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Contextualization of Open Educational Resources in Asia and Europe

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Abstract

Open Educational Resources (OER) are a promising concept for international collaborations: sharing, utilizing, and collaborating around OER across borders might help educational institutions and their staff to internationalize their activities. However, several barriers exist keeping stakeholders away from engaging in international collaborations. In this paper, we discuss the main challenges of OER uptake in international settings. Three case studies show potential solutions for OER uptake and collaboration in the European-Asian context. The case studies identify good practices, success factors and challenges. This paper provides a starting point for systematic analytical as well as design-oriented research on OER scenarios leading to a better understanding how to utilize OER in and for international collaborations.

1 Introduction

Open Education and Open Educational Resources (OER) are a promising concept for collaboration across borders. However, despite of the massive amount of existing Open Educational Resources, the adoption and take-up is still low. Even though the amount of resources is high, the uptake has not met the expectations of the community (Ochoa & Duval, 2009, Clements & Pawlowski, 2012). Many barriers exist, most of them related to cultural and contextual differences (Pirkkalainen & Pawlowski, 2013). Examples are language, cultural, knowledge and motivational barriers. In a cross border context, there is also a tendency towards exporting educational offers as a one-way transfer – in this context, OER are rarely seen as a possibility to create mutual synergies and long-term collaborations.
To overcome those barriers, it is necessary to create cross-border collaborations and strong partnerships. The main question is how to create collaborations around OER to overcome barriers and create OER for different languages, cultures and needs. The main aspect for successful OER uptake is the adaptation and contextualization process: how can OER be adapted to a new (global) context, i.e. a different geographic region with different curricula with different content requirements by learners and teachers. This process needs to be supported and facilitated overcoming the main barriers. This process includes a clear understanding of contextual influence factors (Munkvold, Richter, 2011) as well as awareness and skills on possible adaptation tools (Mikroyannidis et al, 2011, Abeywardena, 2012).

In our paper, we discuss the concept of Open Education and Open Educational Resources (OER) and related approaches. We discuss possible barriers and identify ways to overcome those. We conceptualize the adaptation / contextualization process connected to possible tools for adaptation. Last but not least, we discuss practices regarding global adaptation from throughout our community.

We show further examples of successful adaptation and contextualization of OER in different countries and cultures. This leads us to discussing and developing recommendations how OER should be used and contextualized across borders.

Open Education has raised a lot of attention in the past years – the main initiative promoting and developing Open Education has been driven by the UNESCO for the last 10 years – on a European level, the new program on Opening Up Education shows the importance of this issue in the educational and professional communities.
One of the main outcomes is the UNESCO Paris OER Declaration (UNESCO, 2012) which provides policy recommendations with a focus on global collaboration. The agenda explicitly aims at creating international collaborations to increase awareness, access and global networks:

“e. Support capacity building for the sustainable development of quality learning materials. Support institutions, train and motivate teachers and other personnel to produce and share high-quality, accessible educational resources, taking into account local needs and the full diversity of learners. Promote quality assurance and peer review of OER. Encourage the development of mechanisms for the assessment and certification of learning outcomes achieved through OER. […]”

“g. Encourage the development and adaptation of OER in a variety of languages and cultural contexts. Favour the production and use of OER in local languages and diverse cultural contexts to ensure their relevance and accessibility. Intergovernmental organisations should encourage the sharing of OER across languages and cultures, respecting indigenous knowledge and rights. […]” (UNESCO, 2012)

As a starting point, it is necessary to clarify our understanding of open education and in particular Open Educational Resources (OER). As OER, we understand

“any digital object which can be freely accessed, modified and (re-)used for educational purposes”

This broad definition includes a variety of different artifacts: learning objects such as simulations or animations, software tools like wikis or authoring systems, electronic textbooks, but also lesson plans or experiences shared. The main aspect is that the object is usable to improve education. The following classification shows the broad range of artifacts as well as parallels to other initiatives:
• Resources: Currently, the main research field is how to make learning objects (specific digital objects created for learning purposes) available and re-usable. This includes multimedia documents, simulations but also simple html web resources.

• Articles, textbooks and digital equivalents: This class of resources contains typical objects provided by libraries, such as articles, papers, books or journals. When becoming freely available, this class of objects relates to the concept of Open Access (Björk, 2004, Bailey, 2005).

• Software tools are used for different purposes, such as producing / authoring learning resources but also for communication and collaboration. Objects of this class are usually referenced as Open Source or Free Software (Raymond, 1999).

• Instructional / didactical designs and experiences: Educators are highly dependent on successfully planning and designing their learning experiences – this class of resources includes access to instructional designs, didactical plannings such as lesson plans, case studies or curricula. It also includes one of the most valuable resource: sharing experiences about materials and lessons between colleagues. This class of objects is also called Open Educational Practices (OPAL, 2011).

