



Using OER in Asia: Factors, Reforms and Possibilities

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ABSTRACT:

Open Educational Resources (OER) are frequently advocated as an educational panacea, an educational technology that can be transported and transferred, reused and revised, to address the global shortage of high-quality online material. This paper explores that scenario by looking at the factors that might promote or inhibit the transfer and re-use of OER into Asian higher education and particularly focuses on the issue of language and culture. The paper identifies culture, as the underpinning of pedagogy, as a significant and unacknowledged determinant of success and proposes culture, as calibrated by the work of Hofstede and comparable thinkers, as a possible addition to OER metadata.

Keywords: Asia, OER, open, pedagogy, language, translation, culture

1. INTRODUCTION:

The volume of reports and papers, and of projects and pilots clearly suggest that OER is an interesting and significant topic in policy, practice, research and development in educational technology, thought to produce quality resources with enormous potential for re-use and thus deliver economies of scale (Butcher 2015).

2. HISTORY AND ORIGIN:

OER builds indirectly on the ideas of objects, classes, libraries and re-use that emerged as part of the object-oriented programming transformation in computer systems in the final decades of the last century and also has a relationship to the *learning objects* movement and philosophy – definitions vary and overlap (Lane & McAndrew, 2010; McGreal et al 2013). The fundamental mantra was ‘write-once, read-many’, that is the notion that a particular resource could be written or developed or produced once but could be used, reused and used again, thereby

reducing the need to continually produce the same resource afresh every time it was needed, assuming that the resource was electronic and online. This simple philosophy clearly has some practical challenges, mostly around organization, standards, quality, structure and access (Atkins et al 2007; Shearer et al 2015; Bliss & Smith 2017).

3. METADATA

Having started to produce resources, how should they be stored and how should they be found? Obviously once the volume reaches a certain level, the human capacity to remember and recover specific resources is overwhelmed. This quickly led to the introduction of metadata, the data that describes the resource, vastly improving its search ability. There must however be agreed formats for this metadata so we see the development of metadata standards (Smith & Schirling, 2006; Duval et al 2002; McClelland, 2003).

Our purpose here is not to engage in a detailed exposition or critique of metadata standards but we will, arbitrarily, choose one to develop our arguments about culture and language; in some ways, we are confronting the issue that OER are pedagogically neutral and universally appropriate. We have chosen LOMS. Looking at the Learning Object Metadata Standard, at specifically the Educational category. and quoting below in Table 1 from http://edutechwiki.unige.ch/en/Learning_Object_Metadata_Standard, we see the following:

Table 1: Learning Object Metadata Standards - General Category

Nr	Element	Description
5.1	Interactivity Type (IEEE 1484.12.1-2002)	<ul style="list-style-type: none"> active: Active learning (e.g., learning by doing) is supported by content that directly induces productive action by the learner. expositive: Expositive learning (e.g., passive learning) occurs when the learner's job mainly consists of absorbing the content exposed to them. mixed: A blend of active and expositive interactivity types.
5.2	Learning Resource Type (IEEE best practice)	exercise, simulation, questionnaire, diagram, figure, graph, index, slide, table, narrative text, exam, experiment, problem statement, self-assessment, lecture
5.3	Interactivity Level (IEEE 1484.12.1-2002 but meaningful only in community practice)	very low, low, medium, high, very high

Nr	Element	Description
5.4	Semantic Density (IEEE 1484.12.1-2002 but meaningful only in community practice)	very low, low, medium, high, very high
5.5	Intended End User Role (IEEE 1484.12.1-2002)	<ul style="list-style-type: none"> teacher author learner managr
5.6	Context (IEEE 1484.12.1-2002)	<ul style="list-style-type: none"> school higher education training other
5.7	Typical Age Range	(range)
5.8	Difficulty (IEEE 1484.12.1-2002 but meaningful only in a context of a community)	<ul style="list-style-type: none"> very easy easy medium difficult very difficult
5.9	Typical Learning Time	open text element
5.10	description	open text element
5.11	language	Standardized def. NB: The human language used by the typical intended user of this learning object.

