Chapter 2
Survey and Reflection of Open Education Policies

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2.1 Introduction

Comparing with the book *The World is Flat* (Friedman 2005) describing the influence of modern technologies on peoples' daily communication, the book *The World is Open* (Bonk 2009) gives a full picture of open web learning by using different kinds of web 2.0 technologies. Indeed, technology has the potential to revolutionize education to open it to all with less inequity, imbalance, and more quality. The development of OERs and Massive Open Online Courses (MOOCs) have made quality education more accessible to more people all over the world.

The term OER was proposed in 2002 during the UNESCO Forum, which was defined as "the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes" (Chen and Panda 2013). In 2006, Salman Khan started to use video technology to revolutionize traditional teaching and produced thousands of video clips on various subjects, such as mathematics, physics, chemistry, and so on, which was later developed into Khan Academy. Khan Academy proved that the small video clips were suitable for students' learning as OERs. The first MOOC emerged from the OER movement. It was actually introduced to refer to a course on "Connectivism and Connective Knowledge" conducted by George Siemens and Stephen Downes in 2008, which was later known as cMOOC (Belawati 2014), where c stands for connectivism. One of the most cited MOOCs has been the course on "Introduction to Artificial

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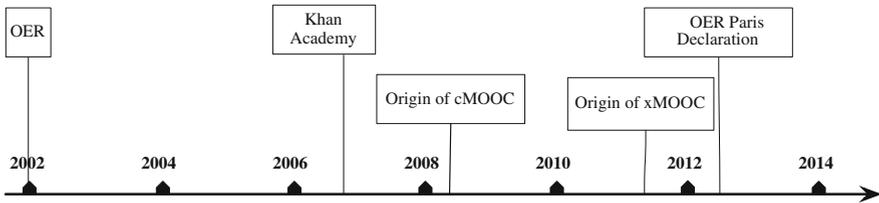e-mail: kinshuk@ieee.org

Fig. 2.1 The development of OER

Intelligence" offered in 2011 by Sebastian Thrun and Peter Norvig of Stanford University, which was later known as xMOOC, where x stands for eXtended. The world OER congress in 2012 organized by United Nations Educational, Scientific and Cultural Organization (UNESCO) and Commonwealth of Learning (COL) released the OER Paris Declaration 2012 that urges Governments, educational institutions and teachers to release educational materials as OER (UNESCO 2012a, b). The 2012 OER Paris Declaration recommends to "reinforce the development of strategies and policies for the production and use of OER within wider strategies for advancing education." The Declaration shows the importance of Open Educational Resources and gives recommendations to governments and institutions around the globe. In order to fully understand the role and importance of OER, it could be viewed in a broader view of OE (Fig. 2.1).

The concept of OE is based on the belief that education and knowledge are public goods and that everyone has the right to access quality education (Belawati 2014). Education may be broadly understood as incorporating a wide range of pedagogical and scholarly activities which can take place inside and outside formal institutions. These activities include learning, teaching, assessment, accreditation, policymaking, and administration. Initially, OE emerged as the concept of removing barriers to education. It can be traced back to the inaugural speech of the first chancellor of Open University in UK in 1969, when he said it would be "open as to people, places, methods and ideas" (Lane 2012). Hodgkinson-Williams and Gray (2009) gave the four dimensions of openness for OE, namely financial openness, legal openness, technological openness, and social openness. According to Wikipedia, OE describes institutional practices and programmatic initiatives that broaden access to the learning and training traditionally offered through formal education systems.[1] Therefore, OE could be understood as the openness of education to all by open sharing resources, tools, and practices in financial, legal, technological, or social aspects, to let students learn from anyplace, with any methods, at anytime. OE encompasses resources, tools and practices that employ a framework of open sharing to improve educational access and effectiveness worldwide.[2] OE is often discussed in terms of using or creating OERs. Open

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[1] https://en.wikipedia.org/wiki/Open_education.

[2] http://www.oeconsortium.org/about-oec/.

education promotes knowledge as a public good based on the following elements: redistribution (sharing with others), remixing (combining resources to create new content), free reuse of whole or partial educational materials with proper attribution, the ability to revise resources in order to make modifications, enhancements, and adaptations according to context, and peer reviewing to ensure resource quality.[3] However, it must be noted that OE does not apply open just to content, data and resources; rather, openness is part of wider change and movement toward equity and quality. OE provides learning opportunities for those who have no access to education resources, materials, and practices, thus promoting educational equity. OE provides high-quality learning resources across borders for those who want to achieve higher goals, thus enhance educational quality.

National-level OE policy is one of many strategies to quicken the development of OE/OER for accessible OER to improve educational equity and quality with cost-effective operations at country-level. After OER Paris Declaration 2012, some countries started to issue national OE policies to promote the practice of OE. The following sections look at comprehensive overview of these polices.