• Web assets: This class of objects regards simple resources (assets) like pictures, links, or short texts which are not usable on their own in a learning context but can be used to support or illustrate a certain topic. In many ways, these are objects found by google or similar search engines.

However, even though millions of OER are available and accessible, the uptake is still very low. The main question is therefore how users can be supported to find those materials, how to include them in the teaching process and how to adapt them to the own context?
What are the key aspects to adapt OER to a new context? This is the main question of this chapter. As contextualization we understand the process of adapting OER to a new context such as change of geographical region, organization, educational sector or domain. In the following, we discuss barriers to OER uptake, contextual influence factors and the adaptation / contextualization process.

### 3.1 OER Barriers

As a starting point, a variety of studies has discussed barriers (Richter et al, 2013, Pirkkalainen & Pawlowski, 2013) regarding the uptake and adoption of OER. Pirkkalainen & Pawlowski (2013) distinguish between contextual, social, technical, quality and legal barriers. The contextual dimension seems to be the most important, sample barriers are:

- Lack of resources for sustaining services, content and infrastructures
- Lack of time for production and localization of OER
- For sharing OER, Need for Rewards and Acknowledgement.
- Lack of business model for open content initiatives
- Too many resources to choose from
- Hard to find suitable material – where to look from
- Lack of knowledge and awareness of open content
- Lack of knowledge and awareness of learning object repositories
- Lack of contextual information for the resources – how can be used or modified
- Difficulty level of content – found materials not suitable for specific students
- Open content do not fit the scope of the course
- Granularity of the materials
• Matching the resources to own curricula is problematic
• The effective use of OER is quite complicated and unclear (Pirkkalainen & Pawlowski, 2013)
• This initial list of barriers clearly shows users’ difficulties regarding the uptake — the key to successful OER re-use is a clear understanding how existing resources should be adapted to match the new context.

3.2 Contextualization and adaptation

OER must be adapted towards a new context (Abeywardena, 2012, Wolfenden et al, 2012, Mikroyannidis et al, 2011). Different aspects can influence and determine the context. Richter (2011) has identified the broad range of factors which can influence learning processes and OER (see figure 1 below).

Based on these influence factors, different types of adaptation can be derived.

1. **Content**: The main adaptation process is done to the OER and the content itself.
Different types of resources (Abeywardena, 2012) such as text, graphics, simulations need to be adapted. This adaptation includes language and cultural changes such as translation, exchange of culture-specific concepts, names, date and time formats.

2. **Curriculum, pedagogy and didactics**: An OER needs to be adapted regarding its suitability for a certain curriculum. Also, teaching and learning methods need to be adapted depending on the context of use.

3. **Interaction and communication**: As part of the learning methods / activities, interaction patterns and communications are adapted. This also includes culture specific communication preferences as well as the adaptation of communication tools.

4. **Media and design**: From an organizational perspective, media and design are adapted including an organization’s identity (e.g. adapting layouts, logos, templates). Also cultural preferences such as colors or symbols / icons are changed. This aspect also considers changes of devices (e.g. from desktop applications to mobile app design).

5. **Technical**: This adaptation process takes infrastructure and tool aspects into account, i.e. including organization-specific tools (such as LMS, authoring systems, communication or social software tools). In some case, changes might be rather challenging when for example different networking capabilities (e.g. broadband)

6. **Cultural** (horizontal category): The key aspects for adaptation are based on (geographical and organizational) cultural factors. It needs to be identified which cultural aspects are relevant and how those affect the above mentioned adaptation categories.

Based on these change needs, we can conceptualize the overall process, i.e., which are the steps of adaptation and contextualization when using OER, how do actors collaborate. The following lifecycle / process model shows the steps of adaptation:
1. **Requirements and Needs**: In an initial step, requirements and needs for learning offers are identified (e.g. a new course needs to be designed).

2. **Search OER**: In this step, different repositories as well as search engines are used to find possible OER-candidates for re-use.

3. **Adaptation needs**: This phase analyzes, which changes needs to be made to the available OERs. The OER candidates are validated by identifying adaptation needs as well as estimating the adaptation efforts for the above mentioned adaptation categories.

4. **Adapt / Contextualize OER**: Resources are adapted based on the identified needs. This should include suitable tools (e.g. authoring systems, design tools) for adaptation.

5. **Run OER**: this phase describes the actual implementation and realization, i.e. a course is held in the new context.

6. **Create and share OEP**: As a result of the use of OERs, practices should be described (OEP) and shared.

7. **Improve OER**: Based on the experiences and practices, improvement suggestions should be identified and realized for the original as well as the adapted OER.
The lifecycle is the basis for our analysis. It defines the steps of OER adaptation and contextualization. It is obvious that the process is much more complex in a cross-border context.