The General category represents information that describes the learning object or OER as a whole. The relevant item in Table 2 from the same source is

Table 2: Learning Object Metadata Standard - Language Category

Nr	Element	Description
1.3	Language	The primary human language or languages used within this learning object to communicate to the intended user.

This should serve our purpose. There are many more tables and many more columns, and several alternatives. We can see that the metadata merely identifies the language and omits the culture. Our argument is that these are crucial and that mere literal transfer and literal translation do not guarantee an OER will prove pedagogically effective. This section has introduced the relevant OER terminology and technology, that relating to language and pedagogy. The next sections move onto the substantive parts of our argument, namely how culture, in underpinning pedagogy, and language, in its influence on aspects of pedagogy, affect the institutional adoption and the pedagogic success of OER.

And finally, before moving on, we need to say something more explicit about culture. Defining it is a major issue (Schein 2006) and a working definition might be ‘the way we do thing around here’. That should suffice although we must recognize that every individual lives at the intersection of several culture, family, neighborhood, ethnic, national, linguistic, religious and so on, and we are only looking from only a handful of perspectives, namely that of universities as the institutions that might adopt OER and learners at a large-scale maybe national who might learn from OER.

4. FACTORS DRIVING THE INSTITUTIONAL ADOPTION OF OER

This section explores the factors that determine the institutional adoption of OER. Our account of the development of OER places it squarely within highly developed formal education systems.

The organisation, management and

infrastructure, not to mention the benefits and pay-back, are not likely amongst the small-scale or local structures outside the mainstreams of universities, schools and colleges delivering big courses to large numbers of learners.

We also have to recognize the difference between ‘free’ and ‘open’, namely that the open movement is a largely official and institutional one, whereas individuals and communities are more likely to adopt systems, media and software that are, at least ostensibly, free, meaning WeChat, Facebook, Twitter, YouTube, Google, Instagram, Pinterest, Flickr etc. We will not pursue this dichotomy or tension here but must nevertheless recognise that it exists and that it redefines people’s opportunities to access and create educational resources, both content and communities, in exciting new ways. We should add that learning can clearly be formal or informal, that is, accessed through the official ‘channels’ such textbooks, curricular, schools, ministries and teachers as opposed to families, friends, peers, gangs and groups. There are some topics such as driving behaviour, dietary habits, exercise regimes, smoking habits and sexual behaviour where what people learn will be dramatically different depending the balance between these. The concepts of the Diffusion of Innovations (Rogers 2010) suggests that the formal will in fact only change their knowledge whereas the informal will change their attitudes. The reason for mentioning this now is that we see the continued emergence of a very explicit corporate global higher education culture, and the continued existence of different separate tacit and diffuse informal cultures of indigenous and local learning and knowing. One version of this is “the bureaucratic and the collegial” (Baldrige 1971:4). One author expands this remark and enumerates four, collegium, bureaucracy, corporation and enterprise as a consequence of two orthogonal axes, policy definition and control of implementation (McNay 1995). Our arguments on the significance of culture

play out differently depending on whether we are talking about approximations to this global higher education culture or those varied indigenous and local cultures, and how within a specific educational context these are expressed and interact.

5. DIFFUSION OF INNOVATION

One way to tackle whether OER will successfully spread through different countries and cultures is through the various accounts of the technological or conceptual adoption or assimilation. The obvious one, applied across nearly seventy years, every continent and an enormous number of domains, is the Diffusion of Innovations (Rogers 2010). This conceptualizes OER as an innovation within some target community or culture. There are a lot of sources, reports and critiques (Sahin 2006; Lyytinen & Damsgaard, 2001) but we can perhaps summarize the important criteria for a successful innovation. The basic tenets of the canonical account of the Diffusion of Innovations are fourfold, enumerated below, namely that successful innovation, meaning the spread, take-up and adoption of a new idea, concept, practice, project, process or product, depend on four broad factors. “*Diffusion* is the process through which (1) an innovation (2) is communicated through certain channels (3) over time (4) among the members of a social system” (Rogers, 2002:990). The first is a range of general characteristics of the innovation itself. The characteristics of an innovation, as perceived by the members of a social system, determine its rate of adoption. These first characteristics are:

