

# OPEN EDUCATIONAL RESOURCES in LIFELONG LEARNING



**VENUE :** 14<sup>th</sup> floor, Windsor Suites Hotel, Sukumvit 20, Bangkok, Thailand  
**DATE :** 19<sup>th</sup> ~ 20<sup>th</sup> December, 2013

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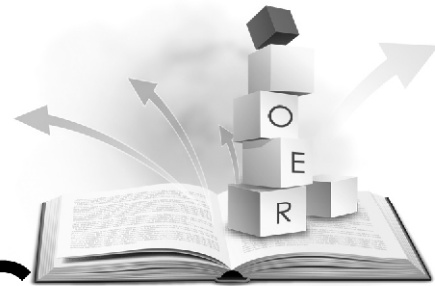




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08:30~09:30 Registration

## OPENING CEREMONY

Chair: Prof. Thapanee Thammetar

09:30~10:00

- Opening Remarks: Prof. Taerim Lee (Coordinator, e-ASEM)
- Welcome Remarks: Dr. Suphat Champatong (Assistant Secretary-General, Office of the Higher Education Commission)
- Congratulatory Remarks:  
Dr. Gwang-Jo Kim (Director, UNESCO Asia Pacific Regional Bureau for Education)
- Photo time

10:00~10:20

Coffee Break

## KEYNOTE SPEECH

Chair: Prof. Taerim Lee

10:20~11:20

- OER in Middle and Low Income Asia as a Means to Inclusive Life Long Learning  
Prof. Gajaraj Dhanarajan (Chairman, Board of Governors, Wawasan Open University, Malaysia)

## PLENARY SPEECH

Chair: Prof. Jan M. Pawlowski

11:20~12:20

- Open Educational Resources in Thailand  
Prof. Chailerd Pichitpornchai (President, Sukhothai Thammathirat Open University, Thailand)
- Government Initiative in Developing OER: The Case of KNOU  
Prof. Dongkook Lee (Vice-President, Korea National Open University, Korea)

12:20~13:20

Lunch

13:20~13:40

- Introduction to the ASEM LLL Hub  
Mr. Anders Martinsen (Head, The ASEM LLL Hub Secretariat, Denmark)

## Session I

Chair: Prof. Jintavee Khlaisang

13:40~15:20

- Quality Assurance Model for Open Educational Resources of Distance Learning  
Prof. Taerim Lee (Korea National Open University, Korea), Prof. Insung Jung (International Christian University, Japan)
- Contextualization of Open Educational Resources in Asia and Europe  
Prof. Jan M. Pawlowski (University of Jyväskylä, Finland)
- Students as Adult Learners' Comprehension of Open Educational Resources and It's Use in Self-Directed Learning  
Dr. Rita Birzina (University of Latvia, Latvia)
- Open Educational Resources Pedagogical Perspectives of Thai  
Prof. Jaitip Na-songkhla (Chulalongkorn University, Thailand)
- Q&A

15:20~15:40

Coffee Break

## Session II

Chair: Prof. Bowon Kim

15:40~17:00

- Open Educational Resources: Malaysian Higher Learning Institution Initiatives (20min)  
Prof. Norazah Nordin (University Kebangsaan, Malaysia)
- Open Educational Resources in China: Research, Policies and Practices  
Prof. Lina Wang (The Open University of China, China)
- Open Educational Resources in India: Emerging Issues and Challenges  
Prof. Karanam Pushpanadham (The M.S. University of Baroda, India)
- Q&A

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# OPENING CEREMONY

- **Opening Remarks**

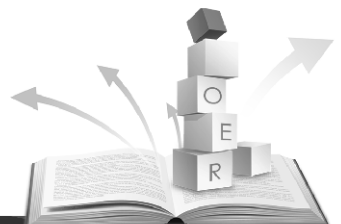
Prof. Taerim Lee (Coordinator, e-ASEM)

- **Welcome Remarks**

Dr. Suphat Champatong (Assistant Secretary-General, Office of the Higher Education Commission)

- **Congratulatory Remarks**

Dr. Gwang-Jo Kim (Director, UNESCO Asia Pacific Regional Bureau for Education)







**Prof. Taerim Lee,  
(Coordinator, e-ASEM)**



Dr. Taerim Lee is the former director of KNOU Institute of Distance Education. She was the program organizer of the ASEM e-Learning ICT Colloquy in Sept. 2006 with 27 countries in Seoul and the e-ASEM Network follow-up meeting in 2007.

She works 30 years in the fields of Life Long Learning at Korea National Open University. During last 27 years she had developed the computer base teaching instruction starting with 8 bits Apple computer at 1986, after that Mac, PC, and now web version. She is a biostatistician and now the vice president of International Association of Statistics Education, the vice president of Korean Statistical Society, the former president of Korean Society of Public Health Statistics and the former president of Korean Classification Society, and the representative of Asia Pacific area woman statistician of ISI. During her term as the director at KNOU e-Learning center, she took charge of the president of KUACE (Korea Alliance for Cyber Education) with nationwide 89 universities.

Her contents of Introductory Statistics were open to the APEC Cyber University for Public Health and ongoing collaboration with UNSIAP (UN Statistical Institute for Asia Pacific) of online education for Asia pacific official statisticians. She published many books and e-Learning contents of statistics, Statistics and Life, Introductory Statistics, Exploratory Data Analysis, Data Analysis for Life data and Bioinformatics.



## Opening Remarks

Prof. Taerim Lee  
(Coordinator, e-ASEM)

As a coordinator of e-ASEM RN1 under ASEM LLL and Organizing Committee of this 8<sup>th</sup> e-ASEM Research Network Meeting, it is my great honor for me to give the opening address to all distinguished delegates and colleagues. We e-ASEM RN1 members really appreciate that TCU host this meeting and take care all of us with deep hospitality.

As you know, this meeting was followed by the 1<sup>st</sup> e-ASEM Network meeting at the Asia-Europe Colloquy held in Seoul at 2006. For the last ten years, information and communication technology has been growing greatly in terms of importance, sophistication, application and innovations. This remarkable growth, which has had a broad effect on education as a whole, has led to sweeping changes in e-learning, m-learning, OER MOOCs for higher education in particular.

Now these changes require us to address challenges such as quality assurance, adequate accountability, reusability and interoperability that must be addressed to ensure effective and efficient application of ICT in higher education.

The former e-ASEM meetings were a capstone towards developing such a partnership through e-learning cooperation in Asia and Europe by not only understanding cultural diversity but also building shared values such as openness, trust, collaboration, and knowledge sharing. Through the last 7 e-ASEM Network meetings held in Korea, Denmark, Kuala Lumpur, Beijing, Thailand, and Japan during the last 7 years, we could established the strategic foundation for the e-ASEM Research Network including vision, scope of activity, working groups, and their activities And during this meeting, I think that this e-ASEM meeting will bring us an opportunity to share the current achievements and the future work of the e-ASEM network and exchange ideas for promoting

partnership and collaboration among ASEM members in the field of e-Learning, m-learning, ICT adaptation in Open & Distance Education.

One of the significant goals of e-ASEM Network is to promote partnership and collaboration among ASEM members in the field of e-Learning. Therefore, I think that this e-ASEM meeting will be a springboard opportunity to share the current achievements and the future work of the e-ASEM network and exchange ideas for promoting partnership and collaboration among ASEM member countries in the field of e-Learning.

Now we must continue to foster the cooperation that has taken root here by encouraging more collaboration and active partnerships between ASEM members through e-Learning and m-Learning too. Such Partnerships will promote continued development and promotion of e-learning and will make a contribution to resolving challenges of e-learning in higher education in Asia and Europe.

Anyway, I would like to thank all speakers and participants for making this e-ASEM Network Follow-up Meeting meaningful.

And also I would like to thank to Mr. Claus Horm, Director of ASEM LLL big umbrella and Mr. Anders Matinsen, Secretary general for their friendly consideration and strong financial support, Please give him big hands. And also, I'd like to give many thanks to the local organizing committee members, especially Prof.Thapanee Thammetar, who has dedicated an incredible amount of time and effort for this meeting preparation. Please give her and TCU staffs big hands.

Lastly, ladies and gentlemen, I would like to propose that we give ourselves a big hand of applause to congratulate the success of this meeting. And I hope you have the opportunity to experience the Thailand traditional culture as honored guests during your remaining time in Bangkok.

Thank you very much, KoKun Kap!

## Welcome Address

**Dr. Suphat Champatong**

(Assistant Secretary-General, Office of the Higher Education Commission,  
Ministry of Education of Thailand)

Good Morning, Distinguished Guests, Keynote Speakers, e-ASEM Research Network 1, ladies and gentlemen. First of all, as the administrator of the Office of Higher Education Commission, Ministry of Education, Thailand, I would like to express our cordially welcoming you all to 2013 e-ASEM Research Network Conference and Meeting: Open Education resources in Lifelong Learning in Bangkok.

The Office of the Higher Education Commission (OHEC) and e-ASEM Research Network 1 has been co - organizing this conferences and meeting for sharing information, experiences and knowledge on specific themes. This year, the focus is on “Open Education resources in Lifelong Learning” We can say that the world has seen three revolutions in the dissemination of knowledge. The first came with the invention of the written language. The second occurred through the development of moveable type and books. And the third revolution became evident with the advent of information and communication technologies or ICT, The open courseware is sharing educational resources for people can learn for lifelong learning via ICT for Open Education. This is an important event in that it has brought together expert from many country, with a view to exploring possibilities Open Education Recourses for enhancement of education. And we could share the experiences, know-how and challenges accumulated in Asia and European countries.

In conclusion, I welcome you once again to The 2013 e-ASEM Research Network Conference and Meeting in Bangkok Thailand. I wish that we will have a very productive and successful conference. And I wish you all success in your deliberations.

Thank you.



## Congratulatory Remarks

Mr. Gwang-Jo Kim

(Director, UNESCO Asia and Pacific Regional Bureau for Education)

Dr. Suphat Champatong, Assistant Secretary General, Office of Higher Education Commission, Thailand, Distinguished keynote speaker, Professor Gajaraj Dhanarajan, Chairperson of Board of Governors, Wawasan Open University, Malaysia, Professor Taelim Lee, Coordinator of eASEM and Korea National Open University, Speakers and partners from universities, Members of eASEM community, and Ladies and Gentlemen, A very good morning and welcome to Bangkok. It is my great honour to join in congratulating another successful organization of the e-ASEM Research Network Conference 2013 in Bangkok, Thailand. It is a pity that I am not able to physically be there and participate in the discussion, especially because I recognized many familiar names in the conference programme whom I met last year at OER Asia held in Penang, Malaysia. To confess, as a non-expert in the area of OER, I still remember how impressed I was during the OER Asia last year with the rich discussion and passionate initiatives towards one common goal: advocating and mainstreaming OER.

At the same time, I also remember, (and I wish you remember too), that I made a provocative speech there in the Penang conference on the use of OER from UNESCO's perspectives. Please allow me to reiterate a couple of points here again.

First, language issues in OER. In the Asia Pacific Region, there are about 3,500 languages spoken. However, the number of languages that are used for official educational contents is less than 1% of the total number of languages. If OER is produced mainly in English or some dominant languages, OER may unwittingly contribute to exacerbating the educational divides and more seriously, the extinction of languages. As an organization that promotes mother-tongue based education and preservation of minor languages and culture, UNESCO would invite the OER think-tank (i.e.

eASEM) to look into this matter more closely from the human right point of view. You may aware that UNESCO OER Declaration explicitly encourages this “adaptation of OER in a variety of languages and cultural contexts”. With this in mind, I would welcome collaboration from the eASEM community on supporting the development and customization of OER in diverse local languages and cultural context.

Second, moving OER beyond OER community. OER has been pursued in the higher education community in the hope to expand the opportunity for affordable and quality higher education. Naturally, the notion of OER has been mostly known to the higher education community, more so than other education sectors such as basic education or non-formal education. Given the greater potential of OER, I believe that there are many more areas in education that can take advantage of using OER, such as eradicating illiteracy in rural areas, providing quality teacher training, reducing gender disparities and supporting skills development for the youth, to name a few. Do these potential areas sound familiar to you? These are all related to Millennium Development Goals or MDGs. UN agencies are working together at their full strength to achieve these MDGs by 2015. As an effort, for example, UNESCO is currently undertaking a project funded by Hewlett Foundation to support Member States in developing OER for teacher training for those who may not have equal access to quality teacher training and professional development. We UNESCO strongly believe that quality teachers play a key role in achieving education for all. As such, I would welcome more initiatives undertaken by the OER community beyond higher education. OER has far greater potentials to become a true means of promoting access, equity and quality of education in the spirit of the Universal Declaration of Human Rights.

With this in mind, I am more than thrilled to learn the timely theme of the conference, “OER in Lifelong Learning”. I am especially excited about the sessions that could address the issues that I had raised during the OER Asia, such as “contextualization of OER in Asia” and “OER in middle and low income Asia as a means to Inclusive Lifelong Learning”. I would like to invite all the participants to actively engage in looking into OER as a means to alleviate the persistent gaps in promoting equity and quality of education. I look forward to outcome documents or proceedings of the conference as well as concrete actionable items to move OER a step forward.

Finally, I would like to take this opportunity to thank the Office of Higher Education Commission, Ministry of Education Thailand for supporting such an important meeting. I also appreciate all the

participants across the Asia from different institutions for taking your time to engage in such timely discussion. Let us build on past and current efforts and collectively deliberate for the next two days how to make full use of OER to create the lifelong learning society, to realize the future we want for all.

I wish all of you a successful and productive meeting and enjoyable stay in Bangkok.

Thank you.

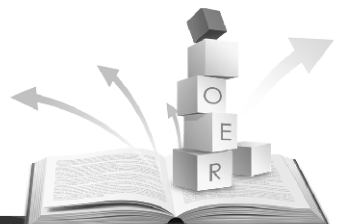


# KEYNOTE SPEECH

- **OER in Middle and Low Income Asia as a Means to Inclusive Life Long Learning**

Prof. Gajaraj Dhanarajan

(Chairman, Board of Governors, Wawasan Open University, Malaysia)







**Prof. Gajaraj Dhanarajan**  
**(Chairman, Board of Governors,**  
**Wawasan Open University, Malaysia)**



Emeritus Prof. Gajaraj Dhanarajan, was the founding Vice Chancellor of the new Wawasan Open University and retired from this position in December 2009. He has recently been appointed as the Chairman of the Board of Governors. He had previously served as President of Commonwealth of Learning and CEO of the Open University Hong Kong.

He holds the B.Sc. and M.Sc. degrees from the University of Madras, a D.I.C. and an M.Sc. from the Imperial College of the University of London and a Ph.D. in Biology from the University of Aston in Birmingham, U.K. As a long standing advocate on Open and Distance Learning, he has contributed to global discussion on the subject and further, associated with the work of international development agencies, since 1974.

Professor Dhanarajan was Secretary General of the Asian Association of Open Universities between 1991 and 94, a member of the Executive Board of the International Council for Distance Education (ICDE) in 1988-90, educational advisor to the International Union for the Conservation of Nature from 1983-86. He was a Council Member of the Malaysian Qualification Agency from November 2007 to October 2012. He was appointed in May 2011 as a member of the National Lifelong Learning Committee by the Ministry of Higher Education, Malaysia. Professor Dhanarajan sits in the Council of the UNITED NATIONS UNIVERSITY jointly appointed by the Sec, Gen of the UN and the Director General of UNESCO for a period of six years starting 2010.

He is a recipient of numerous awards and honours including honorary doctorates from ten universities, the first Meritorius Service Award from the Asian Association of Open Universities in 1995 and the prize for Life Time Contribution to Open Distance Education by the International Council of Distance Education in 2013.

Date: 06 January 2014



# OER In Middle And Low Income Asia As A Means To Inclusive Life Long Learning

Prof. G. Dhanarajan<sup>1</sup>  
(Wawasan Open University, Malaysia)

## Introduction

*'Knowledge should be universal but is unequally and unfairly distributed and OER will help to overcome the gaps. [Marshall Smith]<sup>2</sup>*

1. Let me begin by thanking Prof. Tae Rim Kim the convener of the conference and the organizers e-ASEM-TCU, for inviting me to participate in this interesting workshop on Lifelong learning and Open Educational Resources. I recognize the generosity of this invitation since I am aware that Prof. Kim herself has contributed much to the subject through her work. In the midst of experts I can but only add the voice of experience as someone who had been working on development and field of open education over the last three decades. I will therefore draw on that experience in the next thirty minutes or so with this conversation. I will make the presentation in four parts. These are:
  - a. *OER and The Question of Openness*
  - b. *OER and Life Long Learning*
  - c. *OER in Asia*
  - d. *OER and Inclusive Life Long Learning in Asia*
2. I want to begin by either defining or describing the three ideas or terms around which I wish to engage you in this morning's conversation. These are terms that are familiar to most of you – but I thought that, for my own comfort at least, I have to frame them within the context of my understanding of what they mean. The terms are:
  - a. ***Lifelong learning [LLL]*** “is the ongoing, voluntary, and self-motivated” pursuit of

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<sup>1</sup> gdhan@wou.edu.my

<sup>2</sup> Smith, M. unpublished communication

*knowledge for either personal or professional reasons. Therefore, it not only enhances social inclusion, active citizenship and personal development, but also competitiveness and employability” [Wikipedia]*

b. **Inclusive education [IE]** *“is a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion from education and from within education”.* [UNESCO]

c. **Open Educational Resources (OER)** *are freely accessible, openly licensed documents and media that are useful for teaching, learning, educational, assessment and research purposes. Although some people consider the use of an open format to be an essential characteristic of OER, this is not a universally acknowledged requirement.* [Wikipedia]

3. In my view, there is sometimes a mistaken perception that OER is more than a resource and that by itself an education, open to all. Perhaps it is, but I tend to agree with D. Mossley who argues that OER are mostly *“teaching resources that are created, usable and reusable freely with as few barriers for the end user as possible and that it differs from Open Education which is in higher education is academic practice that stresses a philosophy of sharing freely and openly the ideas, knowledge, methods, platforms, tools, approaches and materials used in learning and teaching.”* The principles of openness in the production, distribution and utilization of the resource cannot be totally different from that of good practice in open education, which also is engaged in the production, distribution, utilization, and support of learning content, but one differs from the other in fundamental ways.

4. While LLL and IE have been more or less understood by the educational and development community, the last, OER, especially with reference to what it means to be “OPEN” in the context of educational resources, perhaps is still being debated. Consider this – those of us coming from open universities will understand that openness is not a recent phenomenon but has a long history in education. Whether it is open courses, schools, colleges or universities, the last sixty years has seen some five generations of open educational practice embedded in the belief that education is a public good and it should not only be *accessible* to all those who desire it but also that those who are provided access should also be *supported* in their learning. The

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<sup>3</sup> Mossley, D. [2014]: Open educational Resources and Open Education. The Higher Education Academy, U.K. [www.heacademy.ac.uk/resources/detail/new-to-teaching/oer/introduction](http://www.heacademy.ac.uk/resources/detail/new-to-teaching/oer/introduction) , accessed on 02/01/14

emergence of OER shifts the idea of ‘open education’ somewhat further. Open in this instance goes beyond ‘open entry’ to enroll in courses and programmes. Enabled by computing and related communication technologies educational content becomes available freely to all those who desire access to these, to learn from, with or without mediation by either institutions or individuals, anywhere and anytime, as long as there is the availability of the Internet. It assumes that individuals are capable of using and benefitting from the resources autonomously.

### ***OER and the Question of Openness***

5. The Norwegian educator Gunner Grepperud [2008]<sup>4</sup> of Tromsø University made some interesting observations about five years ago on the subject of open education, especially its paradoxes. He pointed out that the ideology of openness is both related to access and facilitation. The first is about opening doors to experience higher education to those previously denied and the latter is about facilitating such groups to successfully use and benefit from that access. It is the latter that he says where the rhetoric does not match practice. Our institutional policies belie practices. All kinds of regulations, control, and structure *is seen as* an undesirable intervention [by students] wanting to pursue learning. Maximum openness and flexibility (or freedom) in the learning process is related to a view on students as being more or less fully autonomous and self regulated. In this perspective, the educational institution plays a less active role in facilitating the learning process.” Access without facilitation is not access at all, at least to many in Asia. Many in this audience who have been associated with open educational practice [OEP] will know that institutional administrative arrangements unfortunately continue to limit the degree of openness that can be practiced. OEP practice has not changed in any significant way since the sixties. Its success was in widening access – its failure was in not being truly “OPEN” i.e. free of being fettered by all the constraints’ of conventional academe.
6. Advocates of OER will claim that OER overcomes many of the barriers that institution based open educational practice presents. While in theory this is so in practice there are some challenges in relation to Life Long Learning. Free access to content without supported facilitation to learning may limit the benefits to the learner. Support is required to place the content in context, institutional facilitation is required to give recognition to learning accomplishments, mentorship is required to overcome learning challenges and technical assistance is needed to overcome technological problems. Most importantly, as we examine a

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<sup>4</sup> G. Grepperud [2008]: Open Learning: Experiences and Paradoxes. Sciecominfo. Nordic Baltic Forum on Scientific Communication [4].

role for OER in the context of LLL we have to examine if present policies and practices especially in higher education place restrictions on all those who wish to fully benefit from the opportunities offered by OER for a lifelong learning journey, because the availability of OER [which without doubt is a force for good] presents unique opportunities for all to learn and benefit from the acquisition of global knowledge.

7. Provisions for improving access and enhancing equity especially in higher education [which is the sector the e-ASEM is interested in] and lifelong learning raise vexing questions for policy makers, providers and all other stake holders of higher education as they debate options, choices and costs in a world that is increasingly driven by one's knowledge and skills. Not the least of these questions are those that have to do with equitable access as to what, whom and why. As long ago as the late 70s many Asian nations subscribed to the UNESCO enunciated ideal of *Education for All*. They further reaffirmed this ideal in the Global Forum at Dakar in 2000 and continuous reiterations at subsequent meetings including the 2009 World conference on Higher Education. The Asian Development Bank in its Strategies for Accelerated Development in Asia and the Pacific was clear in its views on the subject, eloquently expressed as “ *If we accept the assumption that more and better education leads to greater individual and social development, then investments and reforms toward more inclusive education—getting all citizens educated, to a higher level of quality— will lead to a broader and stronger human resource base, able to participate more actively, more effectively, more responsibly, and more democratically— and with greater equity of outcomes—in the development process. This will lead not only to more poverty reduction and more “inclusive” growth but also to the more effective and efficient use of development resources and in the long run, to cost savings, especially in the social development sectors such as health and social welfare [ADB, 2012]*<sup>5</sup>.
8. These commitments were simply an affirmation of UNESCO's Article 26(1) of the Universal Declaration of Human Rights which states that “Everyone has the right to education ... higher education shall be equally accessible to all on the basis of merit.” [United Nations, [1948]. The very last phrase of that declaration has often posed a problem, as ‘merit and equity’ are not necessarily complementary. Many Asian people from underserved communities do not fare well in competition. There is therefore a valid argument presented that ‘merit’ as the basis of participation in higher education does not take into account challenges confronted by those

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<sup>5</sup> Asian Development Bank[2012] Access Without Equity. Finding a Better Balance in Higher education. Asian Development Bank, Manila, Philippines.

whose early experience may not have prepared them sufficiently to compete on the basis of meritocracy alone. As pointed out by the OECD in 2008, which stated, “*Equity in tertiary education is affected by inequities in preceding levels of education*”, [OECD, 2008].<sup>6</sup>

### ***OER and Life Long Learning***

9. The origins of lifelong learning systems are somewhat different from today’s practice of lifelong learning as it pertains to its purpose. Some of you may recollect the Delores report, which made a point of emphasizing the concept of learning throughout life for ‘*people to return to education in order to deal with new situations arising out of their personal and working lives*’.<sup>7</sup> Today’s view of LLL is more a reflection of the labour market needs rather than the more humanistic approach to adult education. The former promoted the value of lifelong education on concepts of broader citizenship and therefore was more inclusive while the latter buttressed the human resource needs of economies.
10. As long ago as 2001 S. Han postulated that in most of the middle and high-income countries of Asia LLL provisions were mostly geared towards serving the global knowledge economy, despite, having quite different values, systems and social roles. The countries he looked at were Korea, Japan, Hong Kong [SAR], Singapore, Thailand and the Philippines which either through legislation [ e.g. Korea, Japan and Thailand] or through strategic policy declarations promoted LLL. Han further declared:

*Today, lifelong learning is going far beyond the provision of second-chance education and training for adults. Rather, it significantly re-shapes the traditional foundation of school-oriented national education system in Asia as well as other countries. The proclaimed idea and ideology not only criticizes the conventional rituals of institutionalization in public schooling, but also attempts to ‘border-cross’ the boundaries of educational realms in the whole learning ecosystem (Han, 2001). In addition, the recognition of prior experiential learning, open and distance learning, collaborative arrangements of teaching-learning process have been accelerated by virtue of technological advances (Cooper, 1996)<sup>8</sup>, and the newly*

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<sup>6</sup> OECD (Organisation for Economic Co-operation and Development). 2008. *Tertiary Education for the Knowledge Society OECD Thematic Review of Tertiary Education*. Paris: OECD.

<sup>7</sup> UNESCO [1996]: *Learning: The treasure Within*, Report to UNESCO of the International Commission on Education for the Twenty first Century. Paris, France.

<sup>8</sup> Cited by Han [2001]

*emerging modes of learning, non-traditional knowledge delivery modes, and accreditation system stimulate more flexible and modularized ways of national education systems to replace the traditional mode of schooling. In short, lifelong learning has turned out to be a meaningful token for building alternative approaches for the new era education systems in general.*<sup>9</sup>

11. Developments witnessed in Japan and S Korea are also being replicated in other parts of Asia including India, China, and Indonesia and even more recently in the newly emerging lower income countries such as Laos, Cambodia and Vietnam. In a later paper, Han, in the aftermath of the 1997 Asian Financial Crisis, went on to also suggest that LLL “*systems under the global forces of capitalism, as with the Asian experience in the 2000s, can be a part of the knowledge economy itself, not a tool of it, and in this sense, the knowledge sets the conditions of the life learning system as an embryo of its attributes.*”<sup>10</sup>

12. While LLL policies in support of improving economic standing is necessary for enhancing national and personal wealth and good citizenship; there is also a need to fashion them to be inclusive – something that has not been given much consideration, in recent times. Inclusive LLL requires all of us to recognize that besides those in economic production, all other citizens including those segments such as people with physical, mental learning disabilities, those with special educational needs, immigrants, refugees, migrants Ethnic groups/people with different ethnic origin from majority of population, travelers, older learners, prisoners, ex offenders, those with poor literacy and numeracy skills, early school leavers, and the many who live in rural areas or deprived city areas (inner cities) and groups facing socio economic disadvantage all require access to and benefit from LLL . In 2012 the Asian Development Bank presented an argument for inclusiveness in education as follows:

*If access to the opportunity for higher education is limited by family resources or background, the distribution of benefits in a society is distorted, and inclusive economic and social development is impeded”* [Asian Development Bank 2008].<sup>11</sup>

In a similar report arguing even more persuasively the case for a more inclusive approach to LLL was made in Europe as follows:

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<sup>9</sup> Han, SH [2001]: Creating systems for life long learning in Asia. Asia Pacific Education Review 2001, Vol. 2, No. 2, 85-95.

<sup>10</sup> Han. S.H. [2007]: Asian Life Long Learning in the Context of a Global Knowledge Economy: A Task Revisited. Asia Pacific Education Review: Vol.8 [3]: 483-486.

<sup>11</sup> Asian Development Bank [2008]: *Education and Skills: Strategies for Accelerated Development in Asia and the Pacific*. Manila: Asian Development Bank

*“Lifelong learning for all can contribute significantly to reducing or avoiding exclusion. For unskilled or semi-skilled adults the participation in continuing education is crucial. Staff in a modern work environment must be able to adapt to new production technologies and processes, as well as management techniques, which requires both vocational and social skills. Access to continuing training increases individual choices.”<sup>12</sup>*

**13.** Most low and middle-income nations of Asia aspire to be high-income environments in the next 10, 20 or 30 years. They plan to do this by shifting their economic production vehicles from a low value to a high value environment. There is an intuitive recognition that an important strategy to bring about the shift, in economic status of nations, is through education especially higher education. We have seen in the last three decades a rapid increase in the provision of higher education in almost all parts of greater Asia [from the Korean peninsula in the east to the western borders of Central Asia]. This increase has been especially huge in South, South East and Far East Asia. Universities, Polytechnics, Colleges and Training Institutes in a variety of forms and structures have been created within a short period of three or so decades. Academic programmes and funding provisions have also been on an almost linear upward progression. Between 1990 and 2005 about 98 million Asians had experienced one or another form of tertiary education in a variety of institutions ranging from technical colleges to universities [UNESCO, 2009].<sup>13</sup> While this is a remarkable achievement there continues to be still a significant gap between the supply and demand for education generally and higher education particularly. Besides the normal age cohort, exiting high schools, demand comes from many other groups wanting access to learning. The biggest among these groups are those who wish to return to learning, in their adulthood. For many of these adults, higher education was denied to them during the early stages of their lives due to many reasons. Their return to study requires facilitation which in an already supply poor situation presents difficulties. Not facilitating or incentivizing such returnees is not only a social denial, but also economically counterproductive. Policy initiatives will be required to make this provision. These special policies need to include alternate pathways of entry to school and tertiary education through part time studies, and distance education, special financial incentives and arrangements, recognition of workplace training and according academic credit for such training as well as remedial or bridging

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<sup>12</sup> [www.unesco.org/education/uie/pdf/lllrrt.pdf](http://www.unesco.org/education/uie/pdf/lllrrt.pdf)

<sup>13</sup> UNESCO [2009] Global Education Digest: Comparing education statistics across the world. UNESCO Institute of Statistics, Montreal, Canada.

education for those with poor prior education, through specially designed policy instruments supporting lifelong learning. S. Korea like its other OECD counterparts has long been a leader in such arrangements. Philippines, Malaysia, Indonesia, Thailand, India and China all have or are moving towards enculturising Life Long Learning [Asian Development Bank, 2011<sup>14</sup>].