A variety of guidelines have been developed and should be considered in the process. Some guidelines provide basic recommendations (Groom, 2013, Kanwar et al, 2011), some are specific for global adaptation processes (Pawlowski et al, 2012, Abeywardena, 2012, COL, 2011). As an example, we show the key recommendations by Pawlowski et al. (2012):

1. **Initiation**: Use trusted relationships as a starting point. Not all materials are re-used as they could. Try to arrange partnerships within your various networks!
2. **Initial barriers**: Be clear about the problems which might occur. OER are still seen rather skeptical. Most important barriers to overcome are legal issues, a fit to the (re-users’) curriculum and context, and – most important – cultural differences.
3. **Trust Building**: Invest time in conceptual work and trust building. Re-use might lead to good collaborations. When you arrange international collaborations, take your time to discuss key concepts and your understanding of those.
4. **Cultural learning processes**: Learn about your peers’ cultures. We have seen that it is necessary to reflect on one’s own and collaborators’ cultures. This reflection process is necessary to understand the specific requirements and characteristics of learning processes.
5. **Adaptation**: Identify cultural issues and adaptation needs. The adaptation process is not only about translation. It needs adaptation for target groups (in our case for different international students or for SMEs).
6. **Re-Use**: Keep track of re-uses of your resources. There is not yet a way to follow up on all re-used materials. There is a need to keep track of resource usage (which can also be used later to define the quality of resources – e.g. similar to citation indexes).
7. **Rights**: Clarify legal aspects within the resources. It would be useful to have clear explanations on licenses and IPR as support as well as in the learning
Follow Up: Ask what’s happened to your resource. Therefore, it might be useful to request information on re-use, desirably in an automated way.

9. Further Services: Notification and Tracking is the key. The most important service is from our point of view a reminder and notification services – what was done with a resource, how has it been re-used, have there been commercial usages?

10. Rewards and Appreciation: Use OER as part of your educational CV. OER are not taken as part of academic or enterprise performance indicators (such as citations). However, if resources are used in the international context, this means also a strong international reputation for individuals.

In spite of the challenges, the multiple (cultural) perspectives lead to new resources, experiences and also collaborations between the participants.

Case Studies: OER Adaptation and Contextualization around the Globe

The following chapter shows different experiences and views on OER adaptation and contextualization from different countries and settings.

4.1 Methodology

The main goal of this paper is to identify the critical success factors. We will compare three cases in a multiple case study (Yin, 2003). For each case, we describe
1. **Motivation and context:** Why is the case relevant? What is the setting of the case?

2. **Case description:** Short description how the adaptation and contextualization was realized and implemented.

3. **Case results:** What was achieved, what are the key results?

4. **Barriers and Critical success factors:** Which are the main aspects to consider in the case? What are the main challenges and problems for the adaptation process? Which positive and negative factors must be taken into account. Based on these aspects, we analyze the cases towards common lessons learned and recommendations.

### 4.2 Open Educational Ideas in a Cross-Border Context

One case is the example of applying the concept of Open Educational Ideas (OEI) in an international context (Pawlowski et al, 2013). The concept OEI aims at creating collaborations at early stages (e.g. when courses are needed in the near future). The main goal is to create collaborations working together towards Open Education. The OEI collaborations can aim toward shared practices and projects, development of joint courses or resources.

Open Educational Ideas (OEI) describe the concept of freely sharing educational artifacts between stakeholders at an early stage of the design and development process (Pawlowski et al, 2013). The main idea is to create emotional ownership towards OER by engaging at an early stage of the development process (Open Educational Ideas & Innovation) in collaborations with peer educators.

In the following, we start a brief description of the case with a focus on the adaptation and internationalization processes.
Motivation and context

The case was carried out as a collaborative project between one Finnish and two German universities. The main idea was to develop a collaborative teaching offer in the field of “Global Knowledge Management”. The course (Masters level in Information Systems, Computer Science and related subjects) was developed by adapting different materials towards an English version of the course for different teaching scenarios in Finland, Germany and China. In further iterations, it was modified and improved for further scenarios.

Case description

In the following, we will briefly outline the case – the case focuses on internationalization and adaptation needs in the process.

Requirements and Needs:

As a starting point, a Finnish university has expressed the need to develop a course on “Global Knowledge Management”. As a starting point, the “Open Educational Idea” was expressed to develop a course as a collaborative teaching offer. The request was given to selected colleagues across Europe to develop a common offer. The request was expressed describing the main requirements and needs:

- Context factors: in which setting will the course be needed (Higher Education, Master Program)
- Course specifics: Main subject (knowledge management), main learning outcomes, learning scenario (block course using blended learning)
- Key requirements and needs: Development of exercises, case studies
- Based on this description, two colleagues agreed to provide input and support the collaborative teaching.

OEI view: In this stage the invitation for collaboration was distributed in closed groups in online social networking sites (LinkedIn, Facebook, Twitter) as well as in internal systems of the Universities. The difference to traditional open approaches and the starting point for emotional ownership is to engage with trusted people who can be shared with early / draft information.
**Search OER**

In an initial step, teaching materials of three colleagues were used. The context of the initial teaching materials was rather different (university in Germany, Business School in Germany, Finnish University). However, it was agreed to work on developing common OER.