2.2 The Categories of Open Education Policies

Investigating OE policies in different countries is a big challenge, as it is very difficult if not impossible to cover all the policies due to limited time and resources. In order to cover as many policies as can be found, peer-reviewed research papers on "OE policies" or "OER policies" were initially collected in this research, before a deeper analysis was conducted on each of the policies mentioned in the literature. In addition, three open education policy databases were also identified. The following analysis is mainly based on the text of each polices that was found in those three databases and the literature.

One of the databases is the survey on governments' OERs policies prepared for the world OER congress in June 2012 by Sarah Hoosen of Neil Butcher & Associates on behalf of the Commonwealth of Learning and UNESCO (Hoosen 2012). The other is the POERUP (Policies for OER Uptake) funded by European Union (EU) from 2011 to 2014, of which 500 selected OER initiatives (some policies) from 33 countries were documented in a wiki database.[4] The third database is the Creative Common (CC) OER Policy Registry which covers the current and proposed open education policies from around the world.[5] National-level policies, state-level policies, and institution-level policies were included in the database, covering more than 100 policies form 29 countries.

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[3]http://creativecommons.org/weblog/entry/42286.

[4]http://poerup.referata.com/wiki/Main_Page.

[5]https://wiki.creativecommons.org/wiki/OER_Policy_Registry.

This study focused on the country-level policies. The nature and extent of OE/OER policies vary across countries, with more countries in Asia-Pacific, Europe, and North America reporting that they have such policies, as mentioned in the report for world OER congress (Hoosen 2012). Four the national-level policies in different regions, four categories were identified, as shown in Table 2.1. Please note that Latin America and Caribbean were not included in the table as the OE/OER in those regions is still in its early stages (Torres 2013). It could be found from Table 2.1 that OE policies in Europe and North America were more developed.

2.2.1 Overall Policies for OE Development

The overall polices for OE development contain the national-level policies that state the macro open education development strategies in a country. Examples of policies included in this category are the Wales Open Education Declaration of Intent in 2013, the Opening up Slovenia in 2014, the Scottish Open Education Declaration in 2015, the India Open Licensing Policy Guidelines for NMEICT in 2014, and the Framework for the Provision of Distance Education in South African Universities in 2012.

The Wales Open Education Declaration of Intent was signed by Vice-Chancellors of Higher Education Wales in 2013, with the aim to make Wales at the forefront of OE developments as the first nation to fully embed OE within a national strategy.[6] Through the declaration, universities in wales are committed to providing and using OER to widen access to higher education, providing flexible virtual pathways for learners, ensuring that educational materials developed with public funds are made available to everyone, promoting quality assurance, and peer review of learning and teaching materials, ensuring that any designated teaching and learning material released under open license can be adapted and redistributed without cost or restriction, and working with the Coleg Cymraeg Cenedlaethol to support the publication and distribution of learning and teaching materials through the medium of Welsh.

The Opening up Slovenia was announced by the country's Minister for Education in 2014 during the OCWC Global conference, with the aim to explore means for a fully fledged open educational system, develop innovative projects, and apply for European Commission funds related to ICT and new aspects of open education.[7] Strategies in the Opening up Slovenia include improvement of OE institutional digital leadership, fostering research in OE, developing digital capability throughout the complete educational system, redesigning educational services to meet a new Open by Default Service Standard, building common technology

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[6]Open Education Working Group (2014) http://www.oerwales.ac.uk/?p=22.

[7]http://www.ouslovenia.net/the-idea/.

Table 2.1 Categories of OE policies

Categories	Regions				
	Africa	Arab states	Asia and Pacific	Europe and North America
Overall policies for OE development	South African: Framework for the Provision of Distance Education in South African Universities, 2012		India: Open Licensing Policy Guidelines for NMEICT, 2014	Wales: Open Education Declaration of Intent, 2013 Slovenia: Opening up Slovenia, 2014 Scottish: Open Education Declaration, 2015 Canada: MOU on OER, 2013
Policies for open standards			New Zealand: Government Open Access and Licensing framework (GOAL), 2010 Australian: GOAL, 2011	UK: Government Licensing Framework, 2014 Canada: Tri-Agency Open Access Policy on Publications, 2015
Specific policies for constructing OER	South Africa: OER Africa, 2008	Arab League: Open Book Project, 2013	China: Quality Video Online Course 2011–2015	European Union: Open education Europa, 2013 Netherlands: Wikiwijs; 2011–2013 Poland: Digital School, 2012 USA: Open College Textbook Act of 2009/2010
OE Policies imbedded in other education strategic plans	South Africa: Strategic plan for 2010–2014 Mauritius: Education and Human Resources Strategy Plan 2008–2020	Morocco: GENIE program, 2006–2013	China: NEIP (2011–2020)	Romania: Strategic national governmental plan for 2013–2016 USA: National Education Technology Plan (2010) UK: Harnessing Technology strategy 2005–2014

platforms for Open by Default Services, removing unnecessary legislative barriers, designing new pedagogical and didactic structures, and collaborating with partners across public, private, and voluntary sectors to help more people use OE.