14. It is in this context that a role for the Open Educational Resources has to be situated. Many of us who advocate and promote OER have constantly argued that the greatest beneficiaries of the innovation will be those who are not part of the mainstream beneficiaries of higher education [UNESCO, 2012]. In the next two sections of the presentation I wish to look at two aspects with regard to OER and LLL in Asia. These are [a] the state of play of OER in our neighborhood and [b] evidence is available on the use of OER in support of inclusive lifelong learning.

### ***OER in Asia***

15. Even though ideas relating to OER have been in circulation, globally, over the last decade or so, developments in the poorer Asian nations have been slow. Similarly and despite the contemporary international debate and dialogue, knowledge of OER and its value amongst members of the larger Asian academic community as well educational policy makers is modest at best. Even in situations where there is familiarity, such as Japan, China and India [all of which already have some kind of arrangements to share digitized course content through consortium arrangements]<sup>15</sup>, discernible gaps exist in the understanding and application in many of the following aspects:

- a. detailed knowledge on OER as a practice;*
- b. knowledge of user needs;*
- c. knowledge usage levels amongst various user groups;*
- d. the characteristics of organizations successfully using OERs,;*
- e. a knowledge of and compliance to standards;*
- f. the range of technological assets required to benefit from OER;*
- g. the human capacities needed to develop and manage OER as well as,*
- h. other contextual factors [e.g. bandwidth] are scant.*

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<sup>14</sup> Asian Development Bank [2011]: Access without Equity: Finding a better balance in higher education in Asia. Asian Development Bank, Manila, Philippines

<sup>15</sup> <http://www.ocwconsortium.org/>

16. Like their counterparts all over the world educational innovators in Asia are promoting Open Educational Resources [OER], as a solution, among many other solutions, to overcome the challenges of access to, quality and cost of providing or participating in higher education for all. While in many parts of the developed world cost has often been cited as a reason to seriously consider OER as an option to expensive text books, skyrocketing tuition and inflexible learning opportunities by conventional systems, in the developing world inequitable access to learning, especially at the tertiary level, both formal and non formal have been presented as arguments to buttress the case.
17. There are any number of reasons why participation in being part of an OER movement is beginning to happen. These include a desire to benefit from the richness of the freely available content on the WWW, being part of a global bandwagon of innovations and innovators as well as a genuine desire to provide free access to content to those who desire it. It is still early days to predict how well a culture of producing; sharing, using and reusing OER will develop in most parts of Asia. At best it is a development in progress and at worst it could be perceived as yet another techno-fad. Institutions and individuals who produce access and use OER clearly perceive benefits despite some difficult barriers. Survey findings in 9 Asian countries of perceptions of benefits and barriers are presented in Table 1 below:

<Table 1> Perceived Benefits of and Barriers to Accessing and Using OER

[After Dhanarajan and Abeywardena, 2012]<sup>16</sup>

| PERCEIVED BENEFITS  | PERCEIVED BARRIERS  |
|---|---|
| Gaining access to the best possible resources                         | Lack of awareness   |
| Promote scientific research and education as publicly open activities | Lack of skills  |
| Bringing down costs for students                                      | Lack of time  |
| Bringing down costs for course development for institution            | Lack of ability to locate specific and relevant OER for my teaching |
| Outreach to disadvantaged communities                                 | Lack of ability to locate quality OER for my teaching               |

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<sup>16</sup> Dhanarajan, G. and I. S. Abeywardena [2012]: A Study of the Current State of Play in the Use of Open Educational Resources in the Asian Region [Unpublished Report of a Project on Open Access and Quality in Asian Distance Education [International Development Research Centre, Canada

|                                     |  |
|-------------------------------------|--|
| Creating more flexible materials    | No reward system for staff members devoting time and energy    |
| Conducting research and development | Lack of interest in pedagogical innovation among staff members |
| Building sustainable partnerships   | No support from management level                               |

**Awareness and knowledge of OER:** To those who are ardent advocates of OER, benefits of utilizing these free resources are familiar. However the higher education community in Asia is large, diverse and relatively conservative in its attitude to teaching and learning. Awareness as well as knowledge building both amongst teachers and policy makers is critical for the acceptance and integration of resources for purposes of teaching. Such awareness is currently very low [Table 2] – recent advocacy efforts by UNESCO-COL through their joint declaration on OER [UNESCO – COL, 2012] is helpful but it needs to be popularized; greater efforts at knowledge building especially amongst policy makers and institutional management have to be enhanced. Such knowledge building has to be comprehensive and current – those in decision making positions must be aware of what OER exist, in what context and how have they been used, how to gain access to them, what technologies and skills are required for teachers and learners alike to access them and the pedagogical and economic benefits of OER.

<Table 2> Familiarity and awareness of OER [After Dhanarajan and Abeywardena, 2012]<sup>17</sup>

| <i>Country</i> | <i>Familiarity and Awareness [yes/no]</i> |           |               | <b>Total (N)</b> |
|----------------|---|-----------|---------------|------------------|
|                | <b>Yes</b>                                | <b>No</b> | <b>Unsure</b> |                  |
| China          | 55.60%                                    | 29.10%    | 15.30%        | 100.00%          |
| Hong Kong      | 42.10%                                    | 47.4%     | 10.50%        | 100.00%          |
| India          | 52.1%                                     | 29.2%     | 18.80%        | 100.00%          |
| Indonesia      | 71.1%                                     | 18.4%     | 10.50%        | 100.00%          |
| Japan          | 55.6%                                     | 44.4%     | 0.00%         | 100.00%          |
| S.Korea        | 74.2%                                     | 16.1%     | 9.70%         | 100.00%          |

<sup>17</sup> Dhanarajan, G. and I. S. Abeywardena [2012]: A Study of the Current State of Play in the Use of Open Educational Resources in the Asian Region [Unpublished Report of a Project on Open Access and Quality in Asian Distance Education [International Development Research Centre, Canada

| <i>Country</i> | <i>Familiarity and Awareness [yes/no]</i> |           |               | <b>Total (N)</b> |
|----------------|---|-----------|---------------|------------------|
|                | <b>Yes</b>                                | <b>No</b> | <b>Unsure</b> |                  |
| Malaysia       | 69.6%                                     | 13.0%     | 17.40%        | 100.00%          |
| Philippines    | 83.3%                                     | 4.20%     | 12.50%        | 100.00%          |
| Vietnam        | 75%                                       | 20%       | 5%            | 100.00%          |

**Purpose of OER:** The international debate on a purpose for OER in the higher education milieu continues to engage scholars, passionately. Such debate also encompasses more recent arguments around the Mass Online Open Courses or MOOCS and its range of analogues. What was once considered a straightforward purpose i.e. resources such as *“courses, course materials, content modules, collections, and journals. OERs also comprise tools for delivering educational content, e.g. software that supports the creation, delivery, use and improvement of open learning content, searching and organization of content, content and learning management systems, content development tools, and on-line learning communities meant to be used for education”*<sup>18</sup> no longer appears to be the case. The main and attractive feature about OER is the notion that the openness ‘removes all restrictions placed in accessing learning resources from copyright regulations to financial constraints’. In the context of our seminar and the practice of education as we know it in Asia, the literature does not adequately address the consequence of open access in terms of educational practice. True openness should mean not only the removal of restrictions on the resources but also more importantly on the liberalizing practices and policies regulating education. Even with almost fifty years of exemplar development of Open Distance Education, expectations of and conditions imposed on providers of education by governments, accrediting agencies and institutional administrators, has not brought about the total liberalization that advocates of OER imply and not necessarily for academic credit is no longer the case. Asian education may yet to find a meaningful purpose for OER. In my view, it may be useful to promote OER, in developing Asia, with an unambiguous clarity of purpose such as improving cost free access to up to date and current information relating to content, reducing the cost of curriculum transformation, assisting in designing employment relevant curriculum, supporting flexible ways of delivering curriculum and facilitates and enhancing inter institutional collaboration and co operation in content development and sharing. To date there is little evidence to indicate that this is happening on a large scale.

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<sup>18</sup> [http://en.wikipedia.org/wiki/Open\\_educational\\_resources](http://en.wikipedia.org/wiki/Open_educational_resources)

**Policies on OER** In many parts of Asia, government policies support can accelerate the adoption of innovations in education. Governments have it in their powers through a variety of instruments to support innovation or retard it. Policies restricting the free flow of information, limitations on access to search engines such as Google or Yahoo, limiting financial support to adopt innovations, limiting the extent to which curriculum and content can be explored at the delivery end, and not permitting open access to and use of data and content through adoptions policies such as the Creative Commons family of licenses are some of the ways in which Asian governments could discourage adoption of OER production, use, reuse and distribution. At the last count some eleven countries in Asia had established national affiliates. Some of the affiliates are active while others not so. Besides policy support at government levels, such support or lack of, at institutional levels also places limitation on the extent to which OER can play an effective role. Familiarity with the purpose and benefits of OER as well as comprehensive knowledge of copyright matters play a role in encouraging academic staff to engage in OER related activities. Recent studies indicate [Table 3] that while there is sufficient familiarity, at a surface level, of copyright legislation and Creative Commons licensing in at least three hundred of academics surveyed, in depth knowledge of both was less so [Dhanarajan and Abeywardena, 2012]. Institutional policies to incentivize through recognition and rewards, the production and use of OER, are also somewhat thin in most Asian Institutions.

<Table 3> Policy Matters [After Dhanarajan and Abeywardena, 2012]<sup>19</sup>

| <b>Institutional Policy Items</b>                | <b>Yes</b> | <b>No</b> | <b>Total [N]</b> |
|--|------------|-----------|------------------|
| Knowledge of copyright                           | 97%        | 3%        | 65               |
| Knowledge of CC license                          | 63%        | 37%       | 65               |
| Provisions on sharing, collaborating & using OER | 18%        | 82%       | 71               |
| Provisions to incentivize OER participation      | 35%        | 65%       | 71               |
| Provisions for staff development                 | 42%        | 58%       | 69               |

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<sup>19</sup> Dhanarajan, G. and I. S. Abeywardena [2012]: A Study of the Current State of Play in the Use of Open Educational Resources in the Asian Region [Unpublished Report of a Project on Open Access and Quality in Asian Distance Education [International Development Research Centre, Canada

**Skills at using the technologies buttressing OER:** Adequate national ICT infrastructure such as telephony, access to computers, adequate bandwidth, freedoms relating to using the internet, exploring the WWW through search engines for content, knowledge of and skills to use a range of appropriate software are all important pre-requisites for the greater participation in OER related activities. As mentioned earlier, most Asian nations have adequate ICT provisions. Skills to use computers and access to the Internet are also adequate; however the limited availability of bandwidth as well as appropriate software to access, remix, reuse and redistribute content requires further and additional investment. The poorer nations and their institutions [especially in the rural areas] are somewhat handicapped in this aspect. Until the availability of all the technologies buttressing OER is freely and easily available many developing Asian countries will not be in a position to benefit from the full potential of OER, for a little time to come.

### ***OER and Inclusive Life Long Learning in Asia***

18. The main and attractive feature about OER is the notion that the openness ‘removes all restrictions placed in accessing of and learning from resources from administrative caveats, copyright regulations to financial constraints’. In the context of our seminar and the practice of education as we know it in Asia, the literature does not adequately address the value of open access in terms of open educational practice. True openness should mean not only the removal of restrictions on the resources but also more importantly on the liberalizing practices and policies regulating education. Even with almost fifty years of exemplar development of Open Distance Education, as I remarked earlier, expectations of and conditions imposed on providers of education by governments, accrediting agencies and institutional administrators, has not brought about the total liberalization that advocates of OER imply.
19. While interest in and the production, distribution and use of OER is still very much in its early stages of development in most parts of Asia, its potential value to improving the quality of curriculum, quality of content and instruction, facilitating academic collaboration and enhancing equitable access to knowledge resources cannot be understated. It is in pursuit of this narrative that educators and their political masters need to invest efforts on OER, which has a potential to serve a potpourri of multiple purposes of LLL including the accessing such content for both informal self directed and formal organized learning in areas such as adult basic education, self enrichment, personal and professional development
20. There are already a number of both national and institutional initiatives that are ongoing, on this continent, where educational resources are produced and made available under ‘free to use

licenses'. Some of these programmes are highly technical at the under and postgraduate levels for formal learning whilst others serve the basic and vocational sectors for non-formal and training purposes. They range from the big full courses to the tiny learning objects. India's NPTEL [National Programme on Technology Enabled Learning ] [Krishnan, 2012]<sup>20</sup>, the efforts by a consortia of the Indian Institute of Technology campuses, Beijing Open University, non formal educational courses [Ying, L and Li, Y.W 2012]<sup>21</sup>, formal degree programmes of the Virtual University of Pakistan [Malik, 2012]<sup>22</sup>, S. Korea's provision of employment related training programmes [Kim, 2012]<sup>23</sup>, Vietnam's efforts at producing translated versions of academic texts as open textbooks [Do, M. 2012]<sup>24</sup> and incipient efforts by Malaysia's Wawasan Open University [Abeywardena, 2012]<sup>25</sup> are some examples of OER activity in the formal academic sector. In the non formal sector Indonesia's Open University is building a community of teachers to share learning resources through its teacher education forum [Kusmawan, 2012]<sup>26</sup>, a commercial publisher in the Philippines is putting together on a free to use basis historical and cultural documents about the Philippines [Garcia & Alip et al, 2012]<sup>27</sup> and in India an international development agency ICRISAT [International Crop Research Institute for the Semi Arid Tropics][Dar and Balaji, 2012]<sup>28</sup> has created a suite of learning objects on agriculture and climate sciences and making it available to farmers, extension workers and academics as OER.

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<sup>20</sup> Krishnan, M. S. [2012]: National Programme on Technology Enhanced Learning. *In Open Educational Resources: An Asian Perspective* [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada

<sup>21</sup> Ying, L and Ya Wan, L [2012]: Chinese OER joins iTunes U: A case study of Beijing Open University. *In Open Educational Resources: An Asian Perspective* [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada

<sup>22</sup> Malik, N. [2012] The genesis of Open Educational Resources at the Virtual University of Pakistan. *In Open Educational Resources: An Asian Perspective* [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada.

<sup>23</sup> Kim, Y [2012]: Korea a case study: The Korean Open Courseware system. *In Open Educational Resources: An Asian Perspective* [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada

<sup>24</sup> Do, M. [2012]: State of the art of OER in Vietnam: Use, challenges and future directions. *In Open Educational Resources: An Asian Perspective* [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada

<sup>25</sup> Abeywardena, I. G. Dhanarajan & Lim, C.K. [2012]: Open Educational Resources in Malaysia. *In Open Educational Resources: An Asian Perspective* [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada

<sup>26</sup> Kusmawan, U. [2012]: Teachers' Online Forum: An Online Interactive Forum for Sustaining Teacher Professional Development at Universitas Terbuka Indonesia. *In Open Educational Resources: An Asian Perspective* [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada

<sup>27</sup> Garcia, P.G., A. S., Alip and J. Serrano[2012]: Open knowledge initiatives in the Philippines: A case study of the Vibal Foundation. *In Open Educational Resources: An Asian Perspective* [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada

All of the above mentioned examples present OER purely in terms of access, and quality. This is perhaps limiting, as there are other more profound reasons such as widening participation in LLL provisions, egalitarianism, equity, citizenship, scholarship and collaboration, to argue a place for OER in the education sector.

21. Notwithstanding my own personal exuberance for OER as one of the tools for inclusive LLL, I am reminded of a caution that Jeremy Knox [2013]<sup>29</sup>, a Ph.D. student at the School of Education, University of Edinburgh, highlighted in one of his blogs. He presented five observations of the open educational resources movement. These are cautionary and I would like to leave you with four of those observations as you ponder the use and value of OER in the cause of lifelong learning.

- i. *“Much of the OER literature focuses on the removal of perceived barriers to access, and thus neglects adequately to consider how self-directed learning might actually take place in the absence of the educational organization.*
- ii. *OER literature often promotes a paradoxical claim of institutional circumvention alongside an explicit endorsement of the accreditation systems and prestige of established university structures*
- iii. *This endorsement of the institution is problematically combined with a neglect to address the role of pedagogy within the university and an exaggerated and untheorised promotion of learner-centred education*
- iv. *The OER movement tends to make presumptions about the ability of human beings to self-direct in the processes of learning, often appearing to assume the innate qualities of autonomy and instrumental rationality.*

22. Last week I was at a research group meeting in Cape Town around the subject of OER. M. Smith one of the participants raised a series of questions about the meaning of ‘open’ not only as it pertains to educational resources but also with reference to broader issue around ‘human development’ through Open Source, Open Science, Open Access, Open Business, and Open Hardware. Do all these references to *openness* mean the same or are they different?<sup>30</sup> Views

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<sup>28</sup> Dar, W and Balaji, V. [2012]: Quenching the thirst: Open Educational Resources in support of drought mitigation– A case study from ICRISAT. *In* Open Educational Resources: An Asian Perspective [Ed: Dhanarajan, G & D. Porter] Commonwealth of Learning, Vancouver, Canada

<sup>29</sup> Accessed on 10 March, 2013 from <http://jeremyknox.net/2012/03/28/five-critiques-of-the-open-educational-resources-movement-oer-highered-elearning-edtech/>

<sup>30</sup> Smith, M. [2013]: Greater Coherence through an Openness Theory of Change. Paper presented at the Third Global Congress on IP and the Public Interest. Cape Town, S. Africa, 12 December, 2013.

were expressed that the openness as accepted by the OER community was perhaps *a causal social process* that enabled participants to organize, collaborate coordinate and create content and making it available for the community to reuse, revise remix and redistribute within a set of licensing arrangements. But beyond content development openness as an ideology requires a greater critical analysis, in relation to human development. This is currently still missing from our discourses especially so when LLL is but, all about human development. From the Open Universities to the MOOCS openness has taken on different hues and colors. Other than a handful of Open Universities most other providers of OER like their conventional counterparts have either required or imposed through their rules and regulations, restrictions to participation in one way or another. If LLL is to serve a greater development purpose then the ‘OPEN’ in Open Educational Resources requires an even further clarity than is currently presented.

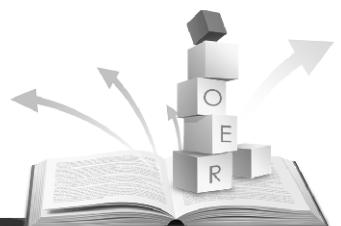
# PLENARY SPEECH

- **Open Educational Resources in Thailand**

Prof. Chailerd Pichitpornchai (President, Sukhothai Thaathirat Open University, Thailand)

- **Government Initiative in Developing OER: The Case of KNOU**

Prof. Dongkook Lee (Vice-President, Korea National Open University, Korea)





# Open Educational Resources in Thailand



December 20, 2013



Chailerd Pichitpornchai, MD, PhD

President  
Sukhothai Thammathirat Open University  
[www.stou.ac.th](http://www.stou.ac.th)

Open Educational Resources in Thailand

## What to cover...



- Open Educational Resources
- At STOU and In Thailand
- Issues
  - Product sponsorship
  - Copyright & Copyleft
  - Accessibility
  - Education Concept
  - Is it effective or efficient?



## Open Educational Resources



- Freely access
- Openly licensed document & media
- For education & research



## OER includes...



- full courses, course materials, modules, textbooks,
- streaming videos, tests, software,
- and any other tools, materials, or techniques used to support access to knowledge



## Open Resources

- <http://ocw.mit.edu>
- <http://cnx.org>
- <http://ocw.usu.edu>
- <http://www.ocwconsortium.org>
- etc...



## At STOU & in Thailand

- <http://www.thaicyberu.go.th>
- <http://www.stou.ac.th>
- <http://www.ebookstou.org>
- <http://moodle.stou.ac.th>



## Issues

Open Educational Resources in Thailand

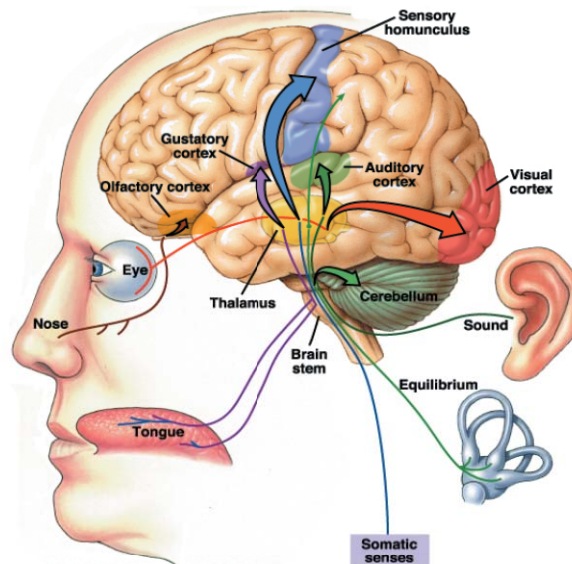
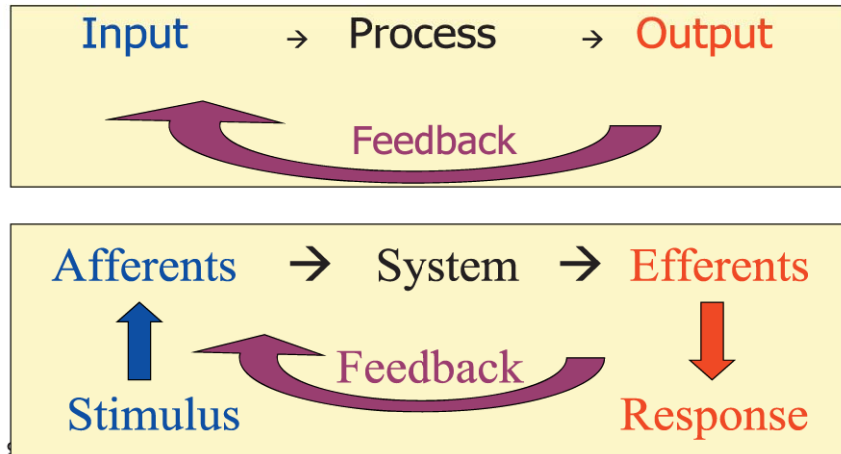


- Product sponsorship
- Copyright
- Copyleft (Creative Commons)
  - <http://creativecommons.org>
- Accessibility
- How to find the OER in a systematic way?
- What is a system?
- Education Concept
- Is it effective or efficient?





# System Concept & Physiology





## Education Concept

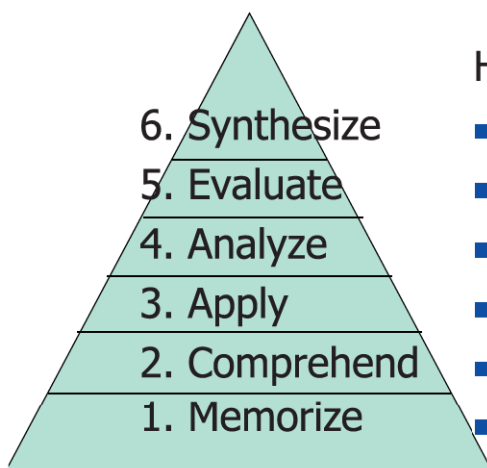
1. **O**bjective: Behavioral obj.
2. **L**earning process: Student-centered
3. **E**valuation: formative & summative

### Bloom's Taxonomy: 3 Domains

1. **C**ognitive Domain (**K**nowledge)→ Show
2. **P**sychomotor Domain (**S**kill)→ Do
3. **A**ffective Domain (**A**ttitude)→ Feel



## Cognitive Domain

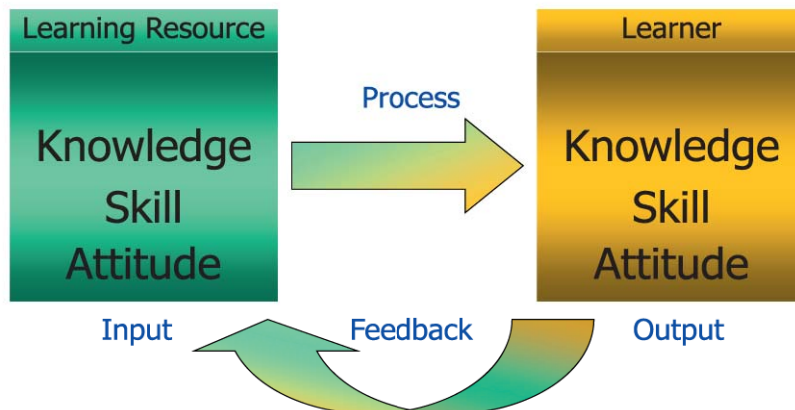


### How to ask...

- Create..., Innovation
- Compare...with criteria
- Compare...
- Solve problems...
- Explain...
- What is...



## Teaching & Learning Components



Chailerd Pichitpornchai, M.D., Ph.D.

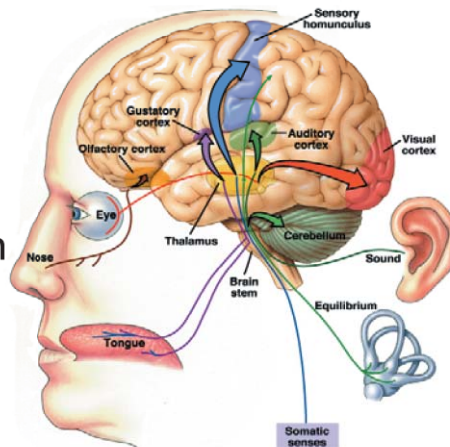
Sukhothai Thammathirat Open University

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## Learning & Memory

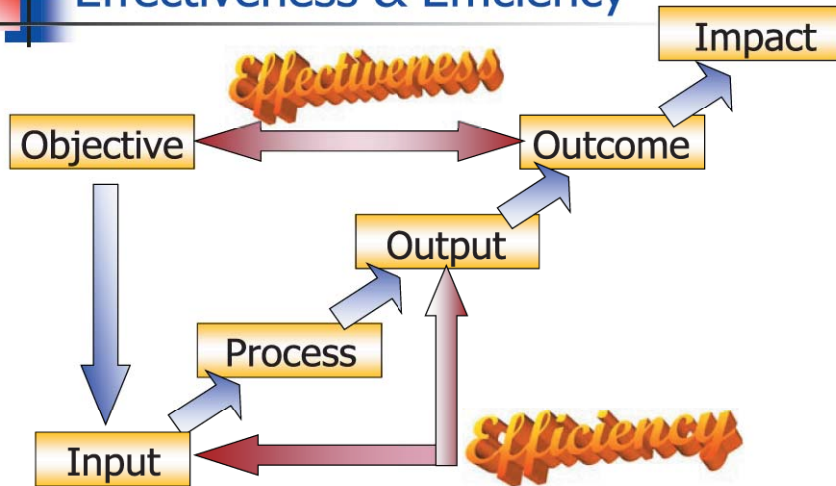
- Stimuli
- Perception
- Attention
- Thinking process
- Feeling & Emotion
- Learning & Memory
- Motor response



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**Prof. Dongkook Lee**  
(Vice-President, Korea National Open University, Korea)



Professor Lee acquired his Ph.D. in 1991 from Seoul National University with his dissertation focused on Old English. He has worked at Korea National Open University (KNOU) since 1994. Apart from serving as a professor in the English Department, he has held a variety of administrative positions such as Dean of Academic Affairs, Dean of Daegu Regional Campus, and Dean of Seoul Regional Campus. He is currently Vice President of the institution.

From 2001 to 2003, he was a visiting academic in the Division of Continuing Studies at the University of Victoria. There, he researched contemporary methods of distance learning in order to incorporate new methods at KNOU. He introduced the first multimedia course in the Department of English, which is still immensely popular with students.

His experience as deans has naturally drawn his interest to the field of distance education and life-long learning. He participated in many international conferences on distance education such as AAOU and ICDE. He presented his paper *Effective LOD System: The Case of KNOU* at CADE 2005 in Vancouver. Another of his papers, *The Role of Regional Campuses at KNOU*, was read at an international seminar in 2010. In 2011, he led a research team on a project titled, “Employment First, Enrollment Next: The role of KNOU” in collaboration with the Ministry of Education as part of a national program to help high school students find jobs before attending university. Korea’s rate of higher education (over 70 percent) is known to be the highest among OECD countries. The outcome was released at the end of the year. KNOU is recruiting new students based on the research.