*OEI view: The OEI view does not limit the sources used for discovering resources. It is suggested to use online OER repositories that do provide materials with a creative commons license. The OEI process does not limit on how you start your collaboration and sequence your work. The outcome of the process might be a joint practice or a project as it can also be a joint course or OER. As long as it serves open education.*

**Adaptation needs / Adaptation**

As a starting point, the materials were compared — for this, a common Concept Map was developed in the target language (English). In the concept map, all topics and learning scenarios were listed. Then, it was discussed with adaptation needs would occur:

- **Content:** Some materials were available in the target language, some materials needed to be translated. Further materials needed to be developed to provide a consistent course structure.
- **Curriculum / Learning Scenarios:** Generally, most parts did fit the curriculum of the target country. Most exercises and one larger case study needed to be adapted due to the context and the format of the collaborative teaching (summer school). Also, due to the setting more group work was planned.
- **Design:** A common design was used. However, credit to the original developers was provided.
- **Generally,** the adaptation needs were focused on 1. content translation, 2. new learning scenarios, and 3. design harmonization. The contextualization was then agreed within the collaboration. Each professor provided input for learning scenarios and adapted language as well as design using a collaborative tool (here google docs).
OEI view: In the OEI process, the collaborators can use the tools of their own choosing. It is important that people share ideas with the methods that work well in that group of collaborators. Most common ways to develop ideas together online is to use collaborative services that are available without registration, such as collaborative writing and collaborative mindmapping.

Run OER / Create and share OEP
The course was successfully run in a summer school. Feedback was gathered from students and teachers to create improvement suggestions. The practices (OEP) were then shared between the stakeholders.

The course was after the initial stage run in different scenarios and settings, amongst them Higher and Further Education settings in Germany, Hungary, Bulgaria, Iran and China. For each setting, the main adaptation was the development of further learning scenarios and culture-specific examples and exercises.

OEI view: The OEI process is aimed for feedback from the key communities of practice to increase the quality of the resources and make OER sustainable. In this collaborative effort, the OEI (the jointly created course) was opened up for feedback after initial piloting in a summer school. This way, the jointly developed idea had already matured in a way that the collaborators were confident on sharing it with others. The feedback was initiated by public sites and social networks, asking for concrete feedback and to be part of the collaborative course development. The stakeholders that replied to the request were from heterogeneous contexts. By engaging them to the collaborative action and contextualization process, it was made sure that the principles of emotional ownership were followed. This approach confirmed that stakeholders need to feel a sense of belonging and personally attach themselves to the resources. The adaptation mechanisms and usage of tools were again selected by the collaborators themselves. Mainly focusing on well-accepted online tools by google as well as offline working methods with desktop applications. All the results were shared in a common workspace.
Improve OER
The course has after initial feedback been improved several times – the course outline as well as the contents were updated several times by participating authors as well as by other educators (e.g. in Iran). This led to significant improvements and extensions.

4.3 Results
The concept of sharing ideas and needs at a very early stage has been proven very successful, in particular for the cross-border collaboration and the contextualization process. Even though the settings were culturally rather similar, a variety of lessons have been learned from the adaptation process.

1. **Content development**: It is rather useful to have a common template and a common bridging language. It seems useful to have a common outline and planning document in a common language (e.g. English). This is especially useful when further adaptations are done.

2. **Translation**: Translation is one of the main efforts. Simple content structures can be translated using machine translation, however, contents need to be translated manually. Anyway, the translation of parts of the contents still takes less effort than new developments.

3. **Collaborative adaptation**: Sharing responsibilities and workload is useful when working with common course developments and Open Educational Ideas. It is strongly recommended to utilize collaborative editing tools which can handle multiple languages and versions.

4. **Design Adaptation**: The design in our case was only slightly adapted to the hosting institution. However, in many cases design adaptation takes more effort due to different color perceptions, symbols, icons and their interpretations. Therefore, it is useful to incorporate design and layout only at a very late stage. Tools to separate content and layout are thus strongly recommended.
5. **Learning scenario adaptation**: This aspect is the main task for collaborative developments based on OEI and OER. Due to different contexts and settings, it is necessary to adapt the scenarios. Mainly, authors for a specific target region should be responsible for creating new learning scenarios, examples and exercises. For this part, tools should be utilized which allow connecting contents and didactical scenarios (e.g. learning design editors) in collaborative ways.

These main aspects need to be addressed in any adaptation / contextualization project. Our experiences, however, have shown that the adaptation needs and efforts decrease the earlier collaboration is initiated. When already planning adaptation and sharing adaptation efforts at very early stages (as it is foreseen in the idea of OEI), it is by far easier to include adaptation needs. It thus can be stated that the concept of OEI seems to work well in cross-border scenarios.