1. relative advantage, namely is the innovation perceived as more advantageous than whatever it might supersede.
2. compatibility, is the innovation perceived as consistent with the existing values, past experiences, and needs of potential adopters
3. complexity, is the innovation perceived as difficult to understand and use.

4. trialability, meaning, can the innovation may be experimented with on a limited basis. with minimal commitment and risk, and
5. observability, is whether the results of an innovation are visible to others.

So, innovations that are perceived by individuals as having greater relative advantage, compatibility, trialability, observability, and less complexity will be adopted more rapidly than other innovations. In our case, we ought to be able to conduct this analysis with OER but unfortunately, in practice; it is a poorly understood and abstract concept with various categories of potential adopters. Nevertheless, there is some literature (Sahin 2006; Ely 1999). Secondly, formal or mass media channels are more effective in creating initial knowledge of innovations, whereas informal or interpersonal channels are more effective in forming and changing attitudes toward a new idea, and influencing the decision to adopt or reject a new idea. Thirdly, innovativeness is the degree to which an individual, organization, social system or other unit of adoption is relatively earlier in adopting new ideas than other members of a social system. And here we have the classic, five adopter categories, or classifications of the members of the social system on the basis on their innovativeness, are: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards. The success of the innovation depends on the composition of the social system in respect of these categories and they are in some respects representative of wider national, generational and national culture. It also depends on the processes used to spread the innovation through it (Rogers 2002). The fourth factor is culture, in this case, organizational culture, and this carries us forward to a later part of our discussion. Rogers and others make the point that organizational and institutional cultures differ, and may be, for example, collegial, command-driven, consensual or some variant or

combination of these. In our case, in looking at the universities and colleges in Asia that might adopt OER, we have remember the observations about the extent to which academic institutions in particular embody and embrace conflicting cultural modes simultaneously, from the managerial top-down culture to the collegial and consensual, albeit competitive, culture of the academics (Winter 2009; Hellowell & Hancock,2001).

There have been attempts to develop a more comprehensive account or depiction of diffusion based on the earlier framework. Rogers and Shoemaker (1983) posited three theories of the direction of diffusion: the trickle-down, trickle-up, and trickle-across theories. The classical model posits a trickle down process whereby information and influence flow sequentially from the top down through socio economic classes within a social system. Later, a two-step flow of communications' model was proposed as a second theory. Known as the trickle across theory, it implies a layer of opinion leaders (early adopters) who seek out information and influence others within formal and informal, social, and work groups. Finally, a third theory referred to as the trickle up process suggests that some innovations begin at the lower end of the socio economic population and move upward through the classes, and this has been applied in the context of US schools (Dooley 1999). In the case of OER adoption in universities in Asia, this will be a function of the mix of cultures within an institution.

So, at two points within the classical Diffusions of Innovations, we see the impact of culture, and we see culture in the context of local institutions, teachers and learners. We have said that there is an increasingly global model of higher education and its institutions so observations about conflicted nature of their organizational cultures, as for example collegial consensus contends with managerialist directives (Farnham 1999; Kezar & Eckel, 2002), might not be

out of place.