# **Government Initiative in Developing OER: the Case of KNOU**

December 19, 2013

Vice President, KNOU  
Dongkook Lee



## **Contents**

- 
- I. International Trends of OER**
  - II. Outline of KNOU's New Project**
  - III. KNOU OER Content**
  - IV. KNOU OER Services**

## I . International Trends of OER

### ➤ 1. What is OER?

#### Definition

- 'Open Educational Resources'
- Technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes (UNESCO, 2002)
- Educational Resources that are freely available for use, reuse, adaptation and sharing. ([The Wikipedicator OER Handbook](#))
- Digitised materials offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning, and research (OECD)

#### Characteristics

- Opening and sharing of various kinds of educational resources
- Advancing society by spreading knowledge



## I . International Trends of OER

### ➤ 2. Benefits of OER

#### Benefits

- Sharing knowledge
- Improved availability of materials
- Flexible learning opportunities
- Improved learning accessibility and study efficiency
- Improved cost efficiency and quality of teaching
- Public image enhanced
- Improved mechanism for accreditation
- Enable new service business model and funding streams



## I . International Trends of OER

### 3. OER and MOOCs

|                    | OER<br>(Open Educational Resources)   | MOOCs<br>(Massive Open Online Courses)   |
|--------------------|---|--|
| Goal               | <ul style="list-style-type: none"> <li>Opening of Educational Resources</li> <li>※ Expanded concept of OCW(Open Courseware)</li> </ul>  | <ul style="list-style-type: none"> <li>Generalization of alternative university education</li> </ul>   |
| Major Institutions | <ul style="list-style-type: none"> <li>Domestic : KOCW of KERIS, KNOU, Hanyang Univ., Sookmyung Univ., etc</li> <li>Public services(EBS, Seoul city etc) and Private services</li> <li>International : MIT, Harvard, OU of the UK, etc</li> </ul> | <ul style="list-style-type: none"> <li>Consortium of several universities and institutions</li> <li>International : Coursera(107 universities, edX(29 universities), etc.</li> <li>Domestic : Asian 6 Universities including SNU participated in edX 2013</li> </ul> |
| Service Type       | <ul style="list-style-type: none"> <li>Providing diverse content and individual learning through online</li> </ul>  | <ul style="list-style-type: none"> <li>Practical student management and lecture related mutual-cooperation</li> </ul>  |

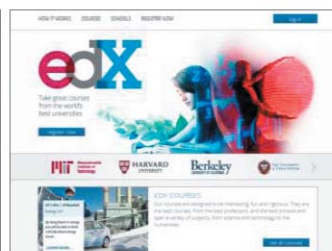


## I . International Trends of OER

### 4. International OER Services



#### MITx, Coursera, edX Services



## I . International Trends of OER

### 5. Major International OER Services

#### ◆ MIT OCW

- In 2011, MIT (President Charles Vest) announced the release of nearly all its courses on the internet without charge
- Self-developed eduCommons platform based service
- Management of the Study Group (OpenStudy.com)



|  |  |  |
|--|--|--|
| <input type="checkbox"/> Lecture notes                         | <input checked="" type="checkbox"/> Projects and examples  | <input checked="" type="checkbox"/> Image Galleries    |
| <input checked="" type="checkbox"/> Selected lecture notes     | <input checked="" type="checkbox"/> Projects (no examples) | <input checked="" type="checkbox"/> Multimedia content |
| <input checked="" type="checkbox"/> Assignments and solutions  | <input checked="" type="checkbox"/> Exams and solutions    | <input checked="" type="checkbox"/> OCW Scholar        |
| <input checked="" type="checkbox"/> Assignments (no solutions) | <input checked="" type="checkbox"/> Exams (no solutions)   | <input checked="" type="checkbox"/> Study group        |
| <input checked="" type="checkbox"/> Online textbooks           |  |  |

| Course # | Course Title  | Term        |
|----------|---|-------------|
| 16.00    | Introduction to Aerospace Engineering and Design                  | Spring 2003 |
| 16.00AJ  | Exploring Sea, Space, & Earth: Fundamentals of Engineering Design | Spring 2009 |
| 16.01    | Unified Engineering I, II, III, & IV                              | Fall 2005   |
| 16.050   | Thermal Energy  | Fall 2002   |

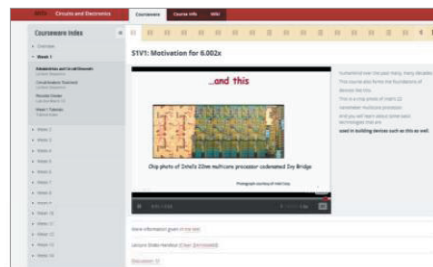
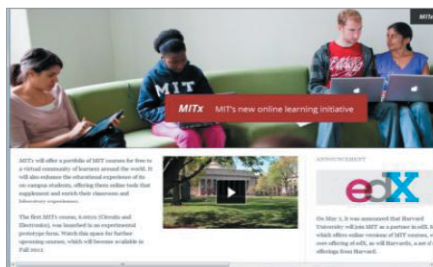


## I . International Trends of OER

### 5. Major International OER Services

#### ◆ MITx

- the MOOCs from MIT departments and faculty
- Started in March 2012; 16 courses from 9 departments
- Contents, assignments, and tests based on academic curriculum
- Certification for online learners of MIT coursework

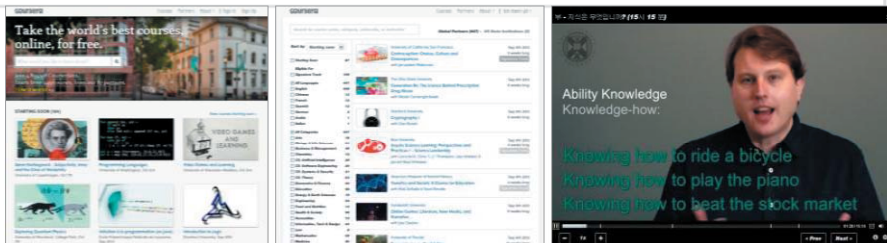


## I . International Trends of OER

### 5. Major International OER Services

#### ◆ Coursera

- For-profit company founded by Andrew Ng and Daphne Koller from Stanford University in April 2012; 107 partners
- 551 courses, 5.7 million users
- Certification fees, introducing students to potential employers and recruiters, tutoring, and tuition fees



## I . International Trends of OER

### 5. Major International OER Services

#### ◆ edX

- Free online lecture service founded by Harvard and MIT in May 2012
- Non-profit project; 110 courses, over 1.6 million users
- Major Asian 6 universities including SNU, Beijing, and Kyoto has participated in edX since 2013.



## I . International Trends of OER

### 5. Major International OER Services

#### ◆ OpenupEd

- European MOOCs service launched April, 2013
- Based on common OU features regarding Equity, Quality and Diversity etc.
- 11 Universities from 11 countries such as the OU and Open University of the Netherlands
- Providing 164 courses in 12 languages (December 2013)
- KNOU agreed to participate in the near future (ICDE SCOP meeting in Lisbon, 2013)



## I . International Trends of OER

### 6. Korean OER Services

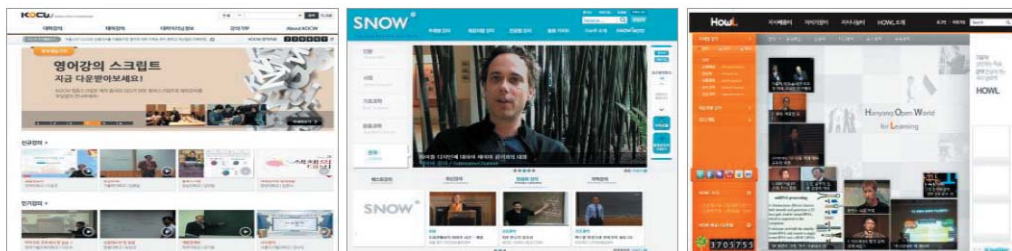
2009

KOCW, SNU,  
Hanyang,  
Sookmyung, Korea,  
Kyunghee Univ., etc.

2015

Plan for UNESCO  
the 3<sup>rd</sup> International  
Conference on  
Education in Korea

KOCW, SNOW, HOWL Services



## II. Outline of KNOU's New Project

### 1. Creation of Blended Learning Environment for Retirees

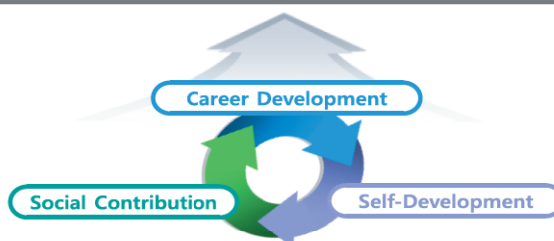
#### Vision

Improving the quality of life through lifelong and continuing education

#### Goal

Reinforcing independence of future retiree generations currently in their 40s and 50s by constructing blended learning environments

#### Program



#### Tasks



## II. Outline of KNOU's New Project

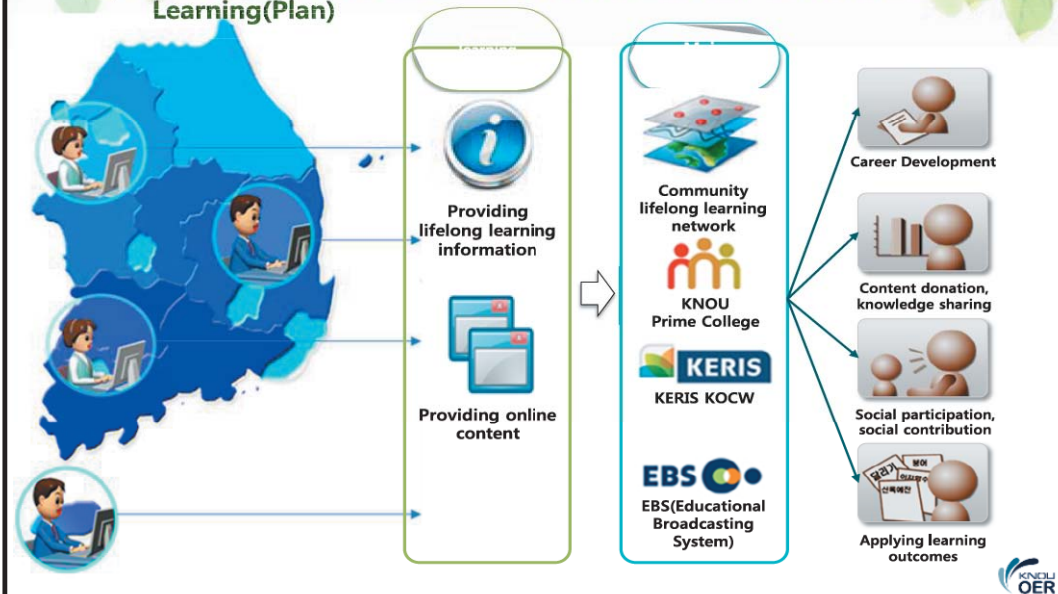
### 2. Task Details

1. Founding An Independent College to fulfill goals and objectives (KNOU was designated as a Hub University by the government)
2. Developing and Operating Adult Learner-Friendly Learning Programs (KNOU Granted 1.5 M USD)
3. Developing and Providing Field Practical OER Service (KNOU Granted 1 M USD)
4. Promoting R&D as a Hub University and Launching OER Service Team



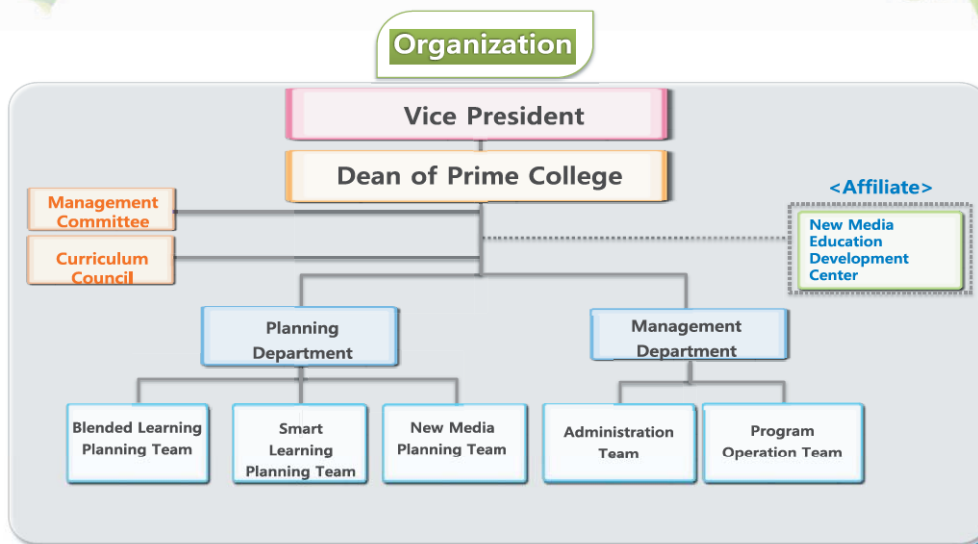
## II. Outline of KNOU's New Project

### 3. Establishing Total Information Service Network of National Lifelong Learning(Plan)



## II. Outline of KNOU's New Project

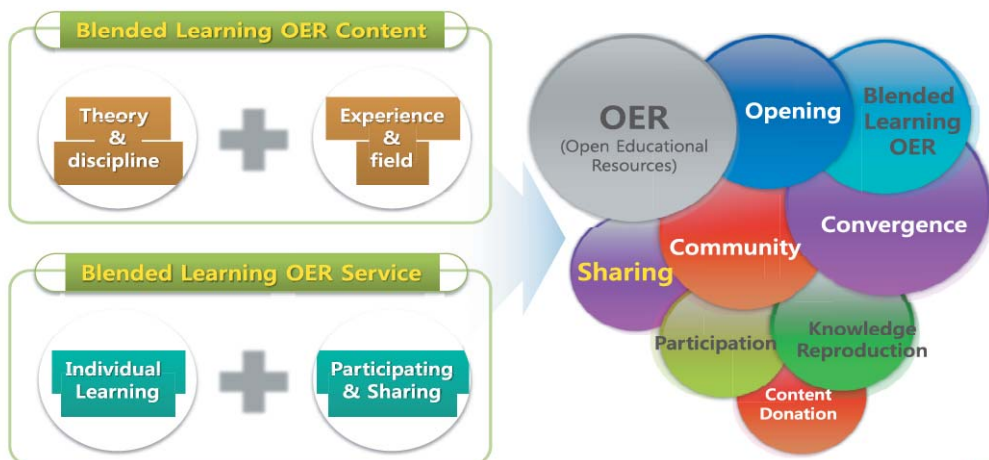
### 4. Organization



### III. KNOU OER Content

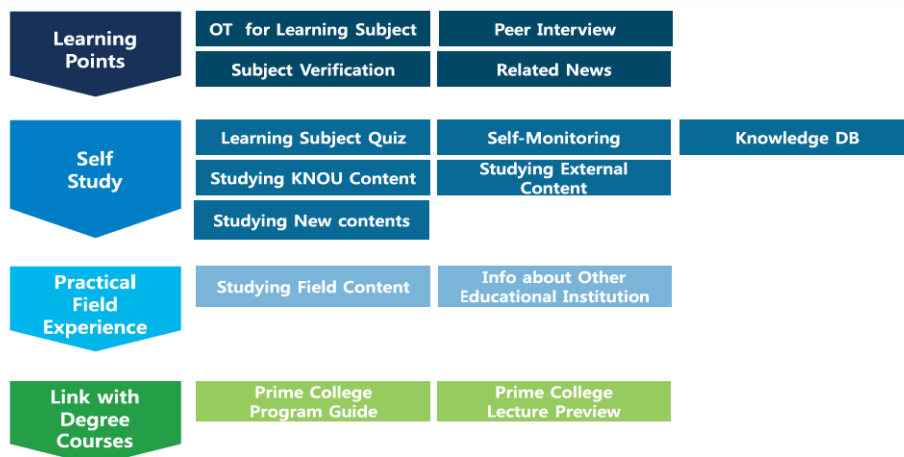
#### 1. Basic Policy

**"Sympathy, Impression, and Possibility"**



### III. KNOU OER Content

#### 2. Composition of OER Content



### III. KNOU OER Content

#### 3. Development Status of OER Content

| Classifications |                                      | 2012<br>New content<br>(35 courses) | 2013<br>New content<br>(66 courses) | Content<br>sharing<br>(KNOU) | Content<br>sharing<br>(Institution<br>/individual) | External<br>contents<br>link |
|-----------------|--------------------------------------|-------------------------------------|-------------------------------------|------------------------------|--|------------------------------|
| 1               | Lifelong<br>education                | 40                                  | 42                                  | 16                           | 2  | 11                           |
| 2               | Social<br>community<br>participation | 32                                  | 115                                 | 7                            | 5  | 28                           |
| 3               | Volunteer service                    | 40                                  | 58                                  | 22                           | 1  | 485                          |
| 4               | Hobby & leisure                      | 60                                  | 70                                  | 2                            | 18   | 3                            |
| 5               | Business ability                     | 70                                  | 111                                 | 73                           | 4  | 9                            |
| 6               | Employment &<br>Start up             | 75                                  | 138                                 | 4                            | 6  | 17                           |
| 7               | Health                               | 40                                  | 44                                  | 4                            | 4  | 11                           |
| Total           |                                      | 355                                 | 578                                 | 128                          | 40   | 564                          |



### III. KNOU OER Content

#### 4. Co-developing and Sharing Status of OER Content

##### ◆ Co-development

| Institution                                    | Volume (Clips) |
|--|----------------|
| Korea National Institute for Special Education | 456            |
| Republic of Korean Army Headquarters           | 8              |
| Korea International Cooperation Agency         | 8              |

##### ◆ Content Sharing

| Institution  | Volume (Clips) |
|--|----------------|
| KOCW of KERIS  | 54             |
| Mirae Asset Company  | 11             |
| Institute for Unification Education                          | 10             |
| The National Academy of Science                              | 22             |
| Department of Public Administration in KNOU                  | 2              |
| Korea Institute of Start-up and Entrepreneurship Development | 17             |



### Ⅲ. KNOU OER Content

#### ▶ 5. Cases of OER Content

[Orientation for Learning Subject]



[Studying New Content 1]



[Subject Verification]



[Studying New Content 2]



### Ⅲ. KNOU OER Content

#### ▶ 6. Cases of Content Sharing

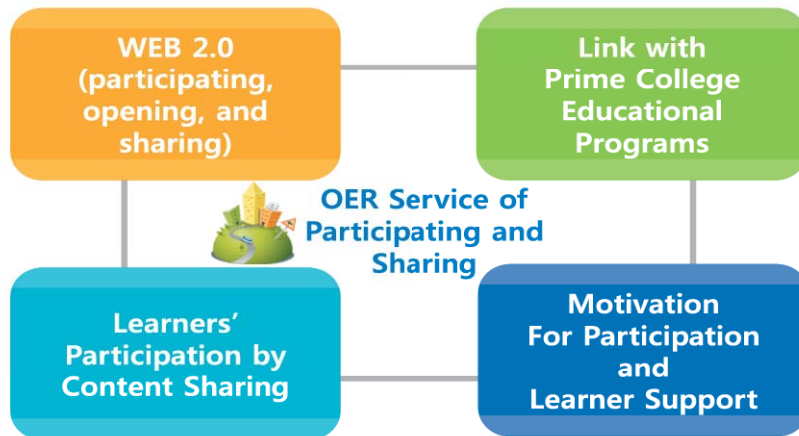


'인생열전  
재능릴레이'



## IV. KNOU OER Services

### 1. Basic Policy



## IV. KNOU OER Service

### 2. Homepage : Main Page (<http://oer.knou.ac.kr/>)



## IV. KNOU OER Services

### 3. Homepage : Orientation for Learning Subject



## IV. KNOU OER Services

### 3. Homepage : Sub Menu



#### IV. KNOU OER Services

##### 3. Homepage : Sub Menu



#### IV. KNOU OER Services

##### 3. Homepage : Sub Menu



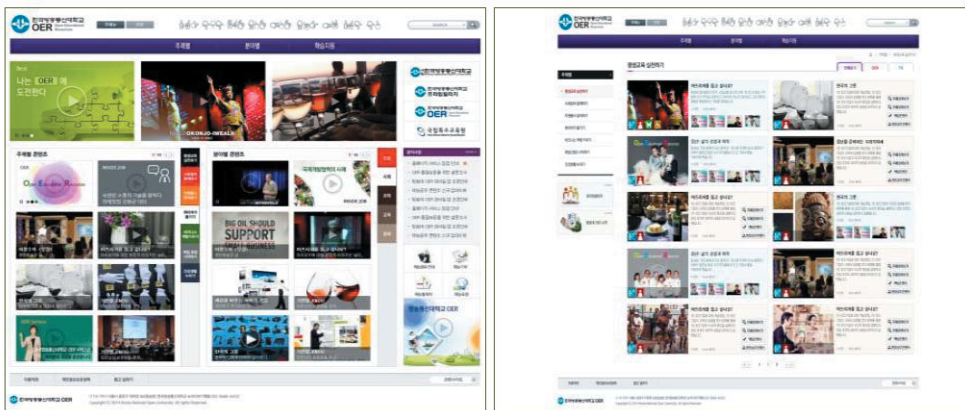
## IV. KNOU OER Services

### 3. Homepage : Sub Menu



## IV. KNOU OER Services

### 4. OER Homepage for People with Disabilities



## IV. KNOU OER Services


### 5. Link with NAVER TVCast



## IV. KNOU OER Services

### 6. Mobile Service





**Thank you**  
khob khun krap





# Session I

- **Quality Assurance Model for Open Educational Resources of Distance Learning**

Prof. Taerim Lee (Korea National Open University, Korea)

- **Contextualization of Open Educational Resources in Asia and Europe**

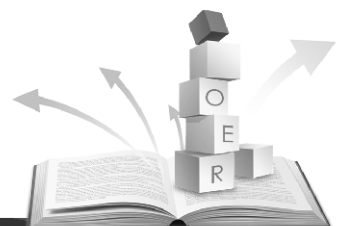
Prof. Jan M. Pawlowski (University of Jyväskylä, Finland)

- **Students as Adult Learners' Comprehension of Open Educational Resources and It's Use in Self-Directed Learning**

Dr. Rita Birzina (University of Latvia, Latvia)

- **Open Educational Resources Pedagogical Perspectives of Thai**

Prof. Jaitip Na-songkhla (Chulalongkorn University, Thailand)





# Quality Assurance Standards for e-ASEM OER in Open and Distance Learning

Prof. Taerim Lee  
(Korea National Open University, Korea)

Prof. Insung Jung  
(International Christian University, Japan)

## Introduction

### Development of Open and Distance Learning

As the development of ODL as a flexible means of widening access to education in various regions including Asia and Europe and at various levels is well documented<sup>1</sup>, a very brief outline is offered here.

Over the past years, tremendous growth and diversity in ODL and a wide spread of e-learning have been observed in the Asia-Europe Meeting (ASEM) countries<sup>2</sup>.

As the world's largest and most populous continent with over 60 percent of the global population, Asia has over 70 open universities that are engaged in open access to education serving over six million distance learners, a growing number of dual-mode universities (offering both face-to-face and ODL) that serve both conventional campus-based students and distance learners, and several virtual universities that offer online education to mainly working adults. All these institutions are expanding Asian higher education in ways never before possible.

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<sup>1</sup> Evans, T., Haughey, M., & Murphy, D. (Eds) (2008), *International Handbook of Distance Education*. San Diego, CA: Emerald. Latchem, C. & Jung, I.S. (2009). *Distance and Blended Learning in Asia*. New York & London: Routledge;

<sup>2</sup> <http://www.aseminfoboard.org/members.html>

In Europe, since the launch of the Open University of the UK (OUUK) in 1969, several open universities were established in the Netherlands, Germany, Spain, Turkey, Greece, Italy, Norway and Cyprus. Since the inception of the Bologna Process in 1999, several virtual universities and e-learning programs have been created as well. These institutions are serving millions of students located in Europe and other regions.

The advancement of ODL and e-learning in Asia and Europe has been strengthened via several professional networks and associations such as the Asian Association of Open Universities (AAOU), the South East Asian Ministers of Education Organization Regional Open Learning Center (SEAMEO-SEAMOLEC), the South Asian Association for Regional Cooperation (SAARC) Consortium on Open and Distance Learning (SACODiL), the European Distance and E-Learning Network (EDEN), and the European Association for Distance Learning (EADL).

## **ODL Technologies and Open Educational Resources**

ODL institutions have been using a variety of technology tools to serve their learners studying in diverse learning contexts, and recently many of them have adopted digital technologies such as the Internet and multimedia resources and embraced e-learning, virtual programs or online courses in their education. With the expanded availability of new digital technologies, these institutions have also created and embedded a range of digital resources including OER in their courses.

Dhanarajan and Abeywardena (2013) argue that OER has been promoted by advocates around the globe as one viable solution to address some of the challenges of access, quality and cost in higher education. In both Asia and Europe, a number of OER movements or projects have been initiated in several countries even if the creation and implementation of OER is slow in the less developed parts of those regions. Selected OER projects will be reported in the next section.

### *Definitions*

Several definitions of OER have been proposed as follows:

- “Open educational resource(s)’ (OER) refers to educational resources (lesson plans, quizzes, syllabi, instructional modules, simulations, etc.) that are freely available for use, reuse, adaptation, and sharing.” (Wiley, 2008)<sup>3</sup>

- OER is resources that are “openly available for use by educators and students, without an accompanying need to pay royalties or license fees.” (Butcher, 2011, p. 5)
- "Open educational resources are materials used to support education that may be freely accessed, reused, modified and shared by anyone." (Downes, 2011)<sup>4</sup>
- “Open Educational Resources (OERs), are educational materials which are licensed in ways that provide permissions for individuals and institutions to reuse, adapt and modify the materials for their own use.” (OER Foundation, 2013)<sup>5</sup>

Expanding on these definitions, McGreal (2013) introduces a more detailed definition of OER in his edited book supported by the Commonwealth of Learning.

- “Open Educational Resources (OER) are free learning resources available on the Internet. OER can be openly licensed or in the public domain, and can be used or reused for free.” (p.2)

In the abovementioned definitions, “openness” is a common feature of OER even if each definition highlights a slightly different element of openness. For example, Wiley’s definition highlights free availability of OER whereas Butcher’s one pays attention to licensing issues of OER. Other definitions such as Downes’s emphasize free access, reuse, modification and sharing of OER.

In fact, OER can take a variety of forms - text, audio, video, multimedia, or various combinations of these. OER can cover a short learning unit, a lesson or a series of lessons within a course, or a whole course. It can be even an entire program of study. They can be used to support different pedagogical approaches including behaviorism, constructivism, cognitivism, and/or connectivism. Creative Commons, a nonprofit organization that releases Creative Commons licenses free of charge to the public, categorizes OER into three types: individual, semi-structures, and highly structured OER<sup>6</sup>. Follows are the summary of the explanation of each type offered by Creative Commons.

### *Types of OER*

Individual OER have little or no interlocking structure and thus this type of OER can be used individually, or combined with other types of OER or used in various pedagogical contexts. They

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<sup>3</sup> [http://wikieducator.org/OER\\_Handbook/educator\\_version\\_one/Introduction/Defining\\_OER](http://wikieducator.org/OER_Handbook/educator_version_one/Introduction/Defining_OER)

<sup>4</sup> <http://halfanhour.blogspot.jp/2011/07/open-educational-resources-definition.html>

<sup>5</sup> [http://wikieducator.org/WikiEducator:OER\\_Foundation/FAQs/Open\\_Education\\_Resources/](http://wikieducator.org/WikiEducator:OER_Foundation/FAQs/Open_Education_Resources/)

<sup>6</sup> [http://wiki.creativecommons.org/Free\\_to\\_Learn\\_Guide/Different\\_Types\\_of\\_OER\\_Meet\\_Different\\_Needs](http://wiki.creativecommons.org/Free_to_Learn_Guide/Different_Types_of_OER_Meet_Different_Needs)

are often called “learning objects” which refer to digital resources that can be used and reused to support learning.

- Learning objects include a word or a concept, a table, an illustration, an interactive diagram, a set of test items, a simulation program, and other forms of online content that support students’ learning of a particular point or principle. Educators can integrate learning objects into their lesson, course or curriculum to create a more comprehensive learning environment. Learners can use learning objects to get information or develop a better understanding on a specific topic. Examples of learning object repositories are: Rice University's Connexions<sup>7</sup>, the Institute for the Study of Knowledge Management's (ISKME) OER Commons<sup>8</sup>, MERLOT II<sup>9</sup>, and OUUK’s OpenScout<sup>10</sup>.

Semi-structured OER include open digitized library collections and open encyclopedia that can be used effectively as reference materials.

- Open digitized library collections provide source and reference materials such as books, magazines, catalogs, posters, photographs, professional journals, and other periodicals and manuscripts, which can be freely used and repurposed by educators and students for their teaching, learning and research. Examples of digitized library collections include: Khan Academy<sup>11</sup> that offers a collection of tutoring video clips, and Public Library of Science (PLOS)<sup>12</sup> which publishes seven peer-reviewed open-access journals in the fields of biology and medicine.
- Open encyclopedias are reference materials that comprise descriptions or articles on a wide range of topics or on various aspects of a particular field. These OER can be used by educators and learners in conducting research, and finding and verifying information. Examples of open encyclopedias include: Wikipedia<sup>13</sup> in which entries are created by the public and maintained by teams of volunteer experts, Stanford University Encyclopedia of Philosophy<sup>14</sup> which invites subject matter experts to create entries, and Canadian Theatre Encyclopedia<sup>15</sup> which invites entries from the public and gate-keeps by experts.

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<sup>7</sup> <http://cnx.org/>

<sup>8</sup> <http://www.oercommons.org/>

<sup>9</sup> <http://www.merlot.org/merlot/index.htm>

<sup>10</sup> <http://learn.openscout.net/about.html>

<sup>11</sup> <https://www.khanacademy.org/>

<sup>12</sup> <http://www.plos.org/>

<sup>13</sup> <http://www.wikipedia.org/>

<sup>14</sup> <http://plato.stanford.edu/>

<sup>15</sup> <http://www.canadiantheatre.com/>

Highly structured OER include open textbooks and open online courses such as Massive Open Online Courses (MOOCs). This type of OER can be used as they are, modified to meet diverse learning needs or styles, or adopted to create new textbooks or courses.