### 4.4 OER Localization in the Philippines: The Case of UPOU

**Motivation and context**

In the Philippines, education is considered a universal and a constitutional right that every Filipino is entitled to. It is considered as a “key investment” that will eventually address poverty-related issues in the country. As of 2013, there are currently 2,299 higher education institutions (HEIs) in the Philippines, of which 28.53% are public HEIs, while the rest are private. Enrolled in these HEIs are some 2,986,023 students. Although there is an increasing number of enrollees in tertiary education in the Philippines, the dropout rates continue to be high as only one out of six enrollees actually graduates. Aside from this challenge, the education sector as a whole suffers from the lack of; if not poorly maintained infrastructure; lack of capacity among teachers as well as the dearth of available materials as well as libraries that could be utilized by the students.
It is this context that the potential of using open educational resources (OER) in the Philippines is high. According to Arinto & Cantada (2013), conditions for the adoption and development of OER already exist in the Philippines. Some of the factors they pointed out include the increasing connectivity to the Internet in general and in schools and higher education institutions (HEIS) in particular, government support for Internet connectivity for schools, and the increasing interest of HEIs towards online learning. Moreover, since the medium of instruction in the Philippines is English, it is easier for Filipinos to consume OERs. This is complemented by the attitude of openness and high exposure of the Filipinos in social media which makes it easier for everyone to utilize any material that is available online.

The University of the Philippines Open University and its Role in OER

Established in February 23, 1995, the University of the Philippines Open University (UPOU) is recognized in the Philippines as a pioneer in open and distance education. The UPOU aims to provide quality higher and continuing education through distance education and e-learning. It is recognized by the Commission on Higher Education as the Center of Excellence in Open and Distance Education. The UPOU’s mission is to provide education opportunities to individuals who aspire for higher education and improved qualifications but are unable to take advantage of traditional modes of education. UPOU offers a wide array of academic programs, undergraduate and post-baccalaureate, spread through its three faculties. Moreover, it also offers non-formal courses such as online teaching and learning, new enterprise planning, and professional teaching certification program, among others (http://www2.upou.edu.ph/academic-programs).

The UPOU as a catalyst in the use of OERs

The UP Open University, being the premier University in the country recognizes the importance of OERs. Villamejor-Mendoza (2010) reports on the state of openness of the UPOU and identifies OER as one of the four parameters of openness (the others are open admissions, open curricula, and distance education at a scale) and maintains that UPOU is 66% open in terms of OER use, creation and sharing and
is “positioned to lead in the OER movement” in the country (Ibid.: 146).

The Resource Based Content Package (RBCP) Approach

Villamejor-Mendoza (2010) noted that UPOU’s transition to a resource-based approach to course development signifies an active move towards OER sharing and distribution (Ibid., 2010: 144) — a manifestation of the growing receptiveness to OER and at the same time a contributing factor.

Formally, UPOU defines RBCP as “a detailed study guide, to both on-line and off-line resources considered to be the core set of materials for a course. The resources may contain commentaries, detailed explanations, and examples, as well as self-assessment questions and activities.” (UPOU, 2013). This shift towards resource-based course package (RBCP) is characteristic of what Hermosa and Anday (2008: 93) explain as the “fifth generation distance learning” wherein “instead of having a main textbook or set of course modules authored by one writer or team of writers, instructors now look for various resources to help them achieve course goals.” Examples of such resources include Web-based publications and other materials in digital format such as podcasts, webcasts, as well as features of Web 2.0 like blogs, wikis, shareware, and virtual communities.

An example of RDCP can be gleaned from the course “Gerontologic Nursing” wherein it utilized OERs but localized its application by students themselves (See Figure 1.)

Case Study: The Use of OER in a local course on Gerontologic Nursing
Sheila R. Bonito

Background

Gerontologic Nursing is an elective in the master's program in nursing focusing
on the care for older persons based on age-related changes and common health problems in old age. The online course is intended for students to broaden their understanding of the dynamics of the aging process, identify the common health problems among older people and plan for their individual care. The course also introduces students to the role of nurses as advocates for providing care and support of older people in the community.

The RBCP

The course uses OER materials organized as a Resource-Based Course Package (RBCP). The RBCP is composed of study guides, resource materials, and activity guides organized by the Faculty-in-charge. The study guide is a detailed guide to, or overview of, each set of resources in a resource package. It is composed of: (1) overview of topic around which the set of resources is organized (“organizing principle”); (2) learning objectives; (3) key concepts; (4) resources; and (5) study guide questions. Resource materials are most often open educational resources (OER) organized per module and could be part of the study guide. On the other hand, an activity guide usually contains: (1) rationale / objectives; (2) task and output, (3) resources and tools, (4) procedures to be followed; (5) assessment criteria (if the activity is to be assessed); and (6) student support materials that may be needed (e.g.
templates, glossary, guide questions, notes).