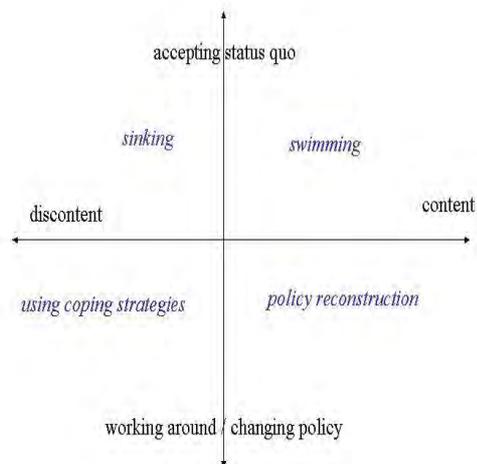
6. ACADEMICS RESPONDING TO CHANGE

In the current context, however we should note some of the literature of academics responding to change, including for example the adoption of OER, describes a range of reactions and responses (Trowler1998). In a very specific milieu and cultural context, in a new UK vocational university, undergoing an enforced change of institutional policy, there were a variety of individual attitudes and behaviours in the academics confronting this change. There were apparently two dimensions, probably mutually independent, that would account for them:

- i. one axis showing attitudes from *content* to *discontent*
- ii. the other axis showing behaviour from *working around/changing policy* to *accepting the status quo*

Combining these two dimensions gave four possible states

1. *swimming*, that is content and accepting status quo
2. *sinking*, that is discontent and accepting status quo
3. *using coping strategies*, that is discontent and working around/changing policy
4. *policy reconstruction*, that is content and working around/changing policy



Each of these states can be characterized as follows:

Sinking was characterized by academics feeling

- under increased workload
- deskilled
- subject to increased student numbers
- the labour process was becoming degraded
- disenfranchised
- cut off from decision-making

Swimming was characterized by the attitude that

- change is an unquestioned opportunity

Using coping strategies was characterized by

- working-to-rule
- minimal engagement

Policy reconstruction, the fourth and most complex category, was characterized by

- *reinterpretation of policy* in the course of implementing
- proactive and inventive, robust and creative attitudes

and this was sub-divided into

- *Reinterpretation of Policy*, that is the exploitation of gaps in top-down policy left by ambiguity, lack of detail, lack of certainty and lack of unanimity from above; exploiting a lack of adequate oversight and supervision; selective implementation
- *Policy Manipulation*, that is subverting policy; the letter but not the spirit of the law
- *Reprofessionalisation*, that is redefining or reconceptualising, at a personal level, the nature of the profession.
- *Syllabus Innovation & Curriculum Innovation*

This is perhaps a generic and over-arching description of how an OER policy might play out amongst a population of practitioners. There are other accounts (Kezar & Eckel, 2002). These are however all most likely culturally specific but also

nationally and organizationally specific, given that different countries regulate and legislate academic career in their own ways over and above any more intrinsic cultural differences. We could say however that different cultures might show similar characteristics but with the balance and emphasis apportioned differently.

7. THE CONCERNS BASED ADOPTION MODEL (CBAM)

Another perspective on the adoption of OER in Asia comes from the Concerns-Based Adoption Model (CBAM) (Anderson 1997). This is also clearly culturally specific and its generality should not be assumed but it makes the point that change in educational practices and changes amongst education professionals is not so much inhibited by lack of knowledge and information as by lack of confidence and certainty so we have to ask how these might differ across cultures. Specifically, “[The I]ndividual is uncertain about the demands of the research-based practice, his or her inadequacy to meet those demands, and his or her role with the practice. This includes analysis of his or her role in relation to the reward structure of the organization, the decision-making process, and consideration of potential conflicts with existing structures or personal commitments.” (Roach et al 2009:304). Before we move on, we must acknowledge other models. There is for example, the Technology Acceptance Model (TAM) (Legris et al 2003), and its variants, that rephrase some concepts we have met already such as perceived usefulness (cf relative advantage) and perceived ease of use (cf complexity) but still feature culture perhaps broken into components such as voluntariness, but nevertheless recognisable as an attribute of culture.

8. CULTURE

Perhaps having remarked that all these perspectives are culturally specific, we should move on to ask, ‘what is

culture?’ and how can we calibrate or calculate its impact on OER in Asia, given that the likely traffic of OER into, out of, within and across the continent and its various cultures. We are asking this, not now in the context of adoption by some academic institution but in the context of pedagogy suitability and alignment in the wider learner community that absorbs or represents the host national culture.