- Open textbooks include both traditional textbooks that have been made available online and new books created by educators as free sharable textbooks. Examples of open textbooks include: The Community College Consortium for OER provides free open textbooks<sup>16</sup> across various disciplines that are easy to use and editable and customized to meet individual users' purposes.
- Open courses refer to instructional materials such as syllabi, lecture notes, texts, readings, course assignments, study materials, practice items, exams, and video lectures that are used to teach a specific course. Examples of open courses include: MIT's OpenCourseWare (OCW)<sup>17</sup>, iTunes U's free courses<sup>18</sup>, and OUUK's OpenLearn<sup>19</sup>.

## Quality Issues of OER

While these OER developments offer promises of open access, improved quality, and reduced cost in higher education, higher education institutions (HEIs) still face several challenges in OER use. Among various challenges such as lacking educator competencies to effectively search and locate relevant OER from various sources (Abeywardena, Dhanarajan, & Chan, 2012; Yergler, 2010), the difficulty of finding desirable OER that match with a specific context (Dichev & Dicheva, 2012) and lack of awareness of copyright issues (Hylén, 2005), quality assessment of OER is indicated as one of the major barriers to OER development and implementation.

Ehlers (2011) discloses high level of quality concerns over freely available OER in a large scale survey with adult education institutions as well as HEIs in Europe, and strongly argues for the promotion of QA standards for OER creation and use and the establishment of a QA process. Similarly, Dhanarajan and Abeywardena (2013), in a survey with HEIs in Asia, reveal that the lack of technical skills in evaluating the quality of OER and the anxiety about the quality of OER are important factors inhibiting OER adoption in Asia.

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<sup>16</sup> <http://oerconsortium.org/discipline-specific/>

<sup>17</sup> <http://ocw.mit.edu/index.htm>

<sup>18</sup> <http://www.apple.com/education/ipad/itunes-u/>

<sup>19</sup> <http://www.open.edu/openlearn/>

Hylén (2005) and Yuan, MacNeill, and Kraan (2008) also indicate problems of judging the quality and relevance of OER from the view point of educators and learners. They suggest three approaches to quality assurance (QA) in OER. 1) Institution-based approach is to use the brand name or reputation of the institution to persuade the users regarding the quality of OER. This approach may be effective for well-established HEIs which already have an internal QA mechanism applicable to OER. 2) Peer review approach is to introduce a peer-review system in evaluating the quality of OER. For example, MERLOT II utilizes open peer review mostly by university educators and publishes the review results to help the users make informed decisions in the selection of its learning materials. 3) Open users review approach is to introduce a user review process where users are allowed to rate or comment on OER, share their OER use experiences, or check the number of downloads for each material. While any of these approaches can be chosen to assess the quality of OER in a specific context, all these approaches ask for a set of evaluation criteria in judging the quality of OER.

There have been a few studies to develop QA criteria for OER. For example, Kernohan (2012) suggests three areas for QA in OER: technical/legal, academic, and pedagogic, and argues that effective OER should demonstrate high quality in all three areas. Similarly, Vladioiu (2011) offers a set of QA criteria for quality assessment of OER in four categories: content related, instructional design related, technology related and courseware evaluation. Several non-profit organizations such as MERLOT II, Achieve<sup>20</sup>, temoa<sup>21</sup>, and Commonwealth of Learning<sup>22</sup> have also suggested QA criteria for OER use in teaching and learning. However most of these QA guidelines and standards have focused on individual educators' or learners' use of OER and thus have not paid enough attention to institutions' needs for QA in OER development and use.

## **OER Development in Asia and Europe**

In this section, we examine the current status of OER development in Asia-Pacific and European regions by analyzing several cases.

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<sup>20</sup> <http://www.achieve.org/>

<sup>21</sup> <http://www.temoa.info/>

<sup>22</sup> <http://www.col.org/>

## Asia-Pacific OER Projects

After analyzing a regional survey data on perceptions and practices in OER in Asian higher education, Dhanarajan and Abeywardena (2013) conclude that “interest in and the production, distribution and use of OER are still very much in the early stages of development in most parts of Asia” (p. 17). However, they also note that despite low level of awareness of OER and even lower level of creation and utilization of OER, there are a number of ongoing national and institutional initiatives throughout Asia. Their recent report introduces a wide range of OER development and implementation cases from India, China, Pakistan, Indonesia, Korea, Vietnam, Malaysia and the Philippines. So in our report, we won’t introduce these cases as they are readily available online<sup>23</sup>. Instead we will focus on three most recent cases of OER development in the AP region: OpenCourseWare movements in East Asia, Australia’s and the recent establishment of the OER university (OERu).

### *OpenCourseWare movements*

**China’s OER use** in universities has begun in 2003 when Chinese Open Resources for Education (CORE)<sup>24</sup> was established. As a non-profit consortium of conventional universities and provincial-level radio and TV universities, CORE aims to introduce high quality open courseware from top-ranked universities around the world including MIT in pursuit of improving the quality of higher education in China and eventually produce Chinese open resources to share with universities in other countries. Among a total of 2,689 HEIs in China, a little over 100 universities including Tsinghua University, Peking University and Shanghai Jiaotong University have joined CORE. As a way of promoting OER application in the universities, CORE has translated MIT OpenCourseWare and other OER into Chinese.

This kind of OER activities has been supported by the national government. In 2003, Chinese Ministry of Education set up a policy on OER and action plans for OER development and QA (Hoosen, 2012) including the China Quality Course<sup>25</sup> program. This program invites open online

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<sup>23</sup> <http://www.col.org/resources/publications/Pages/detail.aspx?PID=441>

<sup>24</sup> <http://www.core.org.cn/en/>

<sup>25</sup> <http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/s3843/201010/109658.html>

course submissions from university instructors with grants of up to \$15,000 per course that should be open to the public. According to the *China Quality Course* website<sup>26</sup>, over 20,000 online courses developed by Chinese university instructors are freely available on the web.

However, despite of the rapid growth of OER development, Li and Li (2013) revealed in their survey with faculty and administrative staff of the CORE member institutions that over 67% of the survey participants did not engage in OER development and over 70% did not use OER due to such reasons as lack of awareness, lack of skills to locate quality OER for their courses, lack of incentives and lack of interest, which led them to conclude that the impact of OER on Chinese higher education is still minimal.

**Japanese OER use** in HEIs has begun with the establishment of Japan OpenCourseWare Consortium (JOCW)<sup>27</sup> in 2005. JOCW began with six universities. As of 2013, JOCW has 22 universities, 3 non-profit organizations, and 12 companies as its members. Considering a total number of 1,244 HEIs in Japan, OER movement has been quite slow. However those JOCW member institutions have actively developed open courses and as a result 1,497 courses (1,285 in Japanese and 212 in English) were available online in 2010 (Yamada, 2013). Recently Japan Massive Open Online Courses (JMOOC) was established in October 2013 to pursue MOOC development and diffusion across Japan and other Asian countries.

Similar to China's case, the Japanese government has also promoted the development and sharing of high quality course content via several national level initiatives. However, unlike China, it has not established a national level policy on OER.

Lack of awareness, lack of appropriate search skills on the part of educators, lack of organizational support, and lack of incentives appear to be the major barriers in OER development and uses in Japanese higher education (Fukuhara, 2008; Yamada, 2013).

**South Korea's OpenCourseWare**<sup>28</sup> service began in 2007 and has been supported and managed by Korea Education Research Information Service (KERIS)<sup>29</sup>, a government-supported organization

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<sup>26</sup> <http://www.jingpinke.com/>

<sup>27</sup> <http://www.jocw.jp>

<sup>28</sup> <http://www.kocw.net/home/index.do>

<sup>29</sup> [http://english.keris.or.kr/es\\_ak/es\\_ak\\_100.jsp](http://english.keris.or.kr/es_ak/es_ak_100.jsp)

which promotes education and research through the use of ICT. As of 2012, KOCW offers 3,390 online courses in Korean, 402 OER in English, and 21,114 educational resources. While we observe rapid growth of OER in Korea's higher education via numerous initiatives including KOCW, a limited number of studies have been conducted to gauge actual uses of OER in higher education. In a survey with 111 university educators, Park (2010) found that around 60% of educators from humanities and social sciences, 34% from natural sciences, and 5% from arts and physical education utilized various types of OER in their courses. Kim (2013) surveyed 61 educators and revealed that over 70% had experience in using OER in their teaching. These figures show that OER is more widely used in Korea's HEIs compared with their counterparts in China and Japan. However caution is needed in interpreting these results due to a small number of survey participants.

As for the barriers to OER adoption, again lack of awareness, lack of appropriate competencies and lack of support from management were indicated as most serious barriers to OER use. Kim (2013) also pointed out that two most important challenges for OER development are resolving copyright issues and assuring the quality of OER produced by university educators.

#### *OER development in Australia*

As Hoosen (2012) concluded, Australia appears to be pretty active in developing and using OER even though there are no national or state-level policies on OER. Especially the Australian government has supported several initiatives including:

- the development of Open Access and Licensing Framework (AusGOAL)<sup>30</sup>, which aims to provide “support and guidance to government and related sectors to facilitate open access to publicly funded information” (AusGoal, 2013, Overview)
- the Australian National Data Service (ANDS)<sup>31</sup>, a research database produced by research institutions in Australia;
- the National Digital Learning Resource Network (NDLRN)<sup>32</sup>, a national repository of several thousand digital teaching and learning resources for teachers, students and parents.
- Scootle<sup>33</sup>, the national repository of open digital learning resources for teachers and schools across Australia.

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<sup>30</sup> <http://www.ausgoal.gov.au>

<sup>31</sup> <http://www.and.s.org.au/index.html>

<sup>32</sup> <http://www.ndlrn.edu.au/default.asp>

<sup>33</sup> <http://www.scootle.edu.au/ec/p/home>

Some Departments of Education in such states as Government of South Australia, New South Wales and Western Australia have developed digital teaching and learning resources and made them available under Creative Commons License, and offered OER training for teachers (Hoosen, 2012).

A number of Australian HEIs, if not all, have been adopting OER in their curriculum. Some representative examples from HEIs can be found in Bossu, Brown, and Bull (2012), available online<sup>34</sup>. Take a few examples, Macquarie University has established Macquarie E-Learning Centre of Excellence (MELCOE)<sup>35</sup> and developed open source software tools and open standards for e-learning. The University of Southern Queensland (USQ) is actively participating in the OpenCourseWare Consortium (OCWC)<sup>36</sup> and the OER University (OERu)<sup>37</sup> initiative. USQ's OpenCourseWare (USQ OCW)<sup>38</sup> offers OER and 10 full courses under Creative Commons License for university educators, students and self-learners throughout the world.

As Hoosen (2012) mentioned, Australia is ahead of other countries in the region. However, Bossu, Brown, and Bull (2012) criticized that major OER initiatives in Australia are mostly concentrated on government bodies, not on educational institutions. Also in a survey with 101 educators from across 37 educational institutions in Australia, they found that even though more than 40% of the survey participants are well aware of OER, the majority of them have rarely or never adopted OER in their teaching. This lack of adoption was explained by the fact that OER initiatives are not included in the strategic plans of most participating institutions and not supported by government policies which can encourage the OER development and adoption at institutional level. The survey also revealed the potential barriers to the use of OER. Lack of interest in developing and using OER and poor quality of OER were indicated as most critical barriers, followed by insufficient institutional support, and the lack of institutional policies to address OER developments and adoptions.

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<sup>34</sup> [http://www.ascilite.org.au/conferences/wellington12/2012/images/custom/bossu,\\_carina\\_-\\_do\\_open.pdf](http://www.ascilite.org.au/conferences/wellington12/2012/images/custom/bossu,_carina_-_do_open.pdf)

<sup>35</sup> <http://www.melcoe.mq.edu.au/>

<sup>36</sup> <http://www.ocwconsortium.org/>

<sup>37</sup> <http://oeruniversity.org/>

<sup>38</sup> <http://ocw.usq.edu.au/>

### *The OER university (OERu)*

OERu was established in October 2013. It is led by New Zealand's Otago Polytechnic which has adopted an OER policy earlier than other HEIs in the country, coordinated by the OER Foundation<sup>39</sup> and supported by UNESCO and Commonwealth of Learning. In particular, the OER Foundation has been playing a key role in the development of OERu. The OER Foundation is a non-profit company founded in 2009 under the New Zealand Companies Act, and Otago Polytechnic is a sole shareholder of the OER Foundation.

## **European Projects**

### *OpenLearn*

OpenLearn<sup>40</sup>, launched in 2006 as an Open Content Initiative of The Open University UK (OUUK), aim to offer freely available higher education learning content on the web. Several studies (e.g. McAndrew, 2006; Mikroyannidis&Connolly, 2012; and Wilson, 2007) have analyzed and discussed possibilities, usages and challenges of OpenLearn.

As of 2013, OpenLearn offers over 650 courses across a wide range of subject matters and in a variety of formats, from interactive materials, games, video, podcasts and articles. Those materials include resources repurposed as OER from OUUK courses and new OER created for OpenLearn itself (Mikroyannidis&Connolly, 2012).

### *OpenCourseWare Europe*

With a growing interest of European universities in OER and OCW, OpenCourseWare Europe<sup>41</sup> or OCW EU, a consortium of European higher education institutions and a project to promote OCW development and adoption among European institutions was launched in 2011 as a sub-project of European Commission's Erasmus Multilateral Project by several universities in

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<sup>39</sup> <http://wikieducator.org/OERF:Home>

<sup>40</sup> <http://www.open.edu/openlearn/>

<sup>41</sup> <http://www.opencourseware.eu/>

Europe. OCW EU focuses on the creation of supportive conditions for a strong European OCW-framework and cooperation between European higher education institutions (OCW EU Project Team, 2012).

### *Open Education Europa*

Open Education Europa<sup>42</sup> is an EU-wide initiative to promote innovative ways of teaching and learning via ICT in general and OER in specific. Its portal site allows European universities to use and share OER, and promotes collaborative projects and research. Currently it lists over 370 free courses and around 400 MOOCs that are created by several European institutions or as result of OER initiatives, and offers many other written resources and papers related to OER. It also supports discussion blogs.

### *Open Educational Resources in Europe (OEREU)*

OEREU launched in 2013 to offer research evidences and guidelines on how to support and promote OER use in various open and flexible learning contexts to policy makers and stakeholders of school education, higher education and adult education. It aimed to critically assess existing OER initiatives and projects in Europe, develop future scenarios for maximizing the benefits of OER use in education, conduct a survey on OER use in education in Europe, and identify challenges with OER use and offer recommendations for further development of OER in Europe (Punie&Haché, 2012).

## **OER and Quality Assurance**

This section discusses benefits and challenges of OER and highlights quality-related issues. It then reviews a wide range of QA models developed and used in different regions of the world.

### **Benefits and Challenges of OER**

Several studies have shown that OER offer many advantages to HEIs and their members including educators and students.

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<sup>42</sup> <http://openeducationeuropa.eu/en>

Institutional level benefits include: assisting cost reduction, improving quality, and bringing innovations to conventional materials (e.g., Caswell, Henson, Jensen, & Wiley, 2008); and assisting HEI leaders and managers to bring pedagogical changes in HEIs and using OER as promotion tools (e.g., Bossu, Brown, & Bull, 2012).

Some benefits of OER for faculty include: accessing to glowing resources that can be used for content updates (e.g., Bossu&Tynan, 2011); sharing own OER and promoting one's own academic work to the global community (e.g., Open.Michigan, 2013); and reducing teaching preparation time and avoiding duplication (e.g., Willems&Bossu, 2012).

Major benefits of OER for students and independent learners include: offering flexible and open opportunities to study anywhere and anytime at no or low costs (e.g., Kanwar, Kodhandaraman, & Umar, 2010); providing supplemental learning materials for courses, independent study, and professional development (e.g., Bossu&Tynan, 2011; Open.Michigan, 2013); and sharing knowledge with other learners, getting support for one's own personal learning goals and encountering different points of view (e.g., Panke, 2011).

To serve the purpose of this report, we will focus on QA frameworks in the following sections.

## **OER Quality Assurance Models**

With the rapid growth of online learning in higher education, QA has been recognized as a key issue that needs to be addressed not only within individual institutions, programs or courses but also jointly in national, regional and global contexts. As a result, several QA policies and guidelines have been developed. In this section, we will introduce a few well-known institutional level QA frameworks for ODL including online learning that could be utilized in creating QA standards of OER in the ODL context based on a report produced by Jung and Latchem (2012), and QA criteria developed specifically for OER.

### *Models from Asia and Pacific*

#### **The Australasian Council on Open, Distance and E-Learning (ACODE) Benchmarks<sup>43</sup>**

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<sup>43</sup> <http://www.acode.edu.au/>

were developed by this organization whose mission is to enhance policy and practice in open, distance, flexible and e-learning in Australasian higher education. They are designed to support continuous quality improvement in e-learning. They have been developed for use at the enterprise level or by the organizations responsible for the provision of leadership and services in e-learning. They have been piloted in universities and independently reviewed.

Each benchmark area is discrete and can be used alone or in combination with others. The benchmarks can be used for self assessment purposes (in one or several areas), or as part of a collaborative benchmarking exercise. ACODE benchmarks<sup>44</sup> cover the following eight separate areas which have been internationally reviewed:

- 1) Institution policy and governance for technology supported learning and teaching.
- 2) Planning for, and quality improvement of the integration of technologies for learning and teaching.
- 3) Information technology infrastructure to support learning and teaching.
- 4) Pedagogical application of information and communication technology.
- 5) Professional/staff development for the effective use of technologies for learning and teaching.
- 6) Staff support for the use of technologies for learning and teaching.
- 7) Student training for the effective use of technologies for learning.
- 8) Student support for the use of technologies for learning.

**Jung's Asian Learner-Centred QA Framework** is proposed by Jung (2012) who investigated Asian learners' perceptions of quality in e-learning and other forms of distance education. It can be used to review, revise, and elaborate the QA frameworks of e-learning providers and quality assessors from Asian learners' perspective.

This QA Framework<sup>45</sup> is built on three domains: supportive, pedagogical, and environmental. The three domains are used to categorize and organize the ten QA dimensions.

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<sup>44</sup> [http://www.acode.edu.au/resources/ACODE\\_benchmarks.pdf](http://www.acode.edu.au/resources/ACODE_benchmarks.pdf)

<sup>45</sup> <http://www.irrodl.org/index.php/irrodl/article/view/1159/2128>

- 1) Supportive domain refers to an assistive quality aspect that helps learners carry out distance learning effectively and efficiently, and includes three quality dimensions— *Faculty Support*, *Student Support*, and *Information and Publicity*.
- 2) Pedagogical domain refers to a core quality aspect in DE that helps learners develop and adjust their knowledge, skills, and attitudes both independently and collaboratively, and includes four quality dimensions – *Course Development*, *Teaching and Learning*, *Interactive Tasks*, and *Evaluation and Assessment*.
- 3) Environmental domain refers to a contextual quality aspect that creates distance teaching and learning environments where learners work productively and flexibly with high confidence in DE, and includes three quality dimensions – *Infrastructure*, *Internal QA Mechanism*, and *Institutional Credibility*.

**The ASEAN Cyber University QA Framework** was developed by Jung and Latchem (2012) on the request of S. Korean government. It includes a QA Policy Framework at both national and institutional levels, and QA criteria and performance indicators (PIs) at course and content levels. In total, 113 essential PIs and 53 advanced PIs across 20 QA criteria in five domains were proposed. Twenty QA criteria across five domains are:

- 1) Learning Contexts domain - Vision, policy-making and planning; Management and administration; Technology provision and infrastructure; Collaborative relationships/partnerships; The quality assurance system.
- 2) Learning Resources domain - Learning objectives; Learning content; Learning materials; Online features; Human resources (staff).
- 3) Learning Processes domain - Information / advice; Learner support; Teaching and learning; Interaction (student-content, teacher-student, student-student, etc.).
- 4) Evaluation and Assessment domain - Learning assessment and feedback; Program / course evaluation; Ethics.
- 5) Learning Outcomes domain - Outcomes in the learners; Outcomes in the learning provision; Outcomes in the institution / wider society.

#### *Models from Europe*

**European Universities Quality in e-Learning (UNIQUE)** is a project of the European Foundation for Quality in E-learning (EFQUEL)<sup>46</sup>, a membership organization which provides

services for quality development in Europe's HEIs. UNIQUE aims to be an 'accelerator' for quality improvement and innovation in e-learning, provide sector-wide benchmarks and enhance the implementation speed of the Bologna reforms in the area of technology-enhanced learning.

UNIQUE<sup>47</sup> evaluates 10 areas across three domains at the institutional level:

- 1) Learning Resources - Resources for Learning; Students; Faculty (Teachers); Technology Equipment
- 2) Learning Processes - Quality of the Office (e.g. catalogues and services, learning organization); Intellectual Property Rights (IPR) management; Personal development / Human Resource (HR) Development and Services
- 3) Learning Context/Institution - Commitment to Innovation (culture, R&D); Institutional Standing (e.g. context and mission, background and experience, reputation in the e-learning community); Openness (e.g. access, connections with the corporate world, contribution to the community, international issues)

**JISC's learning outcomes-based QA approach**<sup>48</sup> was proposed by JISC<sup>49</sup>, a non-profit organization which provides resources, knowledge, expertise and support regarding information and digital technology for education and research to UK educational institutions at a local, national and international level, has developed practical guidelines for designing effective e-learning.

JISC defines the quality of e-learning or effective practice in e-learning as using a range of pedagogic skills to bring about the best possible learning outcomes for specific groups of learners in order to meet their particular learning needs. In designing effective learning e-learning, it suggests that the following issues need to be considered:

- 1) Learners (e.g. their needs, motives for learning, prior experience of learning, social and interpersonal skills, learning preferences and ICT competence).
- 2) Intended learning outcomes (e.g. acquisition of knowledge, academic and social skills, increased motivation and ability to progress).

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<sup>46</sup> <http://efquel.org/>

<sup>47</sup> [http://unique.europace.org/pdf/WP1-report-v5\\_FINAL.pdf](http://unique.europace.org/pdf/WP1-report-v5_FINAL.pdf)

<sup>48</sup> <http://www.jisc.ac.uk/media/documents/publications/effectivepracticdigitalage.pdf>

<sup>49</sup> <http://www.jisc.ac.uk/>

- 3) Learning environment (e.g. face-to-face or virtual; available resources, tools, learning content, facilities and services).
- 4) Curriculum aspects (e.g. approach(es) to learning, assessment criteria, formative assessment strategies; feedback).
- 5) Learning activity (description of activity; associated learning outcome; organization: collaborative, pairs or individual; resources needed).
- 6) Support for learning (e.g. extension or reinforcement activities; involvement of others; accessibility considerations; learning preferences).
- 7) Evaluation (outcomes for learners; achievement of learning objectives; feedback from others).

**The “Open Educational Quality Initiative (OPAL)”** is an international network to promote innovation and improved quality in education and training through the use of OER. It has been established through international organizations including UNESCO, International Council for Open and Distance Education (ICDE) and European Foundation for Quality in eLearning (EFQUEL), and some universities in Europe with part fund from the European Commission Education and Training Lifelong Learning Programme. The University of Duisburg-Essen, Germany is leading the OPAL initiative. It has developed the Guidelines for Open Educational Practices (OEP) in Organizations<sup>50</sup> and dimensions of good OEP<sup>51</sup> to support HEIs to analyze, implement and improve practices in creating and adopting OER. Seventeen dimensions for quality OER practice are proposed across three areas.

- 1) Area 1: Use of OER and Open Learning Architectures - Extent of using and repurposing OER; Availability of a process for OER creation; Degree of sharing of OER and OEP; Extent of working with open learning architectures.
- 2) Area 2: Vision of Openness and a Strategy for OEP in an Organization - Organizational vision for OEP; Existing OEP strategies and policies; Business model related to OEP; Partnerships related to OE; Perceived relevance for OEP.
- 3) Area 3: Implementing and Promoting OEP to Transform Learning - IPR and Copyright regulations; Motivational framework for OEP; OEP usage; Tools to support sharing and

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<sup>50</sup> <http://www.oer-quality.org/wp-content/uploads/2011/03/OPAL-OEP-guidelines.pdf>

<sup>51</sup> <http://www.oer-quality.org/wp-content/uploads/2011/03/OEP-const-elements.pdf>

exchange of OEP; Quality concepts for OEP; Level of knowledge and skills; Digital literacy; Support mechanisms for OEP.

**A QA Model for OCW and OER** was proposed by Vladoiu (2011), a researcher from Romania. It includes a set of criteria for QA of OER and OCW (Vladoiu, & Constantinescu, 2012, pp. 204-209).

- 1) Content related criteria - readability, uniformity of language, terminology, and notations; availability of the course syllabus, comprehensiveness of the lecture notes, modularity of the course content, possibility to select the most suitable learning unit, opportunity to choose the most appropriate learning path, top-down, bottom-up or combined approach, and availability of assignments (with or without solutions).
- 2) Instructional design related criteria - resource's goal and learning objectives, appropriate instructional activities, learning outcomes, availability of the evaluation and auto-evaluation means (with or without solutions), learning theory, the instructional design model used for that particular educational resource, and reflective learning proneness.
- 3) Technology related criteria – compliance with standards for interoperability and accessibility, extensibility, reliability, user interface's navigational regard to the at user's end (both hardware and software), along with the prerequisite skills to use that technology, multi-platform capability, supporting tools, and security of user confidential information.
- 4) Courseware evaluation criteria - information about the content scope and sequence, the intended audience, the grade level, the periodicity of updating the content, the author's credentials and the source credibility, its availability in multiple languages, instructor facilitation or some kind of semi-automated support, suitability for self-study and/or classroom-based study and/or peer collaborative study, the time requirements, the grading policy, along with instructions about using the courseware and its components.

**The Quality Matters Rubric for Higher Education**<sup>52</sup>, created by Quality Matters (QM)<sup>53</sup>, is designed to certify the quality of online courses and online components in the USA. The Rubric has 8 general standards:

- 1) Course Overview and Introduction.
- 2) Learning Objectives (Competencies).
- 3) Assessment and Measurement.
- 4) Instructional Materials.
- 5) Learner Interaction and Engagement.
- 6) Course Technology.
- 7) Learner Support.
- 8) Accessibility.

Across these eight areas, 41 specific standards are used to evaluate the design of online and blended courses at higher education level. The Rubric is complete with annotations that explain the application of the standards and the relationship among them. A scoring system and set of online tools facilitate the evaluation of online and blended courses by a team of reviewers.

It is proposed that there should be a Quality Management Peer review process occurring at the course level both officially following QM policies and protocols and unofficially using internal or informal subscribers. Team majority decisions determine the points awarded to the 41 specific standards of the rubric which have a point value of 1, 2, or 3, totaling a possible 95 points. Two out of three reviewers have to agree that the standard is met or the total points awarded are zero. All courses require 81 points or 85% and must meet all essential standards.

**The Best Practices for Electronically Offered Degree and Certificate Programs**<sup>54</sup> was developed by the eight regional accrediting commissions in the USA in response to the emergence of e-learning as an important component of higher education. Institutions can evaluate the quality

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<sup>52</sup> <https://www.qualitymatters.org/rubric>

<sup>53</sup> <https://www.qualitymatters.org/>

<sup>54</sup> [http://continuingstudies.wisc.edu/campus-info/toolkit/online\\_article1.pdf](http://continuingstudies.wisc.edu/campus-info/toolkit/online_article1.pdf)

of their e-learning programs following the ten plus protocols per component, which are then divided into several questions to create a fine tuned evaluation instrument. The QA guidelines are divided into five components:

- 1) Institutional Context and Commitment.
- 2) Curriculum and Instruction.
- 3) Faculty Support.
- 4) Student Support.
- 5) Evaluation and Assessment.

**The Open eQuality Learning Standards (OeQLs)**<sup>55</sup> was developed by Barker (2007) from a perspective of consumer protection. Believing that QA must be: “objective (incorporating both provider and user views), professional (conducted by quality assessors), credible (when compared to standards of excellence), reputable (using processes and standards recognized by others), iterative (process-oriented), and continuous (ongoing and built in to the organization’s funding and planning strategies)” (Barker, 2007, p. 115), OeQLs proposes 21 QA criteria across three QA elements:

- 1) Outcomes and Outputs Element - Skills and knowledge acquired; Learning skills acquired; Credits and credentials awarded; Return on investment.
- 2) Processes and Practices - Management of students; Delivery and management of learning; Appropriately used technologies; Communications.
- 3) Inputs and Resources - Intended learning outcomes; Curriculum content; Teaching/learning materials; Product/service information; Appropriate learning technologies; Sound technical design; Personnel; Learning resources; Complete learning package; Comprehensive course package; Routine review and evaluation; Program plans and budget; Advertising and admissions information.

**Eight Rubrics for evaluating OER objects**<sup>56</sup> have been developed by Achieve<sup>57</sup>, an independent, nonpartisan, nonprofit education reform organization working with states in the USA, in partnership with OER Commons. These rubrics aim to help states, teachers and other OER users

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<sup>55</sup> [http://www.futured.com/documents/OeQLsMay2004\\_000.pdf](http://www.futured.com/documents/OeQLsMay2004_000.pdf)

<sup>56</sup> <http://www.achieve.org/files/AchieveOERRubrics.pdf>

<sup>57</sup> <http://www.achieve.org>

determine the quality of OER and the degree of alignment of OER to each state's common core standards. Eight rubrics include:

- 1) Rubric I. Degree of Alignment to Standards which focuses on content and performance expectations.
- 2) Rubric II. Quality of Explanation of the Subject Matter which rates how thoroughly the subject matter is explained or otherwise revealed in the object.
- 3) Rubric III. Utility of Materials Designed to Support Teaching which focuses on the evaluation of the potential utility of an OER object at the intended grade level for the majority of teachers.
- 4) Rubric IV. Quality of Assessment which applies to those OER objects designed to find out what a student knows before, during, or after a topic is taught.
- 5) Rubric V. Quality of Technological Interactivity which applies to OER objects designed with a technology-based interactive component.
- 6) Rubric VI. Quality of Instructional Tasks and Practice Exercises which applies to OER objects that contain exercises designed to provide an opportunity for practice and skill development.
- 7) Rubric VII. Opportunities for Deeper Learning which applies to objects designed to engage learners in deeper learning such as critical thinking, complex problem solving, collaborative learning, and so on.
- 8) Rubric VIII. Assurance of Accessibility which assures accessibility of materials to all students, including students with disabilities.