The Use of OER

The use of OER in the course is essential since it allowed faster updating of the course materials and use of a wide variety of materials on ageing and care of older people.

In selecting resources for the course, it was important to focus on the learning objectives. The materials should not only be the latest information but would also support the students in achieving the course objectives. For example, an online questionnaire was called “Real Age” was used in the course as a springboard for discussion on dynamics of the ageing process, that is, different individuals age differently because of many factors, and one of them is the lifestyle habits. Localizing content was also an issue that was addressed by making students conduct their own interviews of older persons based on an interview of a 104-year old woman from another country. The video gave them an example of how the interview process should be done and let them gain insight on the possible challenges and triumphs. Another OER material that was used in the course was the Virtual Clinical Experience multimedia courseware developed by UPOU funded by the International Development Research Centre of Canada. This open courseware contained a case study of an older person with Alzheimer and some learning tools on history taking and physical examination. The courseware has a heavy file size and so it was downloaded in the UPOU Networks website (instead of the learning management system) to allow students flexibility in accessing heavy files.

Challenges

The challenges that need to be addressed in the use of the OER in the course, include: (1) finding appropriate materials that would fit the learning objectives of the course, (2) localizing the content, and (3) how to distribute the materials to the students.
Results: Issues, Challenges and Prospects

The RBCP Approach is now utilized by the UPOU in terms of content development, however, there is still a need to evaluate how OERs are being customized. Several issues, challenges and prospects are as follows:

Policy level – The UPOU as part of the University of the Philippines system, still lacks a clear policy on OERs. The University has an existing policy on intellectual property rights (IPR) which puts emphasis on the need to protect the property rights of the UP as an academic institution. Hence, although there is an existing practice of using OERs, the products of the University remain to be restricted. This makes things a little bit complicated but constant discussion and articulation on the relevance of OERs could lead to the creation of a policy that will suit the needs of the UPOU in particular.

Resource Constraints – The University receives a regular appropriation from the government. However, there is also a need to update and acquire equipment and software as well as improve interconnectivity.
**Capacity Building for RBCP** – There is a need to orient content developers about OERs and the RBCP approach of the UPOU. This will provide a clearer understanding on how OERs can be customized to fit the courses being developed.

**Quality Assurance** – There is a need to design a mechanism that will ensure quality in the use of OERs.

**Co-sharing of materials with Institutional Partners** – The UPOU has a lot of institutional partners locally and globally. It should also explore co-development of OERs that can be shared.

**Course Evaluation** – There is a need to review how OERs are being utilized and even customized through the RBCP Approach. Since most of these materials are still being developed, it might be important to review them once they are finished and include a study on how OERs were customized.

As a summary, the UPOU case shows potentials for international usage of OER. With successful preparations on a strategic and policy level, the university has provided the basis for OER uptake and international collaboration. Specific challenges to perform successful collaborations have been identified in this case and can be addressed in future actions.

### 4.5 OER in Malaysia

The OER universe has grown tremendously over the last decade, and several initiatives have been carried out to make it easier to find relevant OER for our learning, teaching, and research needs and requirement. However, until today, there is no ideal one-stop federated search, where we can search all OER shared around the world, and then find what we are looking for in an efficient manner. While reusing or remixing OER can have a positive impact in improving many areas of education
in Malaysia, it is not sufficient if we just aspire to become a leading country in the areas of knowledge creation, creativity and innovation. To be a leading nation in these areas, we must go beyond knowledge consumption to embrace the willingness to create, innovate and share with the growing OER world. In this session, we will explore some of the most prominent OER initiatives taking place in Malaysia from both an institutional and an individual perspective.

**Institutional-Initiated OER**

**Wawasan Open University & OER Asia**

The Wawasan Open University or WOU (http://www.wou.edu.my) is a new university and it is the youngest among Asia’s 70 open universities engaged in open distance education. It aims to take advantage by leapfrogging three or four generations of distance teaching practice by using all of the technological assets available to it.
The Institute of Research and Innovation (IRI) of the university is committed to exploring innovations in teaching and learning, especially in the new technology enabled and enriched environment. IRI is presently mobilising funds to support its mission as well as develop a network of Asian researchers studying OER and Open CourseWare (OCW) development on the continent. WOU maintains an OER website known as OER Asia (Figure 1), which is an Asian forum dedicated to sharing information, views, opinion, research studies and knowledge resources on OER. In addition, it also provides guidelines and toolkits on good practices related, which is accessible at http://www.oerasia.org/oer-workshop.

