational resources : Validation. *Proceedings of the 2nd Regional Symposium on OER*, (pp.183-191). Penang, 24-27 June. Retrieved July 4, 2014, from <http://www.oerasia.org/proceedings>
- Kawachi, P. (2013a). *Quality assurance guidelines for open educational resources : TIPS framework, version 1.0*. New Delhi, India : Commonwealth Educational Media Centre for Asia (CEMCA). Retrieved March 7, 2014, from [http://cemca.org.in/ckfinder/userfiles/files/OERQ\\_TIPS\\_978-81-88770-07-6.pdf](http://cemca.org.in/ckfinder/userfiles/files/OERQ_TIPS_978-81-88770-07-6.pdf)
- Kawachi, P. (2013b). *Quality not static*. Posting 30th January to the *OER Quality* blog. Retrieved July 10, 2014, from <http://oerquality.wordpress.com/2013/01/30/quality-not-static/>
- Kawachi, P., & Yin, S. (2012). Tagging OER for skills profiling : User perspectives and interactions at no cost. *Proceedings of the Regional Symposium on Open Educational Resources : An Asian Perspective on Policy and Practices*, (pp.134-140). 19-21 September, Wawasan Open University, Penang, Malaysia. Retrieved January 23, 2014, from [http://www.oerasia.org/symposium/OERAsia\\_Symposium\\_Penang\\_2012\\_Proceedings.pdf](http://www.oerasia.org/symposium/OERAsia_Symposium_Penang_2012_Proceedings.pdf)
- Kawachi, P. (2008). The UDHR Right to Education : How distance education helps to achieve this. *FormaMente*, 3 (3-4), 141-174. Retrieved February 16, 2009, from [http://formamente.unimarconi.it/extra/Paul\\_Kawachi.pdf](http://formamente.unimarconi.it/extra/Paul_Kawachi.pdf)
- Lawshe, C.H. (1975). A quantitative approach to content validity. *Personnel Psychology*, 28 (4), 563-575. Retrieved February 21, 2014, from [http://www.bwgriffin.com/gsu/courses/edur9131/content/Lawshe\\_content\\_valdity.pdf](http://www.bwgriffin.com/gsu/courses/edur9131/content/Lawshe_content_valdity.pdf)
- Leslie, L.L. (1972). Are high response rates essential to valid surveys ? *Social Science Research*, 1, 323-334.
- Prasad, V.S. (2014). Institutional frameworks for quality assurance of OER. Keynote Presentation *Proceedings of the 2nd Regional Symposium on OER*, (pp.177-181). Penang, 24-27 June. Retrieved July 4, 2014, from <http://www.oerasia.org/proceedings>
- Robinson, B. (2008). Using distance education and ICT to improve access, equity and the quality in rural teachers' professional development in western China. *International Review of Research in Open and Distance Learning*, 9 (1), 1-4. Retrieved June 20, 2008, from <http://www.irrodl.org/index.php/irrodl/article/view/486/1013>
- Williams, K., Kear, K., & Rosewell, J. (2012). *Quality assessment for e-learning : A benchmarking approach* (2nd edn.). Heerlen, Netherlands : European Association of Distance Teaching Universities (EADTU). Retrieved May 26, 2014, from <http://oro.open.ac.uk/34632/2/3D5D7C.pdf>





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