## **Development of Quality Standards for e-ASEM OER**

### **Procedure**

The study followed three steps.

- 1) Initial development: First, the initial development of the QA Standards for e-ASEM OER was suggested based on aforementioned QA standards and research in ODL/e-learning and revised after the external consultation with three experts with extensive experience in OER projects in the context of ODL. During this process, the original 52 QA

standards were refined and reduced to the 48 QA standards across eleven areas under three domains (see Appendix A: Section 2).

- 2) Verification: It was then verified with instructors and researchers in ODL universities in Asia and Europe via an online survey. The online survey was first developed in English, pilot tested with ten researchers or instructors working in ODL institutions in Asia and Europe, and elaborated further to make each statement of the standards clearer. Once the online survey was finalized, it was submitted for the Review of Research Ethics to KNOU and got an approval in July 3, 2013.

The English version survey was distributed to nine ODL institutions across seven countries between July 4 and 31, 2013. For Chinese participants, it was translated in Chinese by a faculty member at Open University China (OUC). And for Thai participants, it was translated in Thai language by a faculty member of Thailand Cyber University (TCU).

- 3) Refinement: Based on the survey results, the QA standards were refined and re-categorized for ODL institutions in the ASEM context.

## **Instrument**

An online survey was conducted to gather empirical evidence about a set of 48 items in the ten dimensions of QA in OER in the context of ODL in Asia and Europe. The purpose of the survey was to determine the level of importance (0 for none/very low in importance, 1 for low level of importance, 2 for moderate level of importance, 3 for high level of importance, and 4 for very high level of importance) of the items across ten dimensions so as to identify quality criteria as perceived by various stakeholders in OER adoption. In order to develop valid and reliable survey items, an initial list of eleven QA areas was developed based on related studies and OER/QA practices. Eleven QA areas include: 1) *Infrastructure*, 2) *Quality Assurance*, 3) *Institutional Vision & Support*, 4) *Finance & Partnership*, 5) *OER Development*, 6) *Learning Content*, 7) *Learning Support*, 8) *Online Features*, 9) *Learning Outcomes*, 10) *Return on Investment*, and 11) *Research & Development*. Once these eleven QA areas were identified and finalized, detailed standards of each area were created to gain information about various stakeholders' perceptions of OER quality. The initial list, which included 52 QA standards across eleven QA areas, was then reviewed by three ODL experts regarding the relevancy and validity

of the items for measuring OER quality in the context of ODL. As a result of this consultation process, four items were deleted from the initial 52 because of irrelevancy or redundancy, and three items were revised for clarity. In total, 48 QA standards were included in the final online survey.

## Participants

The survey was distributed to ODL nine ODL institutions across seven countries in Asia and Europe (see Table 1). In total, 181 responses were collected.

<Table 1> Distribution of Respondents (N=181)

| Country      | Institution   | N          | %            |
|--------------|---|------------|--------------|
| China        | Open University of China  | 63         | 34.8         |
| Japan        | Open University Japan; Kumamoto University Online Graduate School | 18         | 9.9          |
| Korea        | Korea National Open University                                    | 23         | 12.7         |
| Malaysia     | Wawasan Open University, Open University of Malaysia              | 7          | 3.9          |
| Netherlands  | Netherland Open University  | 42         | 23.2         |
| Spain        | Open University of Catalonia                                      | 25         | 13.8         |
| Thailand     | Thailand Cyber University   | 3          | 1.7          |
| <b>Total</b> |   | <b>181</b> | <b>100.0</b> |

As shown in <Table 1>, around 35% of the participants were from China and around 23% from Netherlands. While these numbers indicate high level of OER adoption in China and Netherlands, they could have affected the results of the survey. Thus caution is needed to interpret the data due to the substantial differences in country distribution.

<Table 2> shows demographic features of the participants. Slightly over 51% of the participants were male students and around 40% were between the ages of 30-39. Around 28% of the participants were instructors/academic staff while less than 2% policy makers. Almost 34% had 3 – 5 years of experience with OER and over 40% claimed that they had moderate or high level of expertise in OER development.

<Table 2> Demographic Characteristics of Respondents(N=181)

| Characteristics                 | n   | %     | Characteristics              | n   | %     |
|---------------------------------|-----|-------|------------------------------|-----|-------|
| <u>Gender</u>                   |     |       | <u>Age</u>                   |     |       |
| Female                          | 88  | 48.6  | 20-29                        | 29  | 16.0  |
| Male                            | 93  | 51.4  | 30-39                        | 71  | 39.2  |
|                                 |     |       | 40-49                        | 50  | 27.6  |
|                                 |     |       | 50-59                        | 27  | 14.9  |
|                                 |     |       | Above 60                     | 4   | 2.2   |
| <u>OER experience</u>           |     |       | <u>Major role</u>            |     |       |
| None                            | 34  | 18.8  | Learner                      | 44  |       |
| 1-2 years                       | 54  | 29.8  | Instructor or Academic staff | 51  |       |
| 3-5 years                       | 61  | 33.7  | Instructional Designer       | 17  |       |
| 6-9 years                       | 19  | 10.4  | Support Staff                | 34  |       |
| 10 years or more                | 13  | 7.2   | Policy Maker                 | 3   |       |
| Total                           | 181 | 100.0 | Researcher                   |     |       |
|                                 |     |       | Total                        | 181 | 100.0 |
| <u>Level of OER development</u> |     |       |                              |     |       |
| Beginner/Novice                 | 41  | 22.7  |                              |     |       |
| Low                             | 39  | 21.5  |                              |     |       |
| Moderate                        | 58  | 32.0  |                              |     |       |
| High                            | 33  | 18.2  |                              |     |       |
| Very High                       | 10  | 5.5   |                              |     |       |
| Total                           | 181 | 100.0 |                              |     |       |

## Result

### *Importance of QA standards*

It appeared that most items were perceived as important for assuring the quality of OER in the context of ODL with ratings of over 3 out of 4. The standards related to QA of OER's learning content (QA 6) considered to be highly important while two standards (QA 10 – 1 and QA 10 – 2) related to return on investment appeared less important compared with other standards.

<Table 3> presents the number of response in assessing the importance of each of the 48 QA standards.

<Table 3> Number of Responses to Importance of QA Standards and Average Rating

| QA standards  | None/<br>Very<br>Low | Low | Moderate | High | Very<br>High | Average<br>Rating |
|---|----------------------|-----|----------|------|--------------|-------------------|
| <b>QA area 1) Infrastructure (N=143)</b>  |                      |     |          |      |              |                   |
| QA 1) – 1. The institution provides appropriate and reliable media/technology infrastructure to develop, deliver and manage OER.                              | 4                    | 10  | 47       | 61   | 21           | 3.59              |
| QA 1) – 2. The institution periodically evaluates the quality and uses of media/technology infrastructure.  | 4                    | 17  | 49       | 54   | 19           | 3.39              |
| QA 1) – 3. The institution uses media/technologies effectively and efficiently in the provision of OER.   | 2                    | 19  | 55       | 55   | 12           | 3.47              |
| <b>QA area 2) Quality Assurance (N=156)</b>   |                      |     |          |      |              |                   |
| QA 2) – 1 The institution has clear internal QA policies and systems for its OER initiatives.   | 4                    | 21  | 44       | 60   | 14           | 3.41              |
| QA 2) – 2 The institution periodically seeks learners’/stakeholders’ views on the quality of its OER.   | 7                    | 26  | 63       | 30   | 17           | 3.17              |
| QA 2) – 3 The institution regularly conducts internal and external QA for the purposes of continuous improvement and public accountability in its use of OER. | 7                    | 29  | 44       | 51   | 12           | 3.22              |
| QA 2) – 4 The institution encourages and supports a quality culture in its OER operations.  | 5                    | 24  | 35       | 66   | 13           | 3.41              |
| <b>QA area 3) Institutional Vision &amp; Support (N=156)</b>  |                      |     |          |      |              |                   |
| QA 3) – 1 OER provisions are aligned with the institution’s vision, mission and goals.  | 3                    | 13  | 48       | 57   | 22           | 3.57              |
| QA 3) – 2 The institution establishes the organizational structure appropriate for operations needed for quality OERs.  | 4                    | 22  | 41       | 58   | 18           | 3.44              |
| QA 3) – 3 The institution demonstrates strong leadership in initiating and supporting educationally sound and ethical operations of OER.                      | 3                    | 23  | 54       | 42   | 21           | 3.38              |

| QA standards  | None/<br>Very Low | Low | Moderate | High | Very High | Average Rating |
|---|-------------------|-----|----------|------|-----------|----------------|
| QA 3) – 3 The institution demonstrates strong leadership in initiating and supporting educationally sound and ethical operations of OER.  | 3                 | 23  | 54       | 42   | 21        | 3.38           |
| QA 3) –4 The institution encourages and rewards its faculty and staff in regard to OER development and use.   | 9                 | 22  | 46       | 51   | 15        | 3.29           |
| QA 3) – 5 The institution develops faculty and staff's competencies in OER operations..   | 6                 | 29  | 46       | 48   | 14        | 3.24           |
| <b>QA area 4) Finance &amp; Partnership(N=143)</b>  |                   |     |          |      |           |                |
| QA 4) – 1 The institution makes a continuous effort to secure and allocate adequate financial resources for OER operations.   | 7                 | 22  | 55       | 45   | 14        | 3.26           |
| QA 4) – 2 The institution carefully monitors the costs, cost savings, cost-effectiveness and cost-efficiency of its OER operations.   | 7                 | 27  | 58       | 37   | 14        | 3.17           |
| QA 4) – 3 The institution operates collaboration and networking among the departments, units, local study centers, etc., involved in OER operations.  | 5                 | 24  | 49       | 55   | 10        | 3.29           |
| QA 4) – 4 The institution engages in collaborative development and resource sharing with other OER providers, in-country and/or internationally.  | 9                 | 23  | 54       | 44   | 13        | 3.20           |
| <b>QA area 5) OER Development (N=143)</b>   |                   |     |          |      |           |                |
| QA 5) – 1 The institution ensures that OER are developed in ways appropriate to the learners' computer systems, network speeds, etc. (N=129)  | 3                 | 14  | 56       | 43   | 13        | 3.38           |
| QA 5) – 2 The institution develops forms of OER (e.g., modules, learning objects, videos, audios, tests, software, full courses, course materials, etc) appropriate to the learners' needs and circumstances. | 1                 | 10  | 23       | 26   | 14        | 3.57           |
| QA 5) – 3 The institution achieves the best possible use of the available courses and courseware by designing, adopting or adapting OER.  | 2                 | 17  | 49       | 46   | 15        | 3.43           |
| QA 5) – 4 The institution develops OER in   | 3                 | 21  | 33       | 56   | 16        | 3.47           |

| QA standards  | None/<br>Very Low | Low | Moderate | High | Very High | Average Rating |
|---|-------------------|-----|----------|------|-----------|----------------|
| accord with sound principles of instructional design.   |                   |     |          |      |           |                |
| QA 5) – 5 The institution ensures that OER accord with copyright laws (Commons License) and are correctly cited / acknowledged.   | 2                 | 11  | 38       | 55   | 23        | 3.67           |
| <b>QA area 6) Learning Contents (N=129)</b>   |                   |     |          |      |           |                |
| QA 6) – 1 The OER content is well-matched to the learners' needs and the learning objectives.   | 1                 | 12  | 36       | 53   | 27        | 3.72           |
| QA 6) – 2 The content is accurate.  | 0                 | 7   | 36       | 65   | 21        | 3.78           |
| QA 6) – 3 The content is regularly updated.   | 3                 | 17  | 37       | 52   | 20        | 3.53           |
| QA 6) – 4 The content is logically presented in order of difficulty.  | 4                 | 14  | 52       | 46   | 13        | 3.39           |
| QA 6) – 5 The content is presented in ways appropriate to the learners' knowledge, skills and abilities.  | 2                 | 12  | 41       | 61   | 13        | 3.55           |
| QA 6) – 6 The amount of content to be studied and acted upon is appropriate to the duration of the studyaccountability of its OERs.   | 3                 | 12  | 46       | 55   | 13        | 3.49           |
| QA 6) – 7 The OER are culturally appropriate and contain no racial or gender bias.  | 1                 | 9   | 44       | 54   | 21        | 3.66           |
| QA 6) – 8 The content is developed through rigorous academic processes by well-qualified persons.   | 3                 | 9   | 40       | 55   | 22        | 3.65           |
| <b>QA area 7) Learning Support (N=143)</b>  |                   |     |          |      |           |                |
| QA 7) – 1 The learners are helped to find their way through the repository and where other OER appropriate to the student may be found on other websites.   | 3                 | 17  | 44       | 50   | 15        | 3.44           |
| QA 7) –2 The learners are provided with clear information on how to use the OER and create 'personal learning environments' by remixing, manipulating, aggregating and sharing content according to their particular needs and interests. | 3                 | 22  | 40       | 55   | 9         | 3.35           |
| QA 7) – 3 The OER include text, audio or video orientation and introductory components to familiarize the learners with the courses and their instructors/support personnel.  | 1                 | 14  | 48       | 51   | 15        | 3.50           |

| QA standards   | None/<br>Very<br>Low | Low | Moderate | High | Very<br>High | Average<br>Rating |
|--|----------------------|-----|----------|------|--------------|-------------------|
| QA 7) – 4 The OER include examples, formative self-assessment activities and other means of support to enable the learners to study independently/at a distance.                   | 1                    | 16  | 45       | 52   | 15           | 3.50              |
| QA 7) – 5 The learners are provided with asynchronous/ synchronous online support, or face-to-face/hybrid support.   | 3                    | 21  | 38       | 53   | 14           | 3.42              |
| QA 7) – 6 The institution provides detailed information on OERs to prospective users.(n=55)  | 1                    | 6   | 22       | 22   | 4            | 3.40              |
| <b>QA area 8) Online Features(N=129)</b>   |                      |     |          |      |              |                   |
| QA 8) – 1 The screen layout of OER is suited to the learners' experience, knowledge and abilities.   | 2                    | 13  | 61       | 45   | 8            | 3.34              |
| QA 8) – 2 The screen layout of OER helps the learners comprehend the content and avoids distracting features.  | 2                    | 13  | 53       | 50   | 11           | 3.43              |
| QA 8) – 3 The user-interface components (buttons, menus, icons, scroll bars, etc.) are arranged consistently to help the learners navigate the site easily.                        | 1                    | 11  | 49       | 57   | 11           | 3.51              |
| QA 8) – 4 The site facilitates flexible learning by allowing learners to control the rate, order and process of their learning.  | 2                    | 18  | 43       | 55   | 11           | 3.43              |
| QA 8) – 5 Navigation guidance systems (e.g., breadcrumb trail and site map) are integrated in OER site to enable learners to know where they are relative to the rest of the site. | 1                    | 18  | 50       | 53   | 7            | 3.36              |
| QA 8) – 6 The effectiveness and efficiency of the online features of the OER site is subject to ongoing evaluation.  | 2                    | 23  | 45       | 47   | 12           | 3.34              |
| <b>QA area 9) Learning Outcomes (N=126)</b>  |                      |     |          |      |              |                   |
| QA 9) – 1 The learning objectives for each OER course or module reflect the needs of the learners and society.   | 5                    | 10  | 50       | 47   | 14           | 3.44              |
| QA 9) – 2 The assessment mechanisms of the OER measure the accomplishment of these learning objectives.  | 4                    | 16  | 46       | 48   | 12           | 3.38              |

| QA standards   | None/<br>Very<br>Low | Low | Moderate | High | Very<br>High | Average<br>Rating |
|--|----------------------|-----|----------|------|--------------|-------------------|
| <b>QA area 10) Return on Investment (N=126)</b>  |                      |     |          |      |              |                   |
| QA 10) – 1 The institution monitors return-on-investment (ROI) in OER from both monetary and non-monetary perspectives.  | 7                    | 32  | 50       | 32   | 5            | 2.96              |
| QA 10) – 2 The institution evaluates the contribution of OER-based provision to society and local communities.   | 6                    | 29  | 55       | 32   | 4            | 2.99              |
| QA 10) – 3 The institution utilizes the success or failure data from the ROI studies to improve its OER products and services.                                       | 9                    | 27  | 46       | 35   | 9            | 3.06              |
| <b>QA area 11) Research &amp; Development (N=126)</b>  |                      |     |          |      |              |                   |
| QA 11) – 1 The institution promotes and supports research in OER by its faculty/staff.   | 5                    | 17  | 44       | 47   | 13           | 3.36              |
| QA 11) – 2 The institution applies these research findings in improving its OER.   | 6                    | 17  | 48       | 43   | 12           | 3.30              |
| QA 11) – 3 The institution collaborates with various international, national, governmental and non-governmental agencies in undertaking and sharing research in OER. | 7                    | 20  | 36       | 47   | 16           | 3.36              |

### *Regional differences in importance of QA areas*

Regional differences in the perceptions of the selected 4 QA areas and QA standard variables were statistically tested. As shown in <Table 4>, no significant differences were found in the perception of key five QA areas (QA 2, QA 3, QA 11, QA 1, and QA 4). However, there were significant differences in the perceptions of the importance of the following seven QA standards between Asian and European participants. That is, Asian respondents perceived these QA standards more important in assessing the quality of OER than European respondents did:

- QA5 – 1. The institution ensures that OER are developed in ways appropriate to the learners' computer systems, network speeds;
- QA 6 – 2. The content is accurate;
- QA 6 – 4. The content is logically presented in order of difficulty;
- QA 6 – 5. The content is presented in ways appropriate to the learners' knowledge, skills and abilities;

- QA 6 – 7. The OER are culturally appropriate and contain no racial or gender bias;
- QA 10 – 1. The institution monitors return-on-investment in OER from both monetary and non-monetary perspectives; and
- QA 10 – 2. The institution evaluates the contribution of OER-based provision to society and local communities.

<Table 4> Regional Differences in Perception of QA Areas and QA Standards

| QA Variable                   | 1:Asia<br>2:Europe | n  | Mean   | SD      | SE     | P-value |
|-------------------------------|--------------------|----|--------|---------|--------|---------|
| QA 2 Quality Assurance        | 1.00               | 89 | 3.2528 | .86807  | .09202 | .36     |
|                               | 2.00               | 40 | 3.4063 | .86914  | .13742 |         |
| QA 3 VisionSupport            | 1.00               | 89 | 3.4472 | .82021  | .08694 | .57     |
|                               | 2.00               | 40 | 3.3550 | .89039  | .14078 |         |
| QA 11<br>Research&Development | 1.00               | 88 | 3.3220 | .87894  | .09370 | .71     |
|                               | 2.00               | 38 | 3.3860 | .94448  | .15322 |         |
| QA 1 Infrastructure           | 1.00               | 89 | 3.4719 | .77981  | .08266 | .48     |
|                               | 2.00               | 40 | 3.5750 | .69997  | .11067 |         |
| QA 4 Finance<br>&Partnership  | 1.00               | 89 | 2.1966 | .53922  | .05716 | .24     |
|                               | 2.00               | 40 | 2.0667 | .65350  | .10333 |         |
| QA 5 – 1                      | 1.00               | 89 | 3.5618 | .99949  | .10595 | .03     |
|                               | 2.00               | 40 | 3.9000 | .67178  | .10622 |         |
| QA 6 – 2                      | 1.00               | 88 | 3.3295 | .97935  | .10440 | .02     |
|                               | 2.00               | 38 | 3.4474 | .97807  | .15866 |         |
| QA 6 – 4                      | 1.00               | 89 | 3.3371 | .97635  | .10349 | .04     |
|                               | 2.00               | 40 | 3.1750 | 1.15220 | .18218 |         |
| QA 6 – 5                      | 1.00               | 89 | 3.2472 | .95680  | .10142 | .002    |
|                               | 2.00               | 40 | 2.9750 | 1.09749 | .17353 |         |
| QA 6 – 7                      | 1.00               | 89 | 3.6629 | .79692  | .08447 | .02     |
|                               | 2.00               | 40 | 4.0250 | .69752  | .11029 |         |
| QA 10 – 1                     | 1.00               | 89 | 3.4607 | .87978  | .09326 | .006    |
|                               | 2.00               | 40 | 3.3500 | 1.00128 | .15832 |         |
| QA 10 – 2                     | 1.00               | 89 | 3.6629 | .79692  | .08447 | .02     |
|                               | 2.00               | 40 | 4.0250 | .69752  | .11029 |         |

#### *Significant QA areas in explaining the quality of OER*

To identify significant QA areas in assessing the quality of OER, the regression analysis was conducted with *Quality Assurance* as a dependent variable. As seen in Tables 5 and 6, the results of testing four different regression models reveal that the final 4<sup>th</sup> model with the four key QA areas was most well fitted in explaining the quality of OER. These key QA areas are:

- QA 3. Institutional Vision & Support;
- QA 11. Research & Development;
- QA 1. Infrastructure; and
- QA 4. Finance & Partnership.

The four QA areas could explain 73.2% of QA in OER. When we fitted the regression model with a single variable, *Institutional Vision & Support* appeared to be the strongest variable in predicting QA, with 61.8% coefficient of determination  $R^2$  while *Research & Development* with 53% of the  $R^2$ , *Infrastructure* with 46% of the  $R^2$ , and Finance & Partnership with 61.6% of the  $R^2$  (see <Table 5>).

<Table 5> Regression Analysis for Important QA Areas in Predicting QA in OER

|  | Non standardized |      | Standardized | t     | P-value |
|--|------------------|------|--------------|-------|---------|
|  | B                | SE   | $\beta$      |       |         |
| <b>Constant</b>                              | -.086            | .203 |              | -.424 | .672    |
| <b>QA1_3<br/>Vision &amp; Support</b>        | .299             | .055 | .221         | 3.765 | .000    |
| <b>QA3_11<br/>Research &amp; Development</b> | .234             | .049 | .261         | 4.636 | .000    |
| <b>QA1_1<br/>Infrastructure</b>              | .227             | .049 | .284         | 4.858 | .000    |
| <b>QA1_4<br/>Finance &amp; Partnership</b>   | .364             | .130 | .319         | 5.190 | .000    |
| <b><math>R^2</math></b>                      | <b>0.769</b>     |      |              |       |         |

**Notes:**  $Y(\text{QA of OER}) = -0.086 + 0.299 \text{ QA13} + 0.234 \text{ QA311} + 0.227 \text{ QA11} + 0.364 \text{ QA14}$

(QA13: Institutional Vision & Support, QA11: Infrastructure, QA311: Research & Development; and QA14: Finance & Partnership)

#### *Significant QA standards in explaining the quality of OER*

To examine important QA standards in assessing the quality of OER, the regression analyses were conducted with *Quality Assurance* as a dependent variable and QA standards as independent variables. It was found that the regression model with the following six standards explained 76.9% coefficient of determination (see <Table 6>):

- QA 3 – 1. The OER provisions are aligned with the institution’s vision, mission and goals;
- QA 11 – 1. The institution promotes and supports research in OER by its faculty/staff;
- QA3 – 5. The institution develops faculty and staff’s competencies in OER operations;
- QA 4 – 2. The institution carefully monitors the costs, cost savings, cost-effectiveness and cost-efficiency of its OER operations; and
- QA 6 – 2. The content is accurate.
- QA 5– 3. The institution achieves the best possible use of the available courses and courseware by designing adopting or adapting OER.

$$Y(\text{QA of OER}) = -0.197 + 0.206 \text{ QA3\_1} + 0.229 \text{ QA11\_1} + 0.239 \text{ QA3\_5} \\ + 0.271 \text{ QA4\_2} + 0.207 \text{ QA5\_3} - 0.130 \text{ QA6\_2}$$

<Table 6> Regression Model Summary of QA Standards in Predicting QA in OER

|                      | Non standardized |      | Standardized | t      | P-value |
|----------------------|------------------|------|--------------|--------|---------|
|                      | B                | SE   | β            |        |         |
| <b>Constant</b>      | -.197            | .211 |              | -.935  | .352    |
| <b>QA3_1</b>         | .206             | .055 | .221         | 3.765  | .000    |
| <b>QA11_1</b>        | .229             | .049 | .261         | 4.636  | .000    |
| <b>QA3_5</b>         | .239             | .049 | .284         | 4.858  | .000    |
| <b>QA4_2</b>         | .271             | .052 | .319         | 5.190  | .000    |
| <b>QA5_3</b>         | .207             | .058 | .186         | 3.545  | .001    |
| <b>QA6_2</b>         | -.130            | .057 | -.138        | -2.272 | .025    |
| <b>R<sup>2</sup></b> | <b>0.769</b>     |      |              |        |         |

## Suggestions and Recommendations

Based on the analyses of OER QA studies and practices, and the survey results, this section offers major suggestions for ODL institutions and educators to develop contextualized or localized QA standards for e-ASEM OER. It concludes with a set of recommendations for future development of OER and QA framework.

## Suggestions for the Development of QA Standards for e-ASEM OER

ODL institutions planning to develop and implement high quality OER are strongly recommended to adopt a set of QA standards to safeguard the quality of OER. In developing a contextualized set of QA standards for OER, ODL institutions can refer to various QA standards reviewed in the earlier section of this report and adapt them to reflect their unique ODL features, considering the following suggestions.

- A set of QA standards should be developed across such QA areas as *Infrastructure*, *Quality Assurance*, *Institutional Vision & Support*, *Finance & Partnership*, *OER Development*, *Learning Content*, *Learning Support*, *Online Features*, *Learning Outcomes*, *Return on Investment*, and *Research & Development*.
- Among these areas, *Institutional Vision & Support*, *Research & Development*, *Infrastructure*, and *Finance & Partnership* are particularly important for a sustainable QA framework (see Figure 1).



[Figure 1] QA areas to be included in the QA framework for e-ASEM OER

- More detailed QA standards should be developed under each of these QA areas. While most of the QA standards suggested in Table 3 can be used, we suggest ODL institutions and educators to pay particular attention to the following seven QA standards and include these in the QA framework.
  - 1) The institution provides appropriate and reliable media/technology infrastructure to develop, deliver and manage OER (Under the area of *Infrastructure*)
  - 2) The OER provisions are aligned with the institution's vision, mission and goals (under the QA area of *Institutional Vision & Support*).
  - 3) The institution develops faculty and staff's competencies in OER operations (under the QA area of *Institutional Vision & Support*).
  - 4) The institution carefully monitors the costs, cost savings, cost-effectiveness and cost-efficiency of its OER operations (under the QA area of *Finance & Partnership*).
  - 5) The institution promotes and supports research in OER by its faculty/staff (under the QA area of *Research & Development*).
  - 6) The content of OER is accurate and regularly updated (under the QA area of *Learning Content*).
  - 7) The institution achieves the best possible use of the available courses and courseware by designing adopting or adapting OER (under the QA area of *OER Development*).
  
- For Asian ODL institutions and educators, we recommend to give a high priority to the following seven QA standards as they are perceived as more important than other standards by Asian educators and learners.
  - 1) The institution ensures that OER are developed in ways appropriate to the learners' computer systems, and network speeds (Under the area of *Infrastructure*).

Compared with European countries, many Asian countries have lack of appropriate technology infrastructure for ODL/e-learning. As Selim (2007) reported, ODL learners with poor technology infrastructure and less experience with technology perceive problems with technology and access as serious barriers to their learning. Careful consideration about the learners' technology environment is needed for successful OER implementation.

- 2) The content is accurate (Under the area of *Learning Content*).
- 3) The content is logically presented in order of difficulty (Under the area of *Learning Content*).
- 4) The content is presented in ways appropriate to the learners' knowledge, skills and abilities (Under the area of *Learning Content*).
- 5) The OER are culturally appropriate and contain no racial or gender bias (Under the area of *Learning Content*).

Jung (2012) found that Asian distance learners perceived *Course Development* component as the most important dimension in assessing the quality of ODL. She further revealed that Asian learners perceive a ODL course that offers well-structured materials that follow clear development procedures and are considerate of learners' needs to be of high quality. The above listed four QA standards under the category of *Learning Content* also show that Asian OER users view *Learning Content* of OER that is accurate, logically structured, developed based on learning needs, and culturally appropriate as more important in assuring the quality of OER, compared with their counterparts in Europe. This difference needs to be considered when developing and implementing OER in Asia.

- 6) The institution monitors return-on-investment in OER from both monetary and non-monetary perspectives (Under the area of *Return on Investment*).
- 7) The institution evaluates the contribution of OER-based provision to society and local communities (Under the area of *Return on Investment*).

Compared with Europe, ODL has been growing fast in Asian higher education. ODL is reaching out to more adult learners, new forms of delivery such as e-learning and m-learning are being rapidly adopted even in the least developed parts of the region, new providers are entering the market and there is a surge in ODL export and import. The most distinctive feature of Asian ODL is huge student population in ODL institutions and over 5 million potential students. Considering the huge number of present and future student enrollment in ODL institutions, the quality of Asian ODL has become more important than

ever for the development of higher education and Asian society as a whole. That's why Asian respondents of our study gave more attention to both monetary and non-monetary benefits of OER and social contribution of OER. Asian ODL institutions are expected to consider various benefits of OER and community/social roles of OER when they invest in OER development.