**Open University of Malaysia OER**

Open University Malaysia (OUM), established in 2001, is Malaysia’s premier open and distance learning university. It has since offered more than 70 programmes comprising over 900 courses with a cumulative enrolment of over 90,000. OUM OER (Figure 2), accessible at http://oer.oum.edu.my/, is an effort by the Institute of Quality, Research and Innovation (IQRI) meant to share some of OUM’s learning resources with the general public. It is managed by OUM’s Institute of Teaching and Learning.
University Teknologi Malaysia Open CourseWare

Universiti Teknologi Malaysia is a member of the global Open CourseWare Consortium. More importantly, only UTM has published its Open CourseWare. UTM Open CourseWare (Figure 3) is a collection of high-quality digital learning materials based on courses offered at the university. The learning materials, in a complete course format, often include lecture notes, lesson plans, and exercise questions.

UTM Open Courseware

International Medical University (IMU) Webinar Learning Series

The aim of the International Medical University (IMU) Webinar Learning Series (Figure 4) is to connect inspiring and exceptional educators around the world to share their knowledge, best practices, experiences and wisdom related to learning
and e-learning with educators attending the series from Malaysia and around the world. The life webinar sessions, and all the sessions are recorded, and made available online as OERs (http://imuelearning.blogspot.com/p/imu-learning-webinar-series-2012.html). A total of 14 webinars have been successfully completed since the series was launched late 2011, and it has attracted many world-renowned learning experts.

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Figure 6 IMU Webinar

Individual & SIG Group Initiatives

Web 2.0 OER

One of the most prominent contributors of OER in Malaysia is Prof. Dr. Mohamed Amin Embi form UKM who has pioneered the creation and dissemination of materials on the use of Web2.0 tools for teaching and learning. In 2011, he initiated the publication of a series on ‘Web 2.0 Tools in Education Series’. These materials are available in the form of e-books which are accessible at scribd.com. Presently, there is also a one-stop centre on these Web 2.0 Open Educational Resources accessible at http://www.scoop.it/t/web-2-0-learning-teaching.
Just-in-time Training 2U (JiT2U)

JiT2U, is designed to introduce educators worldwide on how to utilise selected Web 2.0 tools in teaching and learning Figure 6 Just-in-time Training. In JiT2U, tutorials are presented in various formats, including videos, PowerPoint presentations, easy guides or manuals and e-books. JiT2U is designed by combining three simple concepts that suit mobile content: namely, i) ‘just-enough’, ii) ‘just-for-me’ and iii) ‘just-in-time’.

Figure 7 Web 2.0 OER

Figure 8 Just-in time Training
ZaidLearn

ZaidLearn (http://zaidlearn.blogspot.com/is a blog maintained by Zaid Ali Alsagoff, the e-Learning Manager and Fellow of Centre for Medical Education at IMU (Figure 7). Since 2007, he has been openly sharing his learning adventures, workshops, talks, discoveries and ideas on how to transform education using technology. All the presentation slides for his workshops and talks have been made available under the Creative Commons license (3.0) on Slideshare, and is today well known locally and internationally for his expertise in this area. According to Google Analytics, his contributions to the OER movement have been viewed by people from more than 200 countries and 13,800 cities around the world.

Learning Innovation Circle (LIC)

The Learning Innovation Circle (http://www.facebook.com/groups/t4t2011/(Figure 8) is an open online learning and sharing community initiative, which was initiated by Prof. Zoraini Wati Abbas in 2011. Today it has more than 470 members, and includes many prominent educators from Malaysia and overseas. This interactive and engaging online group is always exploring new ideas and challenging one another to transform education for the better. The most notable contribution to materialise so far from LIC is the ‘Learning Innovation Talks’ (LIT) series.
Issues and Challenges of OER

As illustrated in the earlier sections, there are various initiatives by the institutes of higher learning in Malaysia that support OER use and development. It can be revealed that all institutes are confident of establishing a functional and sustainable OER platform and advocating knowledge as a public good. The institutions also envision speedy development of OER and OCW (Open CourseWare) using rapid e-learning tools that are readily available in the market. However, there are issues and challenges that must be addressed especially in relation to the people involved in OER development and as follows:

i) Awareness and adoption of OER

Although most top management in the institutes of higher learning are championing e-learning, the notion of open, and free educational resources for all has not caught up with many academicians. Awareness of OER and OCW among them is still at a low level and the trickling down of information requires super-efficient channels. In terms of adoption, the vast resources may overwhelm instructors; thus,
training is necessary. Lecturers should not be left to deal with the OER without assistance. The 2012 Babson Report on OER in US Higher Education found that time and effort to find and evaluate OER to be the most important barriers by faculty to the adoption of OER.

ii) Access and technology competency
Though it is not fair to make generalizations, many of the senior academicians tend to be less competent and skeptical towards online learning. Searching for the best OERs may become a chore to these academicians. This is again supported by the recent Babson Survey Research Group report where it is stipulated that the older faculty have a greater level of concern with OER adoption than do younger faculty.

iii) Time and commitment
Generally, in a Malaysian university main structure, research component plays a big role in thwarting the development of OER. Since the process takes time, academicians may opt to not develop OER, but to concentrate on research output that will ultimately be evaluated for annual appraisal, promotion and salary increase.