There is a simple definition, ‘the way we do things around here’, but that may be rather imprecise. It does however imply that culture is not monolithic; the way we do things around here is governed by the cultures of our families and our local communities, our region and our class, by our organization and our groupings, by our country and our ethnicity. And there is clearly a difference between those aspects of our culture that are informal, unofficial, tacit and driven from below and those that are formal, official, explicit and driven from above. This specifically applies to education and learning, where we notice official and unofficial cultures, that is sources and channels, often conflicting, for example in many aspects of health education. This links to the observation from the diffusion of innovations, that official channels of communication, that is of formal learning and education, and their media, personnel and procedures, change knowledge; they make people better informed. Unofficial channels, on the other hand, change attitudes and thus have greater potential to change behaviour. Aside from the direct relevance to OER, these remarks also have told us something about the take-up of OER.

9. MEANING CULTURE

Our specific reason for highlighting the issue of culture, beyond a general caution about default assumptions about universality, is that culture, whatever precise definition we adopt, is linked to epistemology and at the root of pedagogy and learning. So, it is relevant.

The connection can be quite direct.

Much existing metadata, for example LOMS mentioned earlier, identifies a specific teaching strategy, for example games, and the transferability of these can be linked to cultural variables or characteristics such as consent/command, risk-taking/-aversion, contextuality and so on. So, we can easily make the point that an OER from one culture does not necessarily transfer effortlessly from one culture to another. We can also infer that an OER will transfer from culture to a very similar one easily and to a very different one with much greater difficulty. So far so good, but we now need to ask how to we measure or calibrate cultures in order to gauge these similarities and differences. Fortunately there are several options that at least allow us to engage in an interesting thought experiment and thus to explore how culture might feature as metadata in OER.

The obvious candidate is Hofstede’s model of cultural dimensions. This work argues that every culture can be characterized by a handful of quantifiable variables on a handful of axes, for example,

- risk-taking vs. risk-avoidance
- individualism vs. collectivism
- hierarchy vs. equality
- the extent of gender inequality
- control vs. consensus
- indulgence vs. restraint (Hofstede & Minkov, 2010).

The details vary and perhaps are not in themselves important but they have numbers (if one is interested at a country or nationality level, there is even a mobile app giving a straight read-out across all the axes). These axes could tell us something about how well different pedagogies (social constructivism for example) or different pedagogic approaches, games based learning or individual formative assessment, group-based projects, for example, are aligned to different cultures. If we argued that the dominant global culture derives much from the relatively risk-taking and individualistic culture of North America,

we can see why some globalized pedagogies fail to engage with cultures in other parts of the world, ones that are either more cautious or more communal.

There is as we have hinted the issue of granularity: individuals are characterized by age, gender, ethnicity, religion, affiliations, all of which color any assumptions and finding being made at a national level. This is perhaps a simplistic, modernist and naïve exercise but so too is merely transporting examples and ideas from one culture to another without reflection or analysis and our purpose here is to provoke exploration of the possibilities.

An over-arching factor that determines the take-up of OER is trust (Rao *et al.*, 2018), namely whether teachers, institutions and learners ‘trust’ the general principles and the specific resources of the OER movement. Trust, as a determinant of choice and decision, is clearly a characteristic of culture, in that some cultures are more trusting, or less cautious, less suspicious, less cynical, than others, but it cannot be considered in isolation from others determinants of choice or decision such as habit, authority, consensus, hierarchy etc. and these all need to be factored in.