## **Recommendations for Future Development of OER and QA Framework**

The level of OER development and implementation in higher education in Asia and Europe varies across the countries and ODL institutions. So does the QA policy integration in an overall institutional QA framework. This study showed that QA models and criteria developed for ODL could be adopted and adapted for the development of QA standards for OER, and offered a set of suggestions that could be considered when preparing QA standards for e-ASEM OER. The following recommendations are offered for further development of OER in the context of ODL.

- Overall, QA in OER is at a quite early stage of development. The different QA approaches discussed above reflect the differences in cultures, expectations, and purposes. Each of these approaches has its own particular strengths and weaknesses, so it would be undesirable to recommend any single approach. However, in light of our survey finding, it is suggested that ODL institutions develop a set of QA standards around 11 areas: 1) *Infrastructure*, 2) *Quality Assurance*, 3) *Institutional Vision & Support*, 4) *Finance & Partnership*, 5) *OER Development*, 6) *Learning Content*, 7) *Learning Support*, 8) *Online Features*, 9) *Learning Outcomes*, 10) *Return on Investment*, and 11) *Research & Development*, with special focus on *Infrastructure*, *Institutional Vision & Support*, *Finance & Partnership*, and *Research & Development*.
- There is need to develop a quality culture within ODL institutions. As Sir John Daniel (2013) argued, OER is an important development for all forms of education including ODL. Thus, all ODL institutions should see that QA in OER is also an integral part of their ODL's QA framework. To offer OER users high-quality learning resources, QA policies in OER should be linked to the broader institutional QA system. QA in OER should be seen as a system for self-improvement and public accountability of ODL institutions.

- ODL institutions should begin to develop specific QA guidelines, criteria, and methods for the various types of OER. In addition, detailed key performance indicators for each of the QA criteria would help ODL institutions monitor their performance in OER development and use against institutional objectives and vision. ODL institutions can use these indicators in self-assessment for continuous qualitative improvement of OER. The existence of a QA framework for OER would enable ODL institutions to make QA an integral part of their institutional missions with respect to teaching and research and to promote a quality culture in their institutions.
- Concerted efforts are needed from leaders, top managers, educators, administrative staff and learners of an ODL institutions regarding the development of high quality needs-based OER and diffusion of OER. ODL institutions should support all stakeholders to understand OER's benefits and challenges, and encourage them to take a part in OER development and implementation processes.
- Collaboration and partnership is necessary to develop high quality OER with less costs. As seen in the case of OERu, a consortium of ODL institutions, other organizations, and/or private sectors from different locations will help ODL institutions offer their best courses and programs while keeping the cost down, and also help students study independently or collaboratively through a variety of OER. As Daniel (2-13) posited, it is a new way of putting courses or programs together.

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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.

## **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 geographical 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**

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 (EC, 2013). 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 and 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?

## **From Barriers to Contextualization**

What are the key aspects to adapt OER to a new context? This is the main questions 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.

## **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:

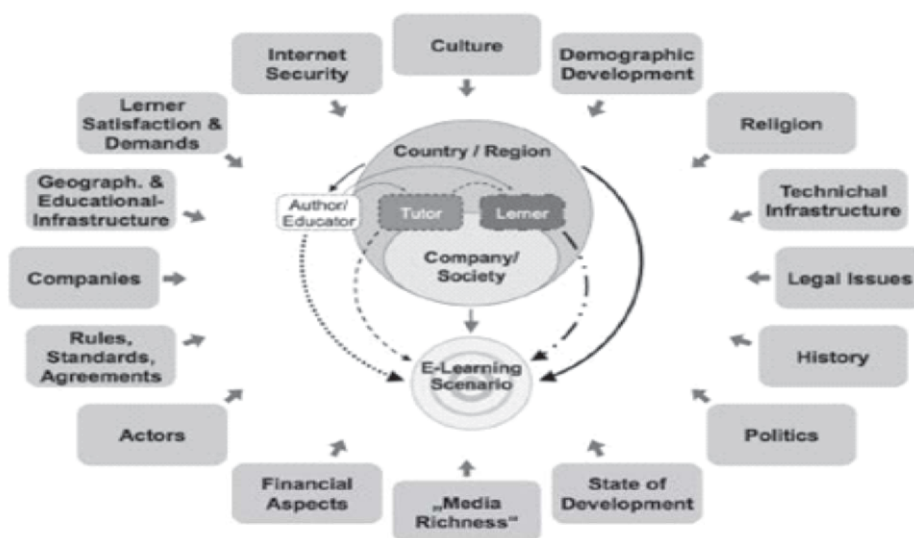
- Lack of resources for sustaining services, content and infrastructures
- Lack of time for production and localization of OER
- For sharing OER, Need for Rewards and Acknowledgement.
- Lack of business model for open content initiatives
- Too many resources to choose from

- 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.

## 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]).

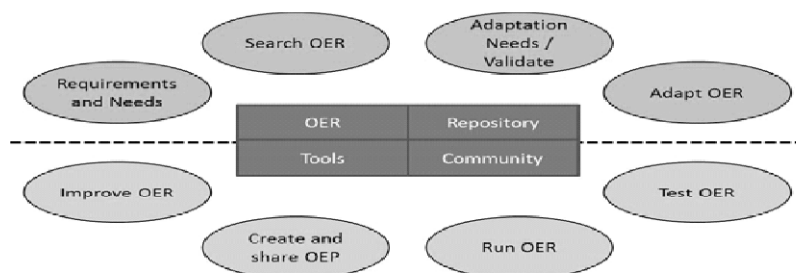


[Figure 1] Contextual influence factors (Richter, 2011)

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 needs 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:



[Figure 2] OER Lifecycle

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 materials themselves.
8. **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.

## **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.

## **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.

### **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 efforts 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.

## **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 packages (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.

### **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 course 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.

## **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

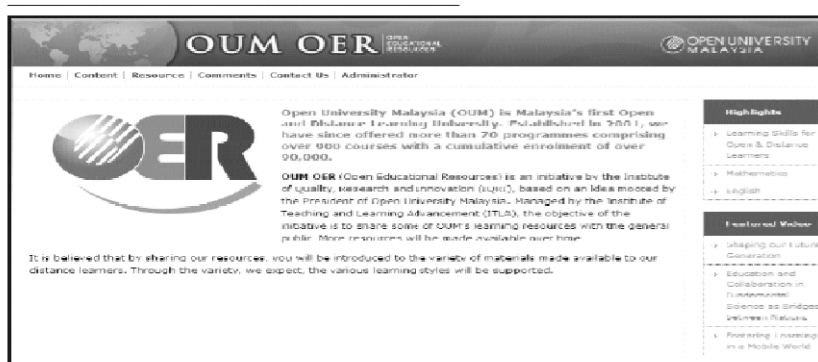
technology enabled and enriched environment. IRI is presently mobilising funds to support its mission as well as develop a network of Asian researchers studying OER and Open CourseWare (OCW) development on the continent. WOU maintains an OER website known as OER Asia ([Figure 1]), which is an Asian forum 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>.



[Figure 3] OER Asia

## 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 Advancement (ITLA)



[Figure 4] Open University of Malaysia OER

### 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.



[Figure 5] 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 live 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.

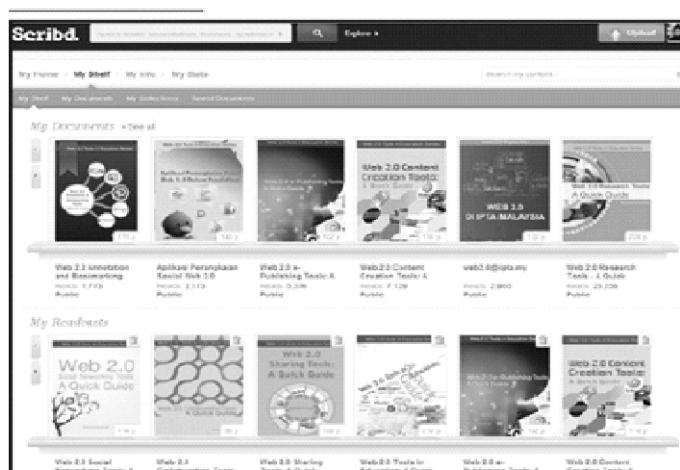
| Date             | Time     | Speakers                        | Online Title   | Registration | Recording |
|------------------|----------|---------------------------------|--|--------------|-----------|
| 11 Dec<br>(180A) | 8:30 PM  | Dr. Ali Abnaji & Farwan Marican | Feedback for Teaching & Learning   | Closed       | View      |
| 11 Dec           | 8:45 PM  | Dr. Ali Abnaji & Farwan Marican | Web-Compensating for Teaching & Learning   | Closed       | View      |
| 17 Feb           | 10:00 AM | Toni Roldmann                   | How to Become a Digital E-Learning Pro   | Closed       | View      |
| 20 Feb           | 10:00 AM | Stephane Desjardis              | Facilitating a Massive Open Online Course (MOOC)   | Closed       | View      |
| 28 Mar           | 10:00 AM | Karl H. Kopp                    | Games, Gamification and the Need for Engaging Learners                                       | Closed       | View      |
| 10 Apr           | 10:00 AM | Curtis Beak                     | From Tutoring to Tutoring to Truly Extreme Learning  | Closed       | View      |
| 25 Apr           | 10:00 AM | Prof. Mohamed Amin Embi         | e-Learning in Malaysian Institutions of Higher Learning: Lessons Learnt, Issues & Challenges | Closed       | View      |
| 25 May           | 4:00 PM  | Jane Hart                       | Social Learning Revolution   | Closed       | View      |
| 30 May           | 10:00 AM | Prof. Radha M. Miao             | Using Technology for Engaging and Effective Learning   | Closed       | View      |
| 9 Jun            | 10:00 AM | Patt Cobb                       | 10 Ways to Be a Better Learner   | Closed       | View      |
| 17 Jun           | 10:00 AM | Jane Search                     | Instructional Design for the Real World  | Closed       | -         |
| 11 Jul           | 4:00 PM  | Steve Wheeler                   | Social media & Mobile Technology: Learning in a Digital Age                                  | Closed       | View      |
| 10 Sep           | 10:00 AM | Cosmin Măneșel                  | Your Brain on Graphics   | Closed       | View      |
| 9 Nov            | 10:00 AM | Dr. Nathan Denicolo             | Authenticity & Web 2.0   | Closed       | View      |

[Figure 6] IMU Webinar

## Individual & SIG Group Initiatives

### Web 2.0 OER

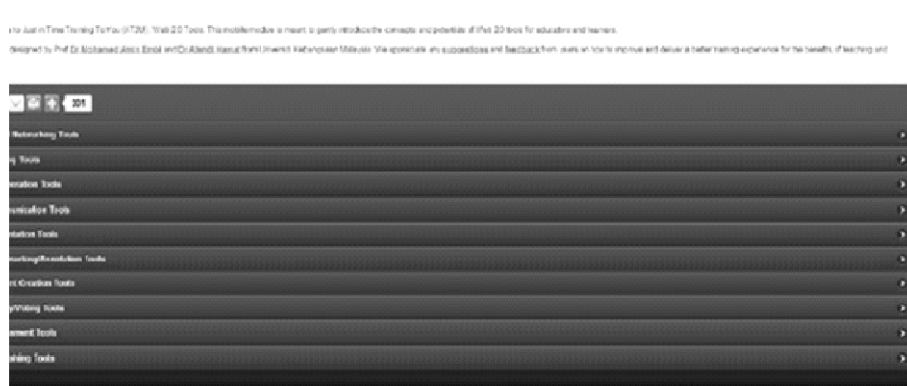
One of the most prominent contributors of OER in Malaysia is Prof. Dr. Mohamed Amin Embi from UKM who has pioneered the creation and dissemination of materials on the use of Web2.0 tools for teaching and learning. In 2011, he initiated the publication of a series on 'Web 2.0 Tools in Education Series'. 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>.



[Figure 7] Web 2.0 OER

### 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 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.



[Figure 9] Zaidlearn

### 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.



[Figure 10] Learning Innovation Circle

### Results and Conclusions

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. Whether this happens or not, educators 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, we can make a difference in transforming education in Malaysia and around the world. Many international collaboration opportunities exist and should be utilized in the future.

## 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.

## 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). However, many new research questions came up. It will be necessary to better (and automatically) identify adaptation needs and create model processes for adaptation. Additionally, cross-border studies are necessary 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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## **Students as Adult Learners' Comprehension of Open Educational Resources and It's Use in Self-Directed Learning**

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### **Introduction**

The modern era (information and knowledge century) requires updated human need for self-education, self-development, to ensure better employment opportunities and quality of life, and challenging people – to realize their potential, developing themselves personally meaningful ways (Karnītis, 2002). Unlike the industrial century, characterized by the relative predictability information era has increased the uncertainty of various processes that causes psychological insecurity (Kosmidou-Hardy, 2003), and the human will gain more flexibility and adaptability in order to ensure their survival and wellness. The learning process is changed to adapt to each individual's needs (Finnis, 2003). The rapid flow of information accelerates the aging of knowledge, and adult learner will need to use the new information storage and search methods. It changes learning and teaching principles, and focus on memorizing moves to search for information and its structuring (Brikše, 1999). Nowadays we need to learn new skills and new knowledge that will be useful for a new challenge. So the main contribution for human is intellectual and creative skills development (Lifelong Learning, 1998).

The knowledge-based economy is characterized by the need for continuous learning of both codified information and the competencies to use this information. As access to information becomes easier and less expensive, the skills and competencies relating to the selection and efficient use of information become more crucial... Capabilities for selecting relevant and discarding irrelevant information, recognizing patterns in information, interpreting and decoding information as well as learning new and forgetting old skills are in increasing demand (OECD, 1996: 13).

The appearance of disruptive innovation like Massive Open Online Courses (MOOC) has the potential to transform higher education and create new competition and centres of excellence among universities worldwide. While the three main MOOC providers in the USA offer around 400 courses, with three million users worldwide, few European universities are providing MOOCs. A recent survey on MOOC sent to EUA (European university associations) members, shows that one third of the 200 European universities consulted were not even aware of what a MOOC is, and only one third were considering any MOOC-related initiative (Opening up Education, 2013).

*Key words: open educational resources (OER), information literacy skills, self-directed learning*

## **1 The Theoretical Framework**

Technological development is greater, and moves faster, than citizens' abilities to adapt and understand them. There are technological innovations that will introduce significant improvements in quality, and provide interactive possibilities (Tornero, 2004). One of the ways to improve students' learning is a self-directed learning by use of Open Educational Resources (OER).

Historically the term "open educational resources" was coined by United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 2002 (Caswell et al., 2008) at the UNESCO-hosted Forum on the Impact of Open Courseware for Higher Education in Developing Countries. Participants at that forum defined Open Educational Resources as "the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for noncommercial purposes." (UNESCO/IIEP, 2002). OER is a relatively new phenomenon which may be seen as a part of a larger trend towards openness in higher education including more well-known and established movements such as Open Source Software (OSS) and Open Access (OA). The two most important aspects of openness have to do with free availability over the Internet and as few restrictions as possible on the use of the resource. The currently most used definition of OER is: "*Open Educational Resources are digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research.*" (Hyllen).

There are many other definitions of OER indicating the ways of their use:

- OER are teaching, learning and research materials in any medium that reside in the

public domain and have been released under an open licence that permits access, use, repurposing, reuse and redistribution by others with no or limited restrictions. The use of open technical standards improves access and reuse potential. It can include full courses/programmes, course materials, modules, student guides, teaching notes, textbooks, research articles, videos, assessment tools and instruments, interactive materials such as simulations, role plays, databases, software, apps (including mobile apps) and any other educationally useful materials (Atkins et al, 2007).

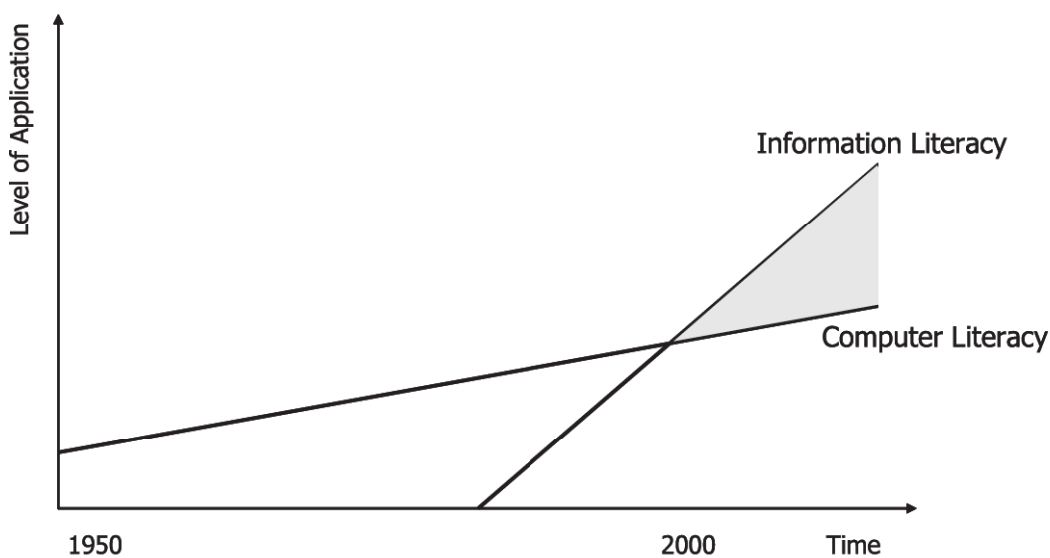
- OER is a very broad concept. A wide variety of initiatives and online materials can be classified as educational resources – from courses and course components, to museum collections, and open access journals and reference works. And over time, the term has come to cover not only content, but also learning and content management software and content development tools, and standards and licensing tools for publishing digital resources, which allow users to adapt resources in accordance with their cultural, curricular and pedagogical requirements (Johnstone, 2005).

However, the effective use of OER skills needed information to find, select and use information literacy. The idea of information literacy, emerging with the advent of information technologies in the early 1970s, has grown, taken shape and strengthened to become recognized as the critical literacy for the twenty-first century. Today, information literacy is inextricably associated with information practices and critical thinking in the information and communication technology environment (Bruce, 2002)

Since 1974 information literacy has been an area of increasing interest to librarians and information professionals and there is a huge amount of literature on the topic (Wirkus, 2003). Information Literacy (Definition adopted by UNESCO's Information for All Programme) is the capacity of people to:

- Recognise their information needs;
- Locate and evaluate the quality of information;
- Store and retrieve information;
- Make effective and ethical use of information, and
- Apply information to create and communicate knowledge (UNESCO, 2005).

The term “*Information Literacy*” is closely related to term “*Computer Literacy*” ([Figure 1-1]). Computer literacy has had a high priority for a number of years in order that everyone can use IT tools as part of every day working practice. The same attention to information literacy and to sound information management practice is required. The concepts of information sharing, utilisation and creation imply a level of information handling skills which has been taken for granted but not defined or explored in any depth (Skills for Knowledge Management, 1999).



[Figure 1-1] The connection of Information literacy and Computer literacy  
(Skills for Knowledge Management, 1999)

Promoting individual intellectual abilities and critical thinking help to build the foundations of learning can provide the base for the growth of human life. Diverse information is often available through the *World Wide Web* and other information channels. Learning technology allows teaching and learning from the professor and the student away from the same time in the same room.

Learning information literacy skills increased students' self-education opportunities, because during the training they use different sources of information in their conscious knowledge, ask questions and develop their critical thinking. Require understanding that in order to achieve the information literacy, does not match the learning content and learning competencies, involved into the curriculum, structure and content of the teaching program.

People skills are evolving and they have a cyclic repetition. Some of them may learn independently, other part – need to devote to teaching and learning. Learning starts on one level, is repeated in another level and strengthen the new highest-level of knowledge of people moving forward through education levels. These skills are most used in troubleshooting situations and they are relevant to the individual's highest degree of development thinking. Involved in the learning process anyone is responsible for the acquisition of competences; the growth of information literacy is an individual and personal process.

In many respects, there seems to be a natural symbiosis between digital technologies and self-directed learning (Candy, 2004). As for the development of an adult learner in the process of learning, emphasis is put on self-directed learning, which is “The North Pole” in adult education, and everyone who comes into contact with it tries to adjust the compass according to it (Grow, 1991). In the process of self-directed learning, adult learner undertakes responsibility for planning their time, application of knowledge, and evaluation of their work (Liegeniece, 2002). An assumption concerning adults’ need to be self-directed has originated from M. Knowles’ andragogical model (Knowles, 1980); however, it is often wrongly interpreted distorting its original meaning. “Preference to self-directed process of learning” suggested by the author is often interpreted as “is self-directed” (Cranton, 1994), hence the frequent criticism referring to it. The concept of self-directed learning is analysed based on the ideas by Richard Dealtry (Dealtry, 2004) Ralph G. Brockett (Brockett, 1991), and Roger Hiemstra, as well as in connection with the contemporary topicalities of education, with a particular emphasis on the need for self-directed learning (Roger, 1969; Knowles, 1975; Cross, 1981). Despite the fact that already back in 1975 M. S. Knowles (Knowles, 1975:16) called self-directed learning a way of surviving, referring both to separate individuals and the whole mankind, it is even more topical nowadays and imparts ICT its “philosophical, practical, and pedagogic” (Herod, 2000, 2001) character.

A pilot research is carried out for contribution to future collaborative studies in ASEM LLL Research Network 1 concerns to topic „Pedagogical approach to lifelong learning through OER”. The present pilot study was conducted during year 2013 for finding out a situation with OER in Latvia. The sample comprised of students of University of Latvia. The respondents answered to questions relating to their conceptions of OER and it’s use.

## 2 Research Methodology

### Research Aim and Question

The pilot research was conducted during the implementation of study process in the study year (2013) at the University of Latvia to explore the students' perception of OER.

*The aim of the pre-research* is to study students' as adult learners understanding about conception of OER and their information literacy as a development of their self-directed learning.

*The research question:* is there a relation among students as adult learners' comprehension of what OER is, their information literacy skills, and self-directed learning?

### Research Sample

The research sample comprised 127 students of the University of Latvia. They were divided into three age-related demographic quarters according to recommendations of Tom Schuller and David Watson (2009) with the exception of the first group (17–24), which was divided into two sub-groups by levels of education: bachelor's (17–21 ) and master's degree (22–24 ) programs. Other students were ranked as third group (25–50). The data of research sample shows <Table 2–1>.

<Table 2–1> The Nominal Data of Research Sample

| Age Groups           | Frequency | Valid Percent (%) |
|----------------------|-----------|-------------------|
| Group 1 (Years 1721) | 50        | 39.4              |
| Group 2 (Years 1224) | 38        | 29.9              |
| Group 3 (Years 2550) | 39        | 30.7              |
| Total                | n=127     | 100.0             |

### Research Design

The data have been obtained by the online questionnaire. The questionnaire was developed in order to find out students views on use of OER. The qualitative data was obtained from respondents' answers. The coding system, performed on the basis of conception of OER (UNESCO, 2002; Hylén; Johnstone, 2005; Atkins et al, 2007; Caswell et al, 2008), and information literacy (UNESCO, 2005; Bruce, 2002) was created for processing data. Qualitative data processing program AQUAD 6.0 was used.

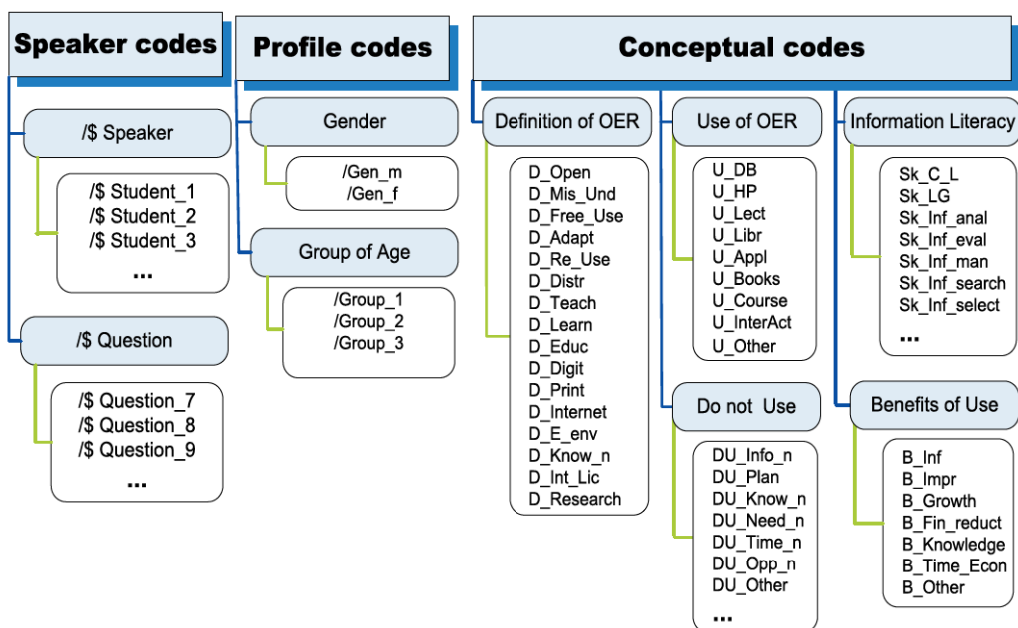
## The Design of the Questionnaire

To find out students' understanding of OER the questionnaire with open items has been constructed. It consisted of two parts: general and conceptual. The general part of the questionnaire consists of 6 items related to the description of position of the students. The conceptual part of the questionnaire concerns to the comprehension of OER (<Table 2-2>).

<Table 2-2> Questions Categories in the Questionnaire

| General part: Informative | Conceptual part: Comprehension on OER         |
|---------------------------|---|
| Gender                    | Perceptions of OER                            |
| Age                       | Types of OER used                             |
| Faculty of UL             | Skills of Information Literacy for use of OER |
| Study year                | Reasons why not use OER                       |
| Study programme           | Benefits of use of OER                        |
| Experience of working     |   |

The questions categories showed in <Table 2-2> were used to explore the students' views concerning OER and they were used as qualitative data to explain the students' opinion about Open Educational Resources and Information Literacy Skills as an important factor in self-directed learning. There was developed code system to be used for data processing ([Figure 2-1]).



[Figure 2-1] The code system used in the research

### 3 The Findings of the Research

In order to evaluate students comprehension of OER, information literacy skills and use of self-directed learning students' answers concerning to their understanding of OER, skills for seeking, selecting and using information, their best practices in use of OER, and linkages between personal growth and information literacy were analysed.

#### Findings of the Students' understanding of OER

The findings of the students' understanding of OER (<Table 3-1>) revealed that they give priorities to comprehension of OER as “*educational*”, “*free use*”, and “*open*”. There are differences of opinions in the different age groups concern to OER as “*materials for learning*” and “*digital materials*” had determined the respondents of age groups 25–50.

<Table 3-1> Students' understanding of forms of OER

| Age Group<br>Code | 17–21  | 22–24  | 25–50  |
|-------------------|--------|--------|--------|
| <i>D_Know_n</i>   | 24.64  | 13.75  | 29.00  |
| <i>D_Educ</i>     | 21.74  | 23.75  | 21.44  |
| <i>D_Free_Use</i> | 13.04  | 18.75  | 36.55  |
| <i>D_Open</i>     | 10.14  | 12.50  | 22.89  |
| <i>D_Research</i> | 8.70   | 6.25   | 9.14   |
| <i>D_Learn</i>    | 4.35   | 8.75   | 21.35  |
| <i>D_Internet</i> | 5.80   | 6.25   | 10.72  |
| <i>D_Digit</i>    | 4.35   | 0.00   | 27.5   |
| <i>D_E_env</i>    | 2.90   | 1.25   | 3.03   |
| <i>D_Int_Lic</i>  | 1.45   | 1.25   | 6.11   |
| <i>D_Mis_Und</i>  | 2.90   | 3.75   | 3.03   |
| <i>D_Adapt</i>    | 0.00   | 1.25   | 1.54   |
| <i>D_Teach</i>    | 0.00   | 1.25   | 4.62   |
| <i>D_Re_Use</i>   | 0.00   | 1.25   | 1.54   |
| <i>D_Distr</i>    | 0.00   | 0.00   | 1.54   |
| SUM (%)           | 100.00 | 100.00 | 100.00 |

| Age Group<br>Code | 17–21                                 | 22–24 | 25–50 |
|-------------------|---------------------------------------|-------|-------|
| <i>D_Know_n</i>   | Do not know                           |       |       |
| <i>D_Educ</i>     | Educational procees                   |       |       |
| <i>D_Free_Use</i> | Free use                              |       |       |
| <i>D_Open</i>     | Open educational resources            |       |       |
| <i>D_Research</i> | Research materials                    |       |       |
| <i>D_Learn</i>    | Learning materials                    |       |       |
| <i>D_Internet</i> | Internet materials                    |       |       |
| <i>D_Digit</i>    | Digital materials                     |       |       |
| <i>D_E_env</i>    | E-environment ( <i>Moodle</i> )       |       |       |
| <i>D_Int_Lic</i>  | With an intellectual property license |       |       |
| <i>D_Mis_Und</i>  | Misunderstandings                     |       |       |
| <i>D_Adapt</i>    | Adaptation                            |       |       |
| <i>D_Teach</i>    | Teaching materials                    |       |       |
| <i>D_Re_Use</i>   | Improve and Reuse                     |       |       |
| <i>D_Distr</i>    | Distribution                          |       |       |

The data show that there is considerable uncertainty about what OER is; the majority of respondents in all age groups do not know that they exist. From 127 surveyed students only 38 use OER in studies, 82 students do not use, but others – 7 students are not sure that the materials used for they are OER. There are significant correlation among students' study level ( $r_s=0.355$ ,  $p<0.05$ ), working experience ( $r_s=0.503$ ,  $p<0.05$ ) and use of OER ( $r_s=0.189$ ,  $p<0.01$ ). It means that students, who work while studying and have higher level of studies, are more open to use of OER.