iv) Culture of Sharing
The lack of sharing culture among academicians is also an issue in determining the success of OER implementation in Malaysia. Conventional teaching sees the academicians as the ‘master’ and the provider of knowledge. Acculturation of resource and information sharing, the idea of open access, re-using and improving the resources are still not widely practiced by most academicians.

v) Quality of OER and understanding of copyrights and creative commons attributions
This is a perennial issue in e-content development. OER and its concept of use, re-use and sharing for teaching, learning and research purposes stand to be the point of debate especially among those with the ‘the textbook is the course’ mind-set. There are academicians who prohibit the circulation of their teaching
materials, proclaiming intellectual rights and individual work. In relation to the above, understanding of copyrights and the function of Creative Commons are pertinent to successful development and implementation of OER.

Those issues and challenges are some of the hurdles that Malaysian universities have to overcome towards the success of the development and implementation of OER in Malaysia. However, academician must go beyond knowledge consumption to embrace the willingness to create, innovate and share with the growing OER world.

**Conclusion**

There are several Malaysian universities and individuals starting to embrace OER and this could inspire Malaysia towards becoming a leading nation in this area in the coming years. Some universities have recognised earlier on the value of the web as a method to cheaply and effectively disseminate information and knowledge. On the other side of the equation, some have also employed traditional media in order to raise awareness on the availability of the online open resources. Understanding the concept of OER may be significant in helping academicians in universities and higher institutions to develop new thinking of new knowledge construction to the people outside their classroom. In addition, the use of OER can be perceived, not as a more rational improvement to education, but as a further refinement in the exercise of education. Whether this happens or not, academicians should embrace OER, and use it as a tool to transform learning and teaching in Malaysia. By embracing the OER movement and contributing to it, academicians can make a difference in transforming education in Malaysia and around the world. Many international collaboration opportunities will exist and should be utilized in the future.
5 Discussion and Recommendations

OER are seen as very promising in all the three cases. It was seen that there are already a variety of initiatives and actions in place. However, several challenges remain, the following recommendations summarize the key issues and future interventions:

- **Integration of OER with existing initiatives**: A variety of initiatives has already been developed. These need to be integrated into broader OER adoption.

- **Policy support** is needed on a national level as well as in university strategies. There seems to be an indication that Asian universities have OER higher on the agenda than universities in Europe.

- **Capacity and awareness building** is a key issue to success. Stakeholders in all countries need to be informed and educated on the potentials of open education.

- **Cross-border collaboration** happens already mainly on a regional level. No broad initiatives exist currently between Asia and Europe and need to be initiated.

- **Quality assurance** is a key issue. Resources and courses need to be quality assured taking the different country- and organizational requirements into account.

- **Institutional partnerships** can support the utilization of OER. Existing and new partnerships should include OER as a means for collaboration.

- **Early sharing**: Idea sharing is a promising concept towards the collaborative development of OER and towards intensifying collaborations. Not only OER should be shared but also OEI and OEP to share in all parts of the lifecycle.

- **Collaboration processes and tools** are necessary to facilitate cross-border collaborations and OER development. It is important to ease adaptation and in particular translation as well as cultural processes. Standard tools should be integrated allowing simple collaborative development and adaptation.

It can be stated that the case studies show good practices for some of the above
mentioned challenges such as providing policy support, collaboration processes and tools. The cases show a basis on which we should build further research to identify how cross-border collaborations can be facilitated in the best way. The key challenges need to be addressed in collaborative, design-oriented research leading to better and intense collaborations around OER between Asia and Europe.

6 Summary and Outlook

The use of Open Educational Resources creates a variety of opportunities but also challenges in cross-border collaborations. Re-using OER can create a variety of barriers for organizations and individuals. However, several promising solutions exist to create successful cross-border re-use scenarios and practices. One key concept for creating successful collaborations is the concept of Open Educational Ideas (OEI) in which cross-border teams work on collaborative, multi-language, multi-cultural course developments. Starting collaborations at early stages eases the planning of adaptation and decreases adaptation efforts.

Our case studies have shown good practices for adaptation and contextualization in cross-border settings from very different perspectives. This is a first step to understand and optimize adaptation processes (and global educational collaborations). The cases from Malaysia and Philippines have shown a strong movement and uptake which can be a good base for future collaborations across borders.

However, many new research questions came up. It will be necessary to better (and automatically) identify adaptation needs and create model processes for adaptation. In the Philippines, key issues were identified such as policy support needs as well as quality and evaluation requirements. Additionally, cross-border studies are neces-
sary to understand adaptation for different settings (e.g. between Northern European and South East Asian universities).

As a summary we can say that the use of OER and OEI is a promising alternative for all educational sectors when barriers are overcome. Improved collaboration in any stage of course development processes is a main step towards global success scenarios.

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