One of the competitors, maybe complements, is the Lewis Model, according to which cultures can be classified in relation three main categories, archetypes almost, focused more on communication and interaction skills, key elements in pedagogy and learning even in digital learning. These are firstly, linear-active, secondly, multi-active and thirdly, reactive. People in linear-active cultures demonstrate task orientation. They look for technical competence, place facts before sentiment, logic before emotion; they are deal-orientated, focusing their own attention and that of their staff/team/individuals on immediate achievements and results. They are orderly, stick to agendas and inspire staff with their careful planning. Multi-active people are much more extrovert, rely on their eloquence and ability to

persuade and use human force as an inspirational factor. They often complete human transactions emotionally, investing the time to developing the contact to the limit. These people are great networkers, working according to people-time rather than clock-time. Finally, people in reactive cultures are equally people-orientated but dominate with knowledge, patience, and quiet control. They display modesty and courtesy, despite their accepted seniority. They create a harmonious atmosphere for teamwork. Subtle body language replaces excessive words. They know their companies well (having spent years going round the various departments), giving them balance and the ability to react to a web of pressures. They are also paternalistic. The details are again not relevant because using this method would also just involve looking up the parameter for the originating country and for the target country and thinking about the nature and extent of their distance or difference and how this might impact on the pedagogy embodied in any specific OER.

There is also the Inglehart-Welzel cultural map, dividing countries along axes of traditional vs secular-rational and survival vs self-expression values. These two dimensions are alleged to explain more than 70 percent of the cross-national variance in a factor analysis of ten indicators. Each of these dimensions is strongly correlated with scores of other important orientations. The traditional vs secular-rational values dimension reflects the contrast between societies in which religion is very important and those in which it is not. A wide range of other orientations are closely linked with this dimension. Societies near the traditional pole emphasize the importance of parent-child ties and deference to authority, along with absolute standards and traditional family values, and reject divorce, abortion, euthanasia, and suicide. These societies have high levels of national pride, and a nationalistic outlook. Societies with secular-rational values have the opposite preferences on all of these

topics. The second dimension is linked with the transition from industrial society to post-industrial societies, which brings a polarization between survival and self-expression. The argument, though this may not be relevant, is that unprecedented wealth has accumulated in advanced societies in recent generations means that an increasing share of the population has grown up taking survival for granted. Thus, priorities have shifted from an overwhelming emphasis on economic and physical security toward an increasing emphasis on subjective well-being, self-expression and quality of life. Nevertheless, this too gives us advantage on whether two cultures are nearby or distant and the specifics of any of these ideas may throw light onto the pedagogy of any specific OER.

Next, Hall's model of low-context and high-context cultures suggests that individuals combine pre-programmed culture-specific context and information to create meaning. The use of context is argued to vary across cultures and so country classifications have been attached to Hall's concept. These country rankings have evolved over time classifying national cultures as 'high-context' (HC) and 'low-context' (LC). According to Hall (1976), cultures differ in their use of context and information to create meaning, an idea directly linked to learning. According to Hall (1976: 101) 'HC transactions feature pre-programmed information that is in the receiver and in the setting, with only minimal information in the transmitted message. LC transactions are the reverse'. This moves us onto language and suggests transferring OER either way between high-context language cultures and low-context ones would create difficulties for precise meaning and understanding.

10. LANGUAGE AS CULTURE

There is also an indirect linkage between language and culture. There are weak theories of cognitive linguistics and linguistic relativism that suggest language influences thinking, and thus influences

pedagogy and learning.

"Linguistic relativism is the thesis that the grammatical structures of different languages imply different conceptions of reality." (Greiffenhagen & Sharrock, 2007:81) This incidentally is yet one more counter-argument to the 'Chinese room' idea of translation. (Hauser,1997) and perhaps to merely mechanical transmissive pedagogies. These theories of language address the conceptualisations of reality in different languages and cultures and assert that "meaning is language specific to a considerable extent" and that "full universality of semantic structure cannot be presumed even on the assumption that human cognitive ability and experience are quite comparable across cultures" (Lakoff 1987 quoted in Tai, 2003:302). So, linguistic distance, the extent to which languages differ from each other, maybe a valid proxy for kinds of cognitive or philosophical distance, and thus pedagogic distance or difference. Although the concept is well known among linguists, the prevailing view is that it cannot be measured. That is, no scalar measure can be developed for linguistic distance. There is however work that develops and discusses scalar measures of the distance of other languages from American English, based on the ease or difficulty Americans have in learning these other languages (Chiswick & Miller 2005:2) and part of a literature attempting to express the degrees of difficulty of immigrants learning their host country language. This moves us forward from merely recognizing language families and linguistic similarities (as in trees of lexical similarity (Müller et al 2010).