<Table 3–2> Spearman rank correlation

|                        | Age Group | Study level | Working while studying | Use of OER |
|------------------------|-----------|-------------|------------------------|------------|
| Age group              | 1.000     | .355**      | .503**                 | .108       |
| Study level            | .355**    | 1.000       | .145                   | .058       |
| Working while studying | .503**    | .145        | 1.000                  | .189*      |
| Use of OER             | .108      | .058        | .189*                  | 1.000      |

\*  $p<0.05$ ; \*\*  $p<0.01$  Asymp. Sig. (2-sided)

### Findings of the Students' views of Skills needed for Information Literacy

As key skills that are necessary for the use of OER (<Table 3–3>) are listed skills of “*Computer literacy*”, “*Skills of foreign Language*”, “*Searching of Information*”, and “*Evaluation of Information*” of obtained information.

<Table 3–3> Students’ views of Information Literacy Skills

| Age Group<br>Code       | 17–21  | 22–24  | 25–50  |
|-------------------------|--------|--------|--------|
| <i>Sk_C_L</i>           | 46.67  | 22.86  | 56.76  |
| <i>Sk_LG</i>            | 26.67  | 8.57   | 40.81  |
| <i>Sk_Inf_search</i>    | 13.33  | 14.29  | 27.01  |
| <i>Sk_Other</i>         | 13.33  | 17.14  | 7.62   |
| <i>Sk_Inf_eval</i>      | 0.00   | 11.43  | 22.12  |
| <i>Sk_Inf_man</i>       | 0.00   | 8.57   | 12.5   |
| <i>Sk_Inf_select</i>    | 0.00   | 8.57   | 11.07  |
| <i>Sk_Inf_anal</i>      | 0.00   | 5.71   | 11.07  |
| <i>Sk_W_M</i>           | 0.00   | 2.86   | 7.62   |
| <i>Sk_Communication</i> | 0.00   | 0.00   | 3.45   |
| SUM (%)                 | 100.00 | 100.00 | 100.00 |

|                         |                            |
|-------------------------|----------------------------|
| <i>Sk_C_L</i>           | Computer literacy          |
| <i>Sk_LG</i>            | Skills of foreign Language |
| <i>Sk_Inf_search</i>    | Searching of Information   |
| <i>Sk_Inf_eval</i>      | Evaluation of Information  |
| <i>Sk_Inf_man</i>       | Management of Information  |
| <i>Sk_Inf_select</i>    | Selecting of Information   |
| <i>Sk_Inf_anal</i>      | Analyzing of Information   |
| <i>Sk_W_M</i>           | Work management            |
| <i>Sk_Communication</i> | Skills of Communication    |
| <i>Sk_Other</i>         | Other Skills               |

The determined linkages (Figure 3–1) show a relation among information searching skills (the code “*Sk\_Inf\_search*”), and computer literacy skills (the code “*Sk\_C\_L*”) or foreign language skills (the code “*Sk\_LG*”).

| LINKAGE ANALYSIS : Data in air.nam  |
|---|
| <p>Linkage construction: Dis. 3<br/> AND <i>Sk_Inf_search</i><br/> AND <i>Sk_C_L</i></p> <p>LINKAGE ANALYSIS : Data in air.nam<br/> OR <i>Sk_LG</i><br/> □--&gt; File: 17_21turp.rtf-----</p> <p>67- 67: <i>Sk_Inf_search</i> /.../ OR 68 68<i>Sk_C_L</i><br/> /.../ OR 70 71<i>Sk_C_L</i><br/> 68- 69: <i>Sk_Inf_search</i> /.../ OR 68 68<i>Sk_C_L</i><br/> /.../ OR 70 71<i>Sk_C_L</i><br/> /.../ OR 72 72<i>Sk_C_L</i><br/> /.../ OR 72 72<i>Sk_LG</i></p> <p><b>6 confirmation(s)</b><br/> □--&gt; File: 22_24.rtf-----</p> <p>169- 170: <i>Sk_Inf_search</i> /.../ OR 171 175<i>Sk_C_L</i><br/> 180- 180: <i>Sk_Inf_search</i><br/> 181- 181: <i>Sk_Inf_search</i> /.../ OR 184 185<i>Sk_C_L</i><br/> 190- 190: <i>Sk_Inf_search</i> /.../ OR 191 191<i>Sk_C_L</i><br/> 197- 197: <i>Sk_Inf_search</i></p> <p><b>3 confirmation(s)</b><br/> □--&gt; File: 25_50.rtf-----</p> <p>69- 70: <i>Sk_Inf_search</i> /.../ OR 69 69<i>Sk_C_L</i><br/> /.../ OR 73 73<i>Sk_LG</i><br/> /.../ OR 73 74<i>Sk_C_L</i><br/> 71- 71: <i>Sk_Inf_search</i> /.../ OR 73 73<i>Sk_LG</i><br/> /.../ OR 73 74<i>Sk_C_L</i><br/> 80- 80: <i>Sk_Inf_search</i> /.../ OR 80 80<i>Sk_C_L</i><br/> 86- 86: <i>Sk_Inf_search</i><br/> 148- 148: <i>Sk_Inf_search</i> /.../ OR 151 151<i>Sk_C_L</i><br/> 154- 155: <i>Sk_Inf_search</i> /.../ OR 156 156<i>Sk_LG</i><br/> 157- 157: <i>Sk_Inf_search</i> /.../ OR 159 159<i>Sk_C_L</i><br/> /.../ OR 159 159<i>Sk_LG</i></p> <p><b>10 confirmation(s)</b></p> |

[Figure 3–1] Constructed linkages among students’ skills in information searching, and computer literacy or foreign languages

Some examples of students' answers:

Student 3. *I need Basic computer skills (the code "Sk\_C\_L") and English language skills (the code "Sk\_LG").*

Student 4. *.. most importantly be able to find the necessary information (the code "Sk\_Inf\_search"), to analyze it.*

Student 5. *..language skills (the code "Sk\_LG") to be able to "play" with the words ..information search (the code "Sk\_Inf\_search") and information selection skills ..the ability to critically evaluate the content and veracity of the material (for example, Wikipedia).*

### **Findings of the best practice in use of OER**

The best practice examples of implementation of OER in learning are mentioned.

Student 1. *I am using the available published publications. In preparation for the exams, if I find a good video lecture on the subject, I will use the video.*

Student 2. *Based on the material available on the internet I have written my bachelor's work as well as a number of required essays. With the help of video I learn all about DNA.*

Student 3. *The first time I saw digitize the library in 1994 in Brisbane, Australia. I continued to wonder about the technical possibilities of studying as Erasmus student at the UNED, Madrid, Spain, in 2009. Now create my own materials' catalog.*

Student 4. *I've completed quite a number of MOOC courses and at present I am involved in a number. Currently, for example, I am currently acquiring courses "Fundamentals of Clinical Trials", which allows me to get the knowledge that studying in the University, I did not get it.*

Student 5. *I watch lectures on selected topics in websites of other universities in English.*

### Findings of the student's self-directed learning linked with his personal growth in use of OER

One did not directly ask about the self-directed learning in the survey, but indirect relationship can be appeared between the student's personal development by the use of OER. The constructed linkages ([Figure 3–2]) show a relation among student's personal growth (the code “*B\_Growth*”), and knowledge of OER (the code “*B\_Knowledge*”) or obtaining Information (the code “*B\_Inf*”).

| LINKAGE ANALYSIS : Data in air.nam   |
|--|
| Linkage construction: Dis. 3<br>AND B_Growth<br>AND B_Knowledge<br>OR B_Inf<br>□--> File: 17_21turp.rtf-----<br>95- 96: B_Growth<br>97- 99: B_Growth /.../ OR 102 102B_Inf<br><b>1 confirmation(s)</b><br>□--> File: 22_24.rtf-----<br>201- 201: B_Growth<br>208- 209: B_Growth /.../ OR 212 212B_Inf<br>218- 218: B_Growth<br>219- 221: B_Growth /.../ OR 223 223B_Inf<br>/.../ OR 224 224B_Knowledge<br>224- 225: B_Growth /.../ OR 224 224B_Knowledge<br>/.../ OR 226 226B_Inf<br>/.../ OR 228 228B_Inf<br>231- 231: B_Growth<br>233- 233: B_Growth<br>235- 235: B_Growth<br><b>6 confirmation(s)</b><br>□--> File: 25_50.rtf-----<br>90- 90: B_Growth /.../ OR 90 91B_Inf<br>/.../ OR 93 93B_Inf<br><b>2 confirmation(s)</b> |

[Figure 3-2] Constructed linkages among student's personal growth, and knowledge of OER or obtaining information

Some examples of students' answers:

Student 100. *...new viewpoint* (the code “*B\_Growth*”), *on how to learn / teach* (the code “*B\_Inf*”, the code “*B\_Knowledge*”).

Student 120. *If a person wants to improve their knowledge* (the code “B\_Knowledge”) *for itself- it is a great opportunity* (the code “B\_Growth”).

Student 119. *It is an opportunity to acquire free knowledge* (the code “B\_Knowledge”) *for studying, what is not available in University.*

Student 125. *I think, that is a implementation of future competence* (the code “B\_Growth”), *in the present.*

#### **4. Conclusions**

The results in the present research confirmed that there is a relation among adult learners' comprehension of what OER are, their information literacy skills, and self-directed learning.

The following conclusions in using of OER for self-directed learning were acquired:

1. There is considerable uncertainty in comprehension of OER– the majority of students in all age groups do not know what OER are and do not use its. The term “*OER*” is more associated with meaning “*educational*”, “*free use*”, and “*open*”. There is a causal link between the students' level of studies (Bachelor and Master) and their working experience. If the student is more experienced than he/she is more open to the use of OER both in the learning process and in their workplace.
2. According to students' opinions as key skills that are necessary for the use of OER are skills of computer literacy, foreign languages, information searching and evaluation. These relationships among information searching skills and computer literacy skills or foreign language skills are confirmed.
3. Although a direct question on a student's self-directed learning was not asked, however, students' responses indicate that there is a direct correlation between students' perception of the benefits given them by the use of OER and their personal development.

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# Open Educational Resources Pedagogical Perspectives of Thai Scholar

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## Abstract

The Open Educational Resources (OERs) have been influencing the landscape of global higher education institutions for the past decade. The openness of OER has provided opportunities to people for sharing ideas and knowledge; and connecting and collaborating among institutions, educators, and learners locally and internationally. Although OERs have emerged as a concept to support educational transformation, many researchers and scholars are concerned about what pedagogical approaches can be designed and embedded throughout the development of OERs. Therefore, this study applies a qualitative method to examine the Thai local scholars' pedagogical perspectives of OER. A set of questionnaires was developed and deployed to the Thai local scholars along with a follow-up interview in order to understand their initiative and involvement in OER. The results indicate the Thai local scholars' have initiated their efforts on the OER pedagogical approaches.

**Key Words:** Open educational resources, OER, pedagogy, pedagogical approach.

## Introduction

The Open Educational Resources (OERs) have been influencing the landscape of global higher education institutions for the past decade. OERs represent a global phenomenon in an innovative approach, which promote unrestricted access as a possible solution for bridging the knowledge divide in higher education. OERs are perceived as a way to provide strategic opportunities, improve the quality of education, facilitate policy and strategic planning, and share knowledge and build capacity among students, educators, and institutions (UNESCO, 2012).

The term of OER was first adopted at UNESCO 2002's Forum on the Impact of Open Courseware for Higher Education in Developing Countries, which was under the sponsored by the William and Flora Hewlett Foundation. The term of OER was inspired based on the concept of the Learning Object (Hodgins, 2000; Wiley, 2000), the Open Content (Wiley, 1998), and the MIT OpenCourseWare (OCW, 2001). The concept of OER was further developed as follows:

Open Educational Resources is defined as technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes. They are typically made freely available over the Web or the Internet. Their principles use is by teachers and educational institutions to support course development, but they can also be used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabuses, curricula, and teachers' guides (Wiley, 2006, p. 2).

Accordingly, UNESCO supports the OERs with the "goal of developing together a universal educational resource available for the whole of humanity ... hope that this open resource for the future mobilizes the whole of the worldwide community of educators" (UNESCO, 2002). Since then, many definitions of OER have been proposed in previous research. For example, Atkins, Brown, and Hammond (2007) defined OER as "teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others" (p.4), whereas Butcher (2011) describes OER as "any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are openly available for use by educators and students, without an accompanying need to pay royalties or license fees" (p.5). Based on these definitions, the present study defines OER as any of teaching and learning materials or educational resources (including lesson plan; activities; curriculum materials; learning tools; textbooks; or any other materials that have designed for educational purpose) that are openly accessible in the public domain and released under an intellectual property license such as CreativeCommons that permits anyone to use them within the guideline of 4Rs framework – reuse; revise, remix, and redistribute (Hilton III, Wiley, Stein, & Johnson, 2010; Wiley, 2010).

The openness of OER has provided opportunities to people for sharing ideas and knowledge, connecting and collaborating among institutions, educators, and learners locally and internationally. Openness not only allows educators to implement the fundamental values of university-based education, but also shifts the pedagogical focus from traditional lecturing to more learner-centered approaches (Yuan & Powell, 2013).

The trend of OER has also influenced educational transparency in Southeast Asia. A Thai version of a Public Domain of Knowledge (Na-songkhla, 2009) was published in 2009, follow along with an OpenLearn System (Na-songkhla, 2011) during a National Educational Technology and Communication Association Conference at Chulalongkorn University. However, participants at the conference seemed not to be aware of content sharing framework, rather obtaining a free content and free access on a public domain.

Although OER have emerged as a concept to support educational transformation, many researchers and scholars are concerned about what pedagogical approaches can be designed and embedded throughout the development of OER. Touch upon the pedagogical perspective, pedagogy is often being considered as art of teaching. Questions frequently arise in this context include how to use appropriate and suitable pedagogical approaches for different learners in different learning environments? How to embed effective pedagogy strategies with an array of teaching methods / strategies into teaching and learning toward creation and implementation of OERs is often a main concern among educators.

Thus, the purpose of this study is to examine Thai leading scholars' pedagogical perspectives of OER. This study aims to be a primary research to uncover issues and concerns from Thai leading scholars in Educational Technology involving OER. Their opinions will yield to a fundamental understanding of an applicable direction of OER in Thailand. The result of this study should shed a light on an initial attempt of OER in Thailand when cross study with other research members in Asia and Europe countries.

The focus of this study is aimed at three main research questions accordingly:

1. What are initial efforts on OER of Thai leading scholars?

2. What are Thai leading scholar opinions of OER on its pedagogical impact to teaching and learning, obstacles and directions to overcome?

## **Method**

This study applies a qualitative method to examine the Thai leading scholars in the field of Educational Technology regarding their pedagogical perspective of OER. A set of questionnaire was developed and deployed to a sample group of ten leading faculty member and researchers who have identified their research paper or practical works in the areas of OER or open access between year of 2009 and 2013. The questionnaires were designed to better understand the sampling group's initiative movements of OER, reflections to their works of OER, and applicable impacts of OER in Thailand. After gathering the data from the Thai scholar, an in-depth interview was followed up to gain a better understanding of the Thai scholars' perspective.

## **Results and Discussion**

This study yielded four aspects of OER pedagogical perspectives of Thai scholars: (1) a basic understanding of OER, (2) an ownership: an academic integration, (3) sharing and creating quality open content from classroom, and (4) inquiry based learning and group investigation instructional design. These OER pedagogical perspectives are discussed below.

### **1. A basic understanding of OER**

An initiative paper written in Thai version focus on a Public Domain of Knowledge was published in an Educational Technology Review book. This paper highlighted a ground concept of copyright and “copyleft” that presented to the Thai academic community, the idea of making a creative work to be freely used and modified as the new version that are available to public. The Creative Common Licensing symbol was introduced at that time period in Thailand. Subsequently, an OpenLearn System modified from Moodle, was developed by Innovative Educational Technology Research Center (iNET), Faculty of Education at Chulalongkorn University. The OpenLearn System consists of lecture archives that were opened to public under Internet Protocol Television (IPTV) or Video on Demand (VOD) system. Along with this attempt, Wikipedia of Education in four areas of (1) Curriculum and Technology, (2) Educational Policies Studies, (3) Arts & Music, and as well as (4) Research and Psychology were made openly available to teachers and educators.

Four years later, academic articles were presented in the Thai Cyber project conference under the OER theme. Thai scholars gave an overview of open courseware and reviewed the teaching and learning methods that used on those mega courseware so-called MOOC (Massive Open Online Courseware).

Another ongoing work of Thai MOOC by Central Hub University network, researcher found a numbers of open content courses that were developed and opened to public on web sites by Thai contributors. Most contents either did not specify an open licensing or were misused for a hidden commercial purpose. Only a few sites from government sectors are properly used a CC license (Nasongkhla, 2013).

The finding of pedagogical concerns in this point of view is that a broader view of OER and its implication must be a corner stone of Thai OER in teaching and learning. Although pervious researchers have addressed the areas of OER and level of openness, which is often referred to 4Rs Framework – Reuse, Revise, Remix, Redistribute (Hilton III et al, 2010; Wiley, 2010), the quality of reuse (creative thinking and creativity), revise (ethical concern), remix (ethical creativity), and redistribute (connecting and sharing) still has to address a deeper level of understanding in order to reach global learners and educators in terms of moving further for OER creation and implementation. This can provide a fundamental understanding for Thais not only on the trends of OER, but also the levels of openness that are associated with OER.

## **2. An ownership: an academic integration**

A case of a Thai scholar intended to contribute her teacher-students' assignments to public. She stated that a notice for an ownership of remix-materials was needed to be aware of, as it is found that her own students did not truly prudentially practice an ethical use, grab a single source of the open content available on the Internet, and right away remix and redistribute the materials. From her point of view, the most difficult task of OER was an ethical use, reuse, and remix of the materials. She stepped back to a stage of giving a clear and concrete knowledge of OER and especially ethical perspective.

Accordingly, ownership of its originality of materials and ideas included in OER has to be considered as part of the pedagogical approach when creating and implementing OERs. Whether

the educational materials are created from the scratch or reused, revised, and remixed from OER repository sites, giving credit and acknowledging the ownership of its originality for any types of educational materials for further redistribution has to address in any learning setting.

### **3. Sharing and creating quality open content from classroom: an e-portfolio for a higher order of thinking and a community service learning**

Some Thai scholars intended to make class materials and quality works of students in higher education to be available for public use. Several attempts that were made since 2011 – (1) A Virtual Field Trips (VFT) archives of students were produced in a portfolio, and later opened for public use. (2) An e-portfolio concept in 2013 was adapted for teacher-students to collect their work and reflect their learning outcomes; the best of their works were put for public use. Along with the teacher-students process of reflection and improvement of their instructional media works in their portfolio, they found to have a higher level of critical thinking caused by process of a material selection and a reproduction to be instructional material products.

One study of a Rajabhat University: a teacher service program adapted a community service learning approach to achieve students higher order of thinking, creative problem solving in doing a service work for community. The design of this learning model is to implement OER for its nature of sharing and creative a new work to suit a community need. In this study, not only achieving the quality of archives verified by instructors, but also teachers-students' creative thinking in solving learning problem in re-design media to suit individual learning purpose.

In addition, for its nature of sharing and contributing of OER, a Social Entrepreneurship framework derives a Social Responsibility for University. Thus, the Central Hub University network of Thailand collaboratively works together and puts their academic knowledge and integration in order to serve public demands. Sharing an open content among educators and students, choosing a high quality and meaningful open content, and redistributing are addressed to be major concerns of the pedagogical approaches. Thus, using and creating open content or educational materials, educators should consider embedding an array of higher order thinking pedagogical strategies such as, community service learning, critical thinking, and/or creative problem solving.

#### **4. Inquiry based learning and Group Investigation Instructional Design**

Two studies were leading by Thai scholars with focuses on (1) getting students a tool of inquiring and investigating as a group to explore and collaborate in a MOOC environment, and (2) appreciative inquiry-based learning on cultural competency using OER. It is postulated in both studies that OER by its nature should embed inquiry-based learning and group investigation in an instructional design in OER to raise a level of ethical use and moral attitude in a digital learning environment. Both studies emphasize a moral aspect to be cultivated in Thai learners. OER implementation is a culture of sharing, learning, creating, and/or remixing new ideas that requires individuals to understand the difference of people's thought that reflected in their works and respects to their rights.

#### **Conclusion**

The OER issues and pedagogical approaches; basic understanding of OER, academic integration, quality of OER, and instructional design for higher order thinking and moral aspect of learning outcomes, as found in this study clearly need to be addressed through a development of OER in order to shine a responsive teaching and learning. Evidently, OER is not simply an open access of content but a new pathway of learning and teaching that need all attention to be aware of its

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# Session II

- **Open Educational Resources: Malaysian Higher Learning Institution Initiatives**  
Prof. Norazah Nordin (University Kebangsaan, Malaysia)
- **Open Educational Resources in China: Research, Policies and Practices**  
Prof. Lina Wang (The Open University of China, China)
- **Open Educational Resources in India: Emerging Issues and Challenges**  
Prof. Karanam Pushpanadham (The M.S. University of Baroda, India)





# **Open Educational Resources: Malaysian Higher Education Institution Initiatives**

Prof. Norazah Nordin & Prof. Mohamed Amin Embi  
(University Kebangsaan, Malaysia)

## **Abstract**

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.

## **Introduction**

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>.



[Figure 1] OER Asia

## 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 Advancement (ITLA)



[Figure 2] Open University of Malaysia OER

## 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.



[Figure 3] 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 live 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.

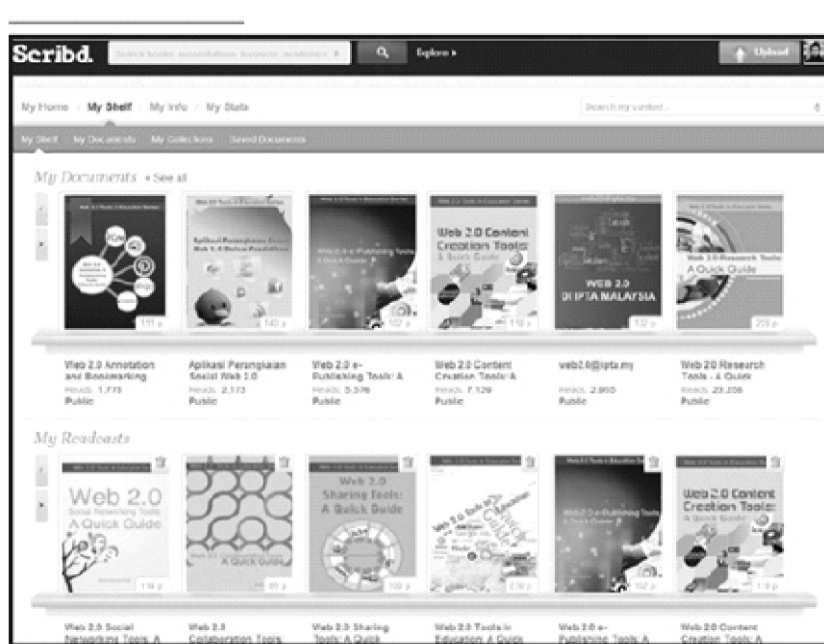
| Date              | Time     | Speaker                              | Online Talk  | Registration | Recording |
|-------------------|----------|--------------------------------------|--|--------------|-----------|
| 17 Dec<br>(Nov 4) | 10:30 PM | David Ali Abangaji & Farzana Marican | Feedback for Teaching & Learning   | Closed       | View      |
| 11 Feb            | 2:25 PM  | Zohir Ali Abangaji & Farzana Marican | Web Conferencing for Teaching & Learning   | Closed       | View      |
| 8 Feb             | 10:00 AM | Peter Kuhlmann                       | How to become a Rapid E-Learning Pro   | Closed       | View      |
| 22 Feb            | 10:00 AM | Stephens Deane                       | Facilitating a Massive Open Online Course (MOOC)   | Closed       | View      |
| 28 Mar            | 10:00 AM | Karl H. Kohn                         | Games, Gamification and the Seed for Engaging Learners                                       | Closed       | View      |
| 10 Apr            | 10:00 AM | Curtis Beak                          | From Tutoring to Tutoring to Totally Extreme Learning  | Closed       | View      |
| 25 Apr            | 10:00 AM | Prof. Mohamed Amin Emili             | e-Learning in Malaysian Institutions of Higher Learning: Lessons Learnt, Issues & Challenges | Closed       | View      |
| 15 May            | 4:00 PM  | Jane Hart                            | Social Learning Revolution   | Closed       | View      |
| 30 May            | 10:00 AM | Prof. Rachan M. Misra                | Using Technology for Engaging and Effective Learning   | Closed       | View      |
| 9 Jun             | 10:00 AM | Jeff Cobb                            | 10 Ways to Be a Better Learner   | Closed       | View      |
| 27 Jun            | 10:00 AM | Jane Beards                          | Instructional Design for the Real World  | Closed       | -         |
| 11 Jul            | 4:00 PM  | Prof. V. V. V. V.                    | Social media & Mobile Technology Learning in a Digital Age                                   | Closed       | View      |
| 10 Sep            | 10:00 AM | Corrie Mahomed                       | Your Skills on Graphics  | Closed       | View      |
| 7 Nov             | 10:00 AM | Dr. Norlita Deutsch                  | Authenticity in Web 2.0  | Closed       | View      |

[Figure 4] 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 from 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 (see [Figure 5]) and in the format of downloadable PowerPoint presentations accessible at <http://www.slideshare.net/ProfDrAmin> (see [Figure 3.7]). 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>.



[Figure 5] Web 2.0 OER

### 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'.

A screenshot of a software application's 'Tools' menu. The menu is open, displaying a list of tool categories. At the top, there is a header bar with several icons, including a '2D' icon which is highlighted. The menu items are: 'Redrawing Tools', 'Copying Tools', 'Erasing Tools', 'Generation Tools', 'Transformation Tools', 'Interactive Tools', 'Working/Extrude/Join Tools', and 'Grid Creation Tools'. Each item has a right-pointing arrow next to it, indicating that the menu can be scrolled to see more options.

[Figure 6] 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.



[Figure 7] Zaidlearn

## Learning Innovation Circle (LIC)

The Learning Innovation Circle (<http://www.facebook.com/groups/t4t2011/>) 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.



[Figure 8] Learning Innovation Circle

## 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. Whether this happens or not, educators 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, we can make a difference in transforming education in Malaysia and around the world.

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<http://zaidlearn.blogspot.com>

## **OER in China: Research, Policies and Practices**

Prof. Wang Ying  
(The Open University of China, China)

Prof. Wang Lina  
(The Open University of China, China)

Miss Li Huiqin  
(Ministry of Education, China)

### **Abstract**

Since the implementation of Open Courseware by MIT in 2001, the idea of the Open Education Resources (OER) has attracted great and wide attention from the international community. The OER movement has been growing vigorously in the whole world including China since then. This paper provides a picture of OER movement in China in terms of research, policy and practices. First of all, based on the academic articles analysis of Chinese literature database from 2001 to 2013, it is found that study of OER has experienced three phases in China, and they are preliminary understanding, extensive research and in-depth study. Secondly, during this period, implementation of “National Quality Courses Project”, “Video Open Courses Project” and the establishment of institutions (such as National E-learning Resource Center) based on China's relevant policies have all played a very important role in promoting the development of the OER movement. Finally, more and more institutions and universities in recent years have practiced the OER movement which has helped move forward the OER in China.

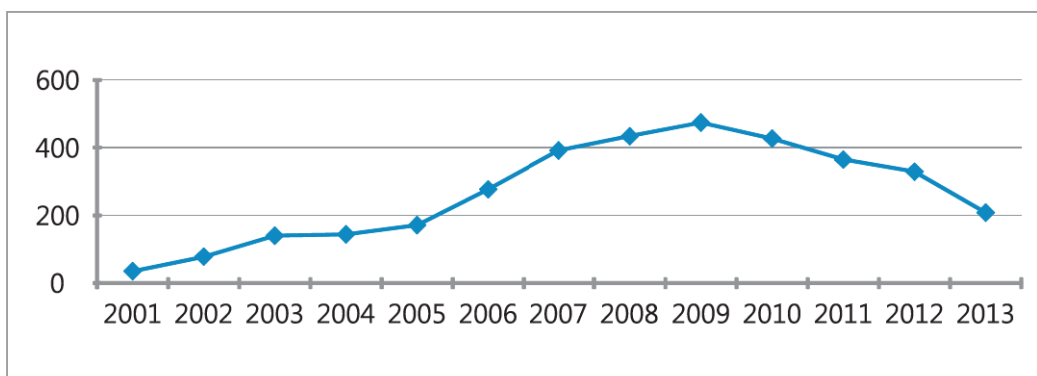
Key words: OER, research, policies, practices, Chinese setting

Since the implementation of Open Courseware by MIT in 2001, the idea of the Open Education Resources (OER) has attracted great and wide attention from the international community. The OER movement has gradually developed into a practical hotspot and got rapidly development. Just as the definition, OER is “teaching, learning, and research resources that reside in the public domain and have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge” (Atkins, 2007). The core idea of OER is free and open, and it gives a new prospect for education, social learning etc. While the OER movement trails its way in China, scholars and researchers in the fields of education, computer science and network technology are paying more and more attention to this new undertaking. This study is trying to provides a picture of OER’s research, policy and practice since its emergence.