There is also Kaplan's (1966) seminal study of different, culturally-determined, styles of expository writing. According to Kaplan, text production is influenced by different 'cultural thought patterns' (represented schematically in the diagrams), and a comparison of these patterns can predict the kinds of problems learners face when writing in their second

language: this is known as the contrastive rhetoric hypothesis. This reinforces the idea that a pedagogic exposition or explanation cannot be merely translated to be effective.

For completeness, perhaps metadata should also record the font or script used for an OER. Some languages have alternatives (Modern Standard Chinese can for example be represented as characters, either traditional or simplified, or as roman letters, known as *pin-yin*) and whether it is alphabetic, syllabic or ideogrammatic (Ambrose & Harris 2006). This might also be an indication of typographical distance or difficulty involved in moving the OER elsewhere.

Culture and Language as Metadata

So we have made the points that in various ways language and culture are likely to have a general impact on the transferability of OER from one country to another and may also have some bearing on the specific pedagogy embedded in individual OER. How then should we proceed? Our tentative proposal is that the country and language of origin and any or all of the models mentioned above would provide the parameters that could be incorporated in OER metadata necessary to make judgments about transferring and translating the OER into another country and language, by means of the various tables or graphs for the respective models.

We could of course argue that metadata refers to a pre-existing classification system, a taxonomy defined from a developers' perspective. It itself is thus culturally specific and perhaps aligned to the cognitive structures of any specific user culture or community which in themselves might not be transferable (or relevant). So, this would lead to an argument that perhaps a classification system should be developed within the target community not imposed from outside. In fact, it would be possible to derive this empirically from user communities by using adaptations of some of the techniques of Personal Construct Theory (Kelly, 1970), especially card-sorts, laddering etc. that

elicit users' own mental structures, their 'personal constructs', how they understand and organize their perceptions.

Or, to let it emerge as a folksonomy. To make this clear, 'taxonomy' refers to a hierarchical categorization in which relatively well-defined classes are nested under broader categories. A 'folksonomy' establishes categories using tags (each tag is a category) without stipulating or necessarily deriving a hierarchical structure of parent-child relations among different tags or imposing them externally or a priori. Tagging is most widely known and recognized as twitter hash-tags. Social tagging for knowledge acquisition is the specific use of tagging for finding and re-finding specific content for an individual or group. Social tagging systems differ from traditional taxonomies in that they are community-based systems lacking the traditional hierarchy of taxonomies. Rather than a top-down approach, social tagging relies on users to create the folksonomy from the bottom up (Wu et al 2006).

Many writers already make the connection between social media, informal learning and folksonomies, and sometimes link these to personal learning environments (PLE) (Henri, et al 2008) but not in the context of cultures.

11. RECOMMENDATIONS AND CONCLUSIONS

Our fundamental argument is that successful pedagogy depends on cultural and linguistic specificity since pedagogy is a fundamental constituent of culture and is expressed in language. In order to recoup the advantages of reusing OER across different cultures and languages we must not only recognize that cultures exist and differ but also have the means to calibrate or measure their distances or differences. We have outlined various approaches that allow us to think about how this might be achieved and how culture might be represented within OER metadata.

So, if OER are to be more widely and sensitively used across a wider range of

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informal cultures we have outlined three scenarios,

- Calibrate culture using some theoretical frameworks and incorporate it as metadata into existing schema
- Use some empirical technique to understand the cognitive structures of a culture and classify OER accordingly
- Use folksonomies amongst the users in order that the classification of OER emerges organically

These clearly all have their advantages and disadvantages but represent a research agenda and a programme for development.

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