## I. Analysis of OER’s Researches in China

### 1) Quantity Analysis

In the context of China, the term “open education” sometimes refers to distance education or education based in web. Thus, “open educational resources”, “distance educational resources” and “resources based-in web” are used as the subject keywords to search the published articles in CNKI (Chinese National Knowledge Infrastructure) database. As the result , it gets 3474 papers from 2001 up to now just as the table showed below.



[Fig.1] Search Results for the subject keywords in CNKI

Based on the table, it's clear to see that the study of OER has a rapid developing pace, and it experiences three phases obviously. The first phase is preliminary understanding from 2001 to 2003, the second phase is breath of research from 2004-2009, and the third phase is in-depth study from 2010 till now.

## **2) Content Analysis**

### **(1) Preliminary Understanding Phase (2001-2003)**

Under the influence of MIT's open education research, this stage focuses on introducing the researches and practices of other counties' open education resources, understanding the meaning, purpose, classes, methods of open education researches, and their influences on social development. Combining the researches and practices in distance education in china, many universities started to see opening education resources as the trend of resource development.

### **(2) Extensive Research Phase (2004-2009)**

With the deeper understanding of opening educational resources, this stage contributed researches in much more quantities and ranges. Comparing with the first stage, the number of researches in this stage has grown enormously. There were 474 journals in the year 2009. The researches focused on much wider contents, including:

- Theoretical exploration of open educational resources, such as knowledge sharing theory, lifelong learning theory, social construction theory, and so on.
- The types of open educational resources, including courseware, online lectures, video lectures, micro lectures, and so forth.
- The technical support of open educational resources. including the construction of open educational database, open educational resource platforms based on cloud computing, etc.
- The development of open educational resource and its sharing patterns. such as sharing on the bases of massive online open courses, or regional sharing.
- Comparative study of the internationalization of open educational resources. such as the Open Learning Initiative project in Carnegie Mellon University, and the UK Opening Educational Resource.

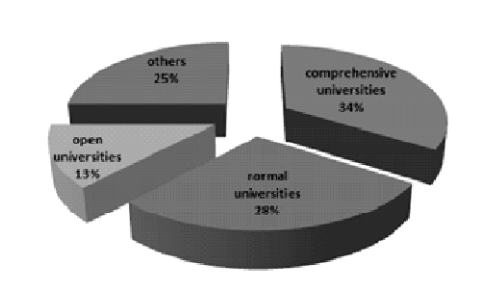
### (3) In-depth Study Phase (2010 till now)

The research about open educational resources in this stage went more thorough in this stage. And in the progress of developing all people learning and lifelong learning, the practices in open educational resources gradually expanded from higher education to secondary education. It is reflected in:

- Starting to concern the quality of open educational resources, paying attention to develop high quality Resources.
- Paying more attention on practicing rather than only on resource development, in order to make education more effective.
- Becoming user needs-oriented, paying attention to the audiences of open educational resources, providing more valuable learning experience for users.
- Exploring the assessment of progress and results. Integrating the open educational resources and the open assessment resources.
- Exploring the application patterns serving in lifelong learning and informal education.
- MOOCs brought many influences and changes in open educational resources development, sharing, and operation patterns.
- Paying more attention to the intellectual property right in open educational resources.

### 3) Researcher Analysis

In terms of the researchers' organisation, most of them come from comprehensive universities, normal universities, and open universities, whilst other organisations take part of 25%.



[Fig. 2] Institution Distribution of the Researchers

#### 4) Research Method Analysis

On the whole, research methods include: Theoretical interpretation, historical analysis, comparative research methods, observation, investigation, and case study.

<Tab.1> Percentage of Different Research Method

| Research Method              | Percentage |
|------------------------------|------------|
| Theoretical Interpretation   | 39.4%      |
| Historical Analysis          | 2.8%       |
| Comparative Research Methods | 9.2%       |
| Observation                  | 12.8%      |
| Investigation                | 18.4%      |
| Case Study                   | 17.4%      |

A review of the track of the OER research in China since its emergence in this country proves that the introduction in the education has a rapid and stable pace.

## II. Analysis of OER's Policies in China

With the concept of OER further impact on China's education, the ministry of education has released file to promote colleges and universities open high-quality curriculum resources to the public. The purpose is to promote the education teaching idea transformation, to lead the teaching content and teaching method reform, to promote high quality teaching resources of institutions of higher learning through modern information technology means sharing, to improve the quality of higher education, to service learning society construction. In recent years, the main file are listed in the table below.

<Tab. 2> Typical OER's Policy in China

| Year/Month | Documents   | Contents Briefing  |
|------------|---|--|
| 2011/10    | The construction of national boutique open courses by Ministry of Education | national boutique open courses is purposed at popularising sharing courses, reflecting modern educational law, showing the advanced educational concept and methods, serving the self-leaners, and spreading open courses through internet. it is planned to develop 1000 video courses during the "twelve fifth year plan". The first 100 is planned to be developed in 2011, |

| Year/Month | Documents  | Contents Briefing  |
|------------|--|--|
|            |  | and the following 900 from 2012 to 2015.and during the period of "twelve fifth year plan", 5000 national level open courses is planned.  |
| 2012/5     | “the construction of boutique resource sharing lessons” by the General Office of Ministry of Education | Resource sharing lessons building is part of the national quality open education project. High-quality resource sharing lessons focus on basic courses and core courses in wide ranges. focus on courses' resourcing system and internet transmission. through the national, provincial and school construction, forming a multi-level, multi type, and high quality sharing system that includes undergraduate education , occupational education and online education. providing high-quality teaching resources for college teachers and students and the public. |
|            |  |  |
| 2013/8     | Notice on encourage occupation colleges participating in "network digital learning resource center"    | In march 2008, the Ministry of education has built the network education and digital learning resource centre in the open university of China. In order to consolidate the achievement of the project, the Ministry of education dimand to promote occupational colleges to join the centre. there was 49 centers built in vocational colleges and 29 in secondary vocational schools.   |

### III. Analysis of OER’s Practice in China

#### 1) China Quality Course Project

To implement the higher education quality standard, the Chinese Ministry of Education initiated China Quality Course Project (CQCP) in 2003. It aims at promoting Open Educational Resources to improve the quality of the undergraduate education in the Chinese higher educational system. The main objectives of the CQCP project are to enhance several aspects: teaching contents reform and modernization, management system of the high-quality courses, and course system reorganization. CQCP is a comprehensive project, mainly focusing on six aspects for quality educational resources sharing, including human resources construction, teaching content construction, teaching materials construction, laboratory construction, mechanism construction and teaching methods construction.

At present, the procedure of CQC design follows the pattern: unprompted development of course, recommendation by autonomous regions and municipalities and provinces, evaluation by the Ministry of Education, and acceptance as CQC. By now, 20,272 courses are provided on the CQC web (<http://course.jingpinke.com/>), that 3,832 courses are belonged to National Quality Courses, 8,284 are belonged to Province Quality Course, 8,169 are belonged to Institutional Quality Course.



[Fig. 3] CQC Project's Web-Screenshot

## 2) China Open Resources for Education (CORE)

The China Open Resources for Education (CORE) is a non-profit organization established in 2003. Its mission is to promote closer interaction and open sharing of educational resources between Chinese and international universities, which is a consortium of universities that began with 26 IET Educational Foundation member universities and 44 China Radio and TV Universities, with a total enrollment of 5 million students. According to CORE's website, it has nearly 100 Chinese universities as members now, including the most prestigious universities in China, such as Tsinghua University, Peking University and Shanghai Jiaotong University.

CORE has received approval and support for its activities from the China Ministry of Education (MOE), aiming to provide Chinese universities with free and easy access to global open educational resources.

The mission of CORE is to enhance the quality of higher education in China through introducing advanced courseware from MIT and other top-ranked universities around the world, using the latest information technologies, teaching methodologies, instructional content and other resources. CORE also shares the advanced Chinese courseware and other quality resources with universities over the world.

During the recent years, CORE focused its efforts on the following activities: (1) Promoting the use of MIT OCW in Chinese universities and colleges. CORE encourages professors and teachers to use OCW in teaching practice. (2) Organization of translation of MIT OCW into Chinese. OER organizes professors from its member universities and other volunteers to participate in the translation of OCW. It released 478 OCW on its website, including 461 from MIT, nearly 20 courses from other universities. (3) Translation of Chinese Quality OCW into English. To expand the use of Chinese OCW, CORE also organizes its members to translate the Chinese Quality Courses into English, involving disciplines as architecture, art, chemistry, electronics, geography, medicine, etc. (4) Developing Open Source Software. In collaboration with Peking University, CORE finished the localization of the Chinese versions of Sakai and Moodle, which are being used by CORE and its member universities.

### 3) Video Open Courses of Chinese Universities

Video open courses of Chinese universities are supported by the project on undergraduate teaching quality and teaching reform project. College students are their target users. By the implementation of the project, it not only can improve the quality, but also bridge the college and social members who have the aspirations to learn. BY now, hundreds of video courses have been online from Tsinghua University, Peking University, Chinese University of Hong Kong and etc. And the beginning of first phase in 2011, it has amount to 100,000 clicks in five day, getting strong attentions and good remarks.



[Fig. 4] Project's Web-Screenshot

#### 4) Five Minutes Course Project

Micro-lecture has been the hot spot in open educational resources' research and practice recently, which can satisfy the learners with various and individual learning styles and needs. Micro-lecture which features with single topic and short content could be convenient for adult learners to learn in anywhere and anytime. As the academic definition, micro-lecture is a kind of combination resources including teaching resources and teaching method for single knowledge point mainly in the form of video. The core is piece of course video besides instructional design, teaching material, teaching reflection, test and feedback. In China, it has given great effort to micro-lectures construction. In the elementary education, various of micro-lecture resource competitions are carrying on for putting forward to the construction and application in the lead of Ministry of Education.

The project of "Five Minutes Course Construction" is launched in the end of 2012, demonstrating China Open University's philosophy of open, responsibility, quality, diversity and internationality. It's an import activity to promote the integration of information technology and education, and to promote the construction of learning society. According to the plan of "Five Minutes Course Construction", 10,000 five-minutes courses would be developed in the way of transform, develop by oneself and collaboratively in the end of 2013. During three years, 30,000 five-minutes courses would be developed covering nearly hundreds of subjects. Based on the amounts of five-minutes courses, individual learning could be easier. Besides, it also can be assembled by any learning objectives, such as getting a diploma, solving some practical problem, enrich the knowledge in some field.



[Fig. 5] Project's Web-Screenshot

### 5) National E-learning Resource Center (NERC)

National e-learning resource center is funded by the Ministry of Education and the Ministry of Finance together, aiming at e-learning resource integration, development, extension and providing service. It is comprised by head center, and local centers across the country. By now, NERC has built 119 local centers in the field of continuing education and vocational education. The resource alliance is composed by 40 units, such as educational training institution, learning resource providers, educational software providers, digital publishers. The alliance has developed 25,000 courses, amount to 55.5TB e-learning resource for public service.

The largest community educational resource database is built in NERC used for improve the science level, live and vocational skill, and improve the comprehensive quality. It involves 9 subjects, such as culture, healthy, entertainment, etc. It has provided e-learning resources for community education in Qingdao, Wuhan, Changchun, Wenzhou, Heilongjiang, Tangshan, Shenyang etc.

<Tab.3> Different Subjects' Resource Style and Minutes

| Subject    | Sub-subject        | Resource style & Minutes                  |
|------------|--------------------|---|
| Generality | Culture            | 513 videos,49195 min.                     |
|            | Science            | 240 videos,2023 min.                      |
|            | Morality           | 150 videos,9516 min.                      |
| Life       | Healthy            | 543 videos,47958 min ; 5 online courses   |
|            | Skill              | 1255 videos,37489 min ; 89 online courses |
|            | Entertainment      | 177 videos, 10575 min ;                   |
|            | Safe education     | 155 videos, 3858 min                      |
|            | Family education   | 208 videos, 3358 min                      |
| Education  | Vocation education | 31 videos, 1677 min ; 24 online courses   |

Besides, NERC provides technology and tools support, resources development training and professional help for local community education and learning society construction.

Recently, researchers and practitioners have taken some steps in the wave of MOOCs ( massive open online course) over the world. On one hand, some universities have opened its online course on the international operating platform. For example, Tsinghua University and Peking University have joint in Edx in May, 2013; Fudan University and Shanghai Jiao Tong University have joint in

Udacity in Jul., 2013. On the other hand, we are trying to construct our own MOOCs platform. Xue Tang Zai Xian developed by Tsinghua University has been on line. There will be more and more courses on it. Besides, how to operate with the institutions and to encourage the social members engaging the online courses learning are both the key issues as follows.

#### **IV. Conclusion**

OER has brought open minds, open technologies, and open cooperation platforms. Open minds can bring cohesion, open technologies can reduce cost and improve competitive power, open cooperation platforms provide wider ranges for organisational development. This article introduces the progress of open educational resources development in China, by reviewing the development progress in researches, policies, and practices. In China, open educational resources based on internet have already expanded to secondary education and lifelong education. The new online education evolution is now forming.

The Chinese universities have accumulated many high quality digital learning resources during the information construction progress. but many of the online education organizations, or the organizations that offer digital education resources are so commercialized, it violates the concept of "self-owned and open" in the OER movement. Therefore, the researches and practices in open educational resources, opening standards, tools, and intellectual rights will become more important in the future. They will be most helpful in putting the OER ideas into practice, and promoting the communication and sharing of educational resources.

With the development of open educational resources and the gradual deepening of related research in China, various policies have been introduced and many practices have been conducted. The importance of open educational resources will be growing in terms of narrowing the education gap, promoting educational equity, enhancing educational opportunities, improving teaching quality, and stimulating educational innovation.

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## **Open Educational Resources in India : Emerging Issues and Challenges**

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### **ABSTRACT**

The National Knowledge Commission (NKC), Government of India has recommended for the improvement of educational access and quality. In order to realize the recommendations, the system of education needs to address the pressing issues such as the paucity of quality teachers, inadequate infrastructure and the poor quality of Educational Resources. As India is moving at a faster phase towards adopting the knowledge economy in the Knowledge based society, it is of paramount importance that education system need to improve, adapt, and grow the overall knowledge capital and make it available to all students in the country. In other words, there is a need for widespread availability of high quality open educational resources that will drastically change the paradigm of teaching and learning in schools and universities. Open Educational Resources are the free and open digital publications of standard quality that are organized as courses which include lectures, related reading materials, snapshots of discussions, assignments, evaluations, etc that are prepared by concerned experts. Access to these resources radically breaks down the barriers to quality education and allows everyone to get access to course materials.

India has recently launched a new learning repository for open educational resources (OER). The Department of School Education and Literacy, Ministry of Human Resource Development, Government of India, and the Central Institute of Educational Technology, National Council of Educational Research and Training have collaboratively developed the National Repository of Open Educational Resources (NROER). The repository currently includes videos, audio, interactive media, images, and documents, and aims to “bring together all digital and digitisable resources for the Indian school system – for all classes, for all subjects and in all languages. There are few more significant initiatives for creating open educational tools and resources in India and all of them are directed towards Open Education Resources (OER) in the basic sciences and engineering sciences.

One of the major programs in India is the National Program on Technology Enhanced Learning (NPTEL). It is being carried out by seven Indian Institutes of Technologies (IIT's), the Indian Institute of Science, and other premier institutions around the country and being funded by the Human Resource Ministry. The NPTEL objective is to enhance the quality of engineering education by developing curriculum-based video and web courses for the students. Faculty from these various institutions are involved in developing their classroom course material in electronic form. The NPTEL also provides an opportunity for teachers and students from rural areas to learn from these high quality lectures and improve the quality of teaching in these rural colleges.

The purpose of this paper is to critically examine the evolution of open educational resources OER initiatives in India – how OER movement emerges from the open access movement in the backdrop of an emerging knowledge-based economy. This paper also illustrates how OER help in democratizing lifelong learning spaces that eventually help in skills development. Although the paper identifies external as well as internal factors that are shaping up OER movement in this emerging knowledge economy, this paper mainly focuses on country-level initiatives and the challenges faced at the institutional level as well as user levels. This paper also helps in understanding how Indian society embraces OER in order to attain social justice and empowerment through sustainable educational development.

## **Introduction**

The Education system has to come out of its age-old tradition of teaching and learning, if it has to progress and come to the state of active and joyful learning in multi-cultural context of Globalization. The technological innovations and interventions through satellite made the globe a village like and connected every part of the world through inter and intra networks. The present world can be best described as a Global knowledge society. To meet the increasing educational demands of growing population of the society, it is necessary to utilize the potential of Information and Communication Technology in pedagogy. The accumulation of knowledge in the cyber age is as significant as its dissemination. To keep with the growing pace of knowledge explosion, the facilities to get access, deliver, communicate and disseminate the knowledge are necessary to become lifelong learners. As the world moves inexorably towards adopting a knowledge currency, India has the opportunity to participate in the ICT movement by introducing various reforms in all sectors and education is not an exception. The National Knowledge Commission in India (NKC) has recommended to increase the amount of Open Educational Resources (OER) and Open Access (OA) in order to combat the developmental challenges.

## Open Educational Resources: Developmental Phases

The concept of “Open Educational Resources” has gained its importance in the recent past across the world and a brief history of OER is essential to be reviewed in this context.

In 1994 Wayne Hodgins coined the term “learning object,” and this term quickly entered the vernacular of educators and instructional designers. One role of learning objects in the history of OER is its popularization of the idea that digital materials can be designed and produced in such a manner as to be reused easily in a variety of pedagogical situations. Along with its emphasis on reuse, the learning object movement spawned several standards efforts aimed at detailing metadata, content exchange, and other standards necessary for users to find and reuse digital educational content. In 1998 David Wiley coined the term “open content,” and one role of open content in the history of OER is its popularization of the idea that the principles of the open source / free software movements can be productively applied to content, and the creation of the first widely adopted open license for content (the Open Publication License).

However, in 2001 Larry Lessig and others founded the Creative Commons and released a flexible set of licenses that were both a vast improvement on the Open Publication License’s confusing license option structure and significantly stronger legal documents. One role of Creative Commons in the history of OER is the increase in credibility and confidence their legally superior, much easier to use licenses brought to the open content community. Subsequently in 2001 MIT announced its Open Course Ware initiative to publish nearly every university course for free public access for noncommercial use. MIT Open Course Ware has played many roles in the history of OER, including being an example of commitment at an institutional level, working actively to encourage similar projects, and lending the MIT brand to the movement. Finally, in 2002 UNESCO held a Forum comprised of some of the many people who “wished to develop together a universal educational resource available for the whole of humanity.” They chose the term “open educational resource” to describe their efforts:

*Open Educational Resources are defined as “technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes.” They are typically made freely available over the Web or the Internet. Their principal use is by teachers and educational institutions support course development, but they can also be*

*used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabi, curricula and teachers' guides.* As a result over the years several universities in the United States are involved in Open Educational Resources generation and several hundred courses have already been made available from these universities. In addition, lectures on specific topics in the curriculum are also available as open educational resources. The open Educational Resources are in subject areas such as basic science and engineering, agriculture, health sciences, etc. However, OER for liberal arts, public health, agriculture, etc. are relatively fewer.

### **Importance of OER in the context of Lifelong Learning**

Open Educational Resources can be defined as free and open digital publications of high quality materials organized as courses that include lectures, related reading materials, snapshots of discussions, assignments, evaluations, etc. Access to these resources radically breaks down the barriers to quality education and allows everyone to access course material that is prepared and evaluated by experts. Further, the Educational Resources available under the OER format has been evaluated not only by subject experts but also education experts to increase the educational utility of this material. In recent years, Open Educational Resource material has been prepared in an open standard format and is interactive in nature.

The need and importance of open educational resources (OERs) has been widely accepted and realized. According to Larsen and Vincent-Lancrin (2005), the open sharing of one's educational resources implies that knowledge is made freely available on non-commercial terms. The innovation impact is greater when it is shared: the users are freely revealing their knowledge and, thus work cooperatively. The benefits of OER with respect to the impact on the stakeholders in an OER network, studies showed that author's articles are cited more frequently, for readers, open access to quality educational materials and opportunity for lifelong learning and for publishers, open access guarantees the widest dissemination of the articles they publish. A network of OERs would be of great benefit to the community, increasing the value of individual resources and increasing the well-being of the community as a whole. The following are the OER potential and realised benefits

1. Governments' perspective
  - Help in creating Knowledge Based Society and Knowledge Economy.
  - Advancing knowledge by unlocking information for the benefit of education for all
  - Widening participation in education by expanding access to non-traditional learners
2. Promoting lifelong learning
  - Bridging the gap between formal, informal and non-formal Education
  - Enhancing educational access through sharing of knowledge
  - Provides a resource for students & faculty that supports learning and collaboration
3. Educators' perspective
  - Gaining publicity or reaching the market more quickly may result in an economic advantage
  - Fostering connections with colleagues around the world
  - Preserving a record of teaching innovations allowing others to build upon them
4. Learners' perspective
  - An independent learner who has access to the Internet can access material from all over the world
  - OER can promote informal learning where a credential is not needed
  - Prospective students may access institutions by looking at their materials made available by other institutions

Apart from the above, OER can create a learning environment in which learners of any age can choose what they desire and satisfy their educational needs without having economic constraints.

## **OER and Indian Initiatives**

While India initially embraced the internet with a degree of ambivalence, there was tremendous enthusiasm among dial-up users and an estimated 60% of internet users were still regularly accessing the internet via the country's more than 10,000 cybercafes. When it came to high-speed broadband access, however, there was a reluctance to adopt what was on offer, especially within the corporate sector, and the growth of broadband remained relatively slow for some time. By mid-2012 there were around 14 million fixed broadband subscribers – a lowly penetration (by

population) of slightly more than 1%. In the meantime, mobile broadband technologies were starting to attract considerable interest in India. Having paid large licence fees on the back of the government's spectrum auction in 2010, the operators were keenly promoting their mobile data services. Significant network rollouts had been completed and there was no doubt that this was accelerating the adoption of broadband. This report looks at the stage the development of broadband internet has reached in India and includes relevant statistics.

## **Key developments in the use of Broadband**

Internet and the use of ICT are vital in realizing the mission of OER in India. Significant developments have been taken place during the last half a decade and a mention of these in this context is necessary.

- the fixed broadband market was growing at an annual rate of around 25% in early 2013;
- fixed broadband penetration (population) was around 2%;
- the take up rate for wireless broadband was accelerating rapidly;
- the government has prepared a National Broadband Plan, although it does not have the profile expected of such a key document;
- the government has placed a major emphasis on getting broadband into the rural areas.
- BSNL launched its first foray into enterprise cloud services in India in early 2013.

All these developments have set a platform for the creation of Open Educational Resources and made them easily accessible to all.

The vision behind creating OER is to lower the cost of educational materials, develop innovations and improve the quality of content. There are many web platforms which provide you with the best OER sources. In our previous articles we've covered information about best OER search engines as well as OER tools. In India, there are significant initiatives for creating open educational tools and resources. However, all of them are directed towards OER in the basic sciences and engineering sciences areas. Some of the OER tools which are developed in India are presented below.

## **NPTEL**

One of the major programs in India is the National Program on Technology Enhanced Learning (NPTEL). The NPTEL project is being carried out by seven Indian Institutes of Technologies (IIT's), the Indian Institute of Science, and other premier institutions around the country and being funded by the Ministry of Human Resource Development. The NPTEL objective is to enhance the quality of engineering education by developing curriculum-based video and web courses for the students. Faculty from these various institutions are involved in developing their classroom course material in electronic form. Currently, the program has 120 web based courses and 115 video courses in the core sciences, computer science, civil engineering, electrical engineering, electronics and material engineering. The NPTEL also provides an opportunity for teachers and students from rural areas to learn from these high quality lectures and improve the quality of teaching in these rural colleges. NPTEL also provides you with printable materials on their website.

## **Ekalavya**

Another significant development in open educational resource project is the Ekalavya project launched by IIT, Bombay. In this project, the content is developed in various Indian languages and is distributed through the internet. The Ekalavya project has also developed an Open Source Educational Resources Animation Repository (OSCAR) and provides web-based interactive animations for teaching various concepts and technologies. OSCAR provides a platform for mentors/professors to suggest ideas for animation and for developers/students to create content based on the suggested ideas and guidance. Funding for the Ekalavya and OSCAR project comes mainly from private industry.

## **A-VIEW**

A-VIEW (Amrita Virtual Interactive e-Learning World) is an award winning indigenously built multi-modal, multimedia e-learning platform that provides an impressive e-learning experience which is almost as good as a real classroom experience, developed by Amrita e-Learning Research Lab. It has developed a user-friendly video conference software that helps teachers deliver live interactive lessons online. This app includes many great features like multi-user interaction,

PowerPoint animation, recording and playback, video sharing, polling, quizzes, etc.

## **E-Grid**

E-Grid is one of the main Open Educational Resources initiatives of India that develops and maintains pedagogically sound and refereed Educational Resources in identified subjects. Subject specific portals are developed and these portals are governed by subject experts within the program. This project is supported by the Human Resource ministry at IIT, Kerala. Currently, this program also offers open Educational Resources only in the sciences and engineering sciences. It also gives estimated costs of developing web based and video course material for various educational levels.

## **National Knowledge Commission**

The National Knowledge Commission is a high-level advisory body to the Prime Minister of India, with the objective of transforming India into a knowledgeable society. NKC's main focuses are access to knowledge, knowledge concepts, knowledge creation, knowledge application and development. A major new project was initiated and implemented in collaboration with Maharashtra Knowledge Corporation Limited (MKCL) and the Indian Consortium for Educational Transformation (I-CONSENT). It aims at developing and field testing electronic educational material useful for all stakeholders: parents, teachers and students within a fourfold framework: information, activity, creation and interaction. Firstly, web based materials have been identified, downloaded and edited to make it suitable for Indian school system. Secondly, part of the material developed at Homi Baba Centre for Science Education (HBCSE) over the last 30 years has been modified taking into account the changed curriculum and new pattern of school education. Thirdly, some useful material has been developed in joint workshops of practicing teachers, teacher educators and popular science writers. The material is in different formats like story, cartoon based presentation, question answer form, skit, etc. The material so developed will be made available to all the stakeholders through MKCL in the distributed classrooms spread all over the state.

## **National Institute of Open Schooling**

The National Institute of Open Schooling (NIOS) (also called the National Open School) is an autonomous organization dedicated to improving the educational system of India. It provides people with numerous Vocational, Life Enrichment and community oriented courses besides General and Academic Courses at Secondary and Senior Secondary level. In the library menu, it allows you to search for all the digital information about education and offers e-books, audio cassettes, compact disks, etc., relevant to the content.

## **National Repository for of Open Educational Resources (NROER)**

The Ministry of Human Resource Development (MHRD), Government of India has launched a National Repository of Open Educational Resources (NROER). The development of it has been a combined effort of the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India, the Central Institute of Educational Technology, National Council of Educational Research and Training and Metastudio, which is the platform that hosts the Repository.

## **OER and Emerging Challenges in India**

One of the main concerns regarding Open Educational Resource initiative moving forward in India is the necessity to develop OER in other subject areas. In particular, OER, in various regional languages, needs to be developed for the agricultural sector.

Additionally, ensuring a high level of quality is a challenge in itself. Emerging initiatives internationally and nationally are offering quality educational content as open resources. It is vital for India to leverage these initiatives as a readily available, economically viable source of quality content for adoption and adaptation, as well to serve as a model for indigenous content production.

- **Institutionalizing the production of quality content.** A set of key institutions should be selected and experts representing diverse knowledge areas like agriculture, engineering, medicine, arts, humanities, science, etc. to develop standards-based, customizable, high quality content and make it available not only for Indian institutions but also for global consumption. There should be a high priority for developing webbased, multimedia, interactive open content repositories for various subjects and in different regional languages.

- **Promotion of e-Curriculum development:** This effort should build adoption support for content delivery through training teachers at various universities around the country. Centers at specific institutions should be identified so that the faculty of those institutions will eventually own, modify, and expand these OER repositories.

The *e-content* and *curriculum* initiative need to be in the areas of **agriculture, teacher training, basic and applied sciences and engineering, technical education, liberal arts and social sciences, communication skills, ethics and values, public health, and high end skills including management**. In these areas, some of the course material needs to be developed in different regional languages. (Ref: Working Group on OER, Govt. of India)

## **Creation of network-enabled delivery infrastructure**

Along with the national initiative for content, India must develop a network enabled delivery infrastructure with the focus on two primary areas; access and delivery. For access to the network, high bandwidth connections across institutions and a national backbone that provides advanced networking capabilities are major requirements. Thus, there is an urgent need to establish an Indian Research and Education Network/ Knowledge Network where each educational and research institute is connected by at least 100 Mbps or 1Gbps. Additionally, connectivity to global networks is essential. The centers where the broad band connectivity is available should use Triple Play broad band services. Currently, the Maharashtra Knowledge Corporation (MKCL), Pune, has recently deployed this technology on experimental basis along with BSNL.

## **Capacity Building Programmes for Faculty**

Concurrent with establishing the proper access and delivery options of the Knowledge Network, India must create a faculty and institutional development program. Faculty development and teacher training is widely seen as the primary area that needs to be addressed in order to attain the benefits of extended access and quality through OER.

These steps will permit us to link our education community worldwide and provide easy access to the full range of intellectual resources. Students and teachers from rural and urban areas alike would be able to communicate and collaborate online with experts from within the country and abroad.

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