The Scottish Open Education Declaration (SOED)[8] has been drafted by Open Scotland which is led by the Centre for Education Technology, Interoperability and Standards (Cetis), the Scottish Qualifications Authority, the JISC Regional Support Centre in Scotland and the Association for Learning Technology's Scotland Special Interest Group. The SOED is inspired by the UNESCO Paris OER Declaration in 2012, which builds on the principals of the UNESCO declaration but expands its scope to encompass more aspects of open education practice. SOED calls on the Scottish Government, the Scottish Funding Council and all sectors of Scottish education to endorse several principles proposed in SOED. The principles include fostering awareness of all forms of open education practice, encouraging the use of CC-BY licenses[9] for all educational materials produced with public funds, facilitating enabling environments for the appropriate use of technology in education and linking these with strategies to improve digital literacies, and promoting the understanding and use of open licensing frameworks to enable different kinds of use.

The Open Licensing Policy Guidelines for India's National Mission on Education through Information and Communication Technology (NMEICT)[10] was issued in 2014. They provide a set of principles, guidelines, and implementations to ensure that content produced under the NMEICT is openly licensed, current preference being CC-BY-SA. The memorandum of understanding (MOU) on OER in Canada was signed in 2013 by three Canadian provinces of Alberta, British Columbia, and Saskatchewan. The purpose of the MOU was to facilitate cooperation between the participants in the sharing and development of OER, to identify, share, and encourage the use of best practices in OER, and to foster greater collaboration and understanding of key issued and trends in OER between and among postsecondary institutions.

2.2.2 Policies for Open Standards

Policies for open standards are the policies that state the government's open access and licensing methods in a country. Examples of these policies include the New Zealand Government's Open Access and Licensing framework (NZGOAL), the Australian Government's Open Access and Licensing Framework (AusGOAL), the UK Government's Licensing Framework (UKGLF), and the Canadian Tri-Agency Open Access Policy on Publications.

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[8]http://declaration.openscot.net.

[9]CC-BY license is one of Creative Common licenses, which was illustrated in Sect. 2.2.2.

[10]http://www.sakshat.ac.in/Document/OER_Policy.pdf.

Before discussing the government policies for open standards, it is necessary to understand the Creative Commons (CC) licenses. Creative Commons is a nonprofit organization that enables the sharing and reuse of creativity and knowledge through free legal tools. A CC license is one of the several public copyright licenses that enable the free distribution of an otherwise copyrighted work. The latest version 4.0 of the CC licenses was released on November 25, 2013. There are several types of CC licenses, including CC-BY, CC-BY-NC, CC-BY-SA, CC-BY-ND, CC-BY-NC-SA, CC-BY-NC-ND.[11] The most liberal CClicense is CC-BY, which allows for unrestricted reuse of content, subject only to the requirement that the source work is appropriately attributed. Other licenses allow possible restrictions, like no commercial use (NC), no derivatives (ND), and share-alike (SA).

NZGOAL was approved by the New Zealand government in 2010, in the form of the government guidance for agencies to follow when releasing copyrighted works and non-copyrighted material for reuse by others.[12] NZGOAL version 2 was released in April 2015. NZGOAL seeks to standardize the licensing of government copyrighted works for reuse using Creative Commons New Zealand law licenses and recommends the use of 'no-known rights' statements for non-copyright material.

AusGOAL[13] was nationally endorsed and administered by Australia Cross-Jurisdictional Chief Information Officers Committee in 2011, which provides support and guidance to Australia's government and related sectors to facilitate open access to publicly funded information. AusGOAL is aligned with numerous open government initiatives around the world and supports the Australian Information Commissioners Open Access Principles. AusGOAL endorses the Creative Commons Australia Version 3.0 Licenses, and the Creative Commons Public Domain Mark.

UKGLF was issued by the UK government in 2014, and provides a policy and legal overview of the arrangements for licensing the use and reuse of public sector information, both in central government and the wider public sector.[14] It sets out best practice, standardizes the licensing principles for government information, and recommends the Open Government License (OGL) as the default license for public sector information, which is compatible with the Creative Commons Attribution License 4.0 and the Open Data Commons Attribution License.

Canadian Tri-Agency Open Access Policy on Publications was released in 2015. The policy requires that any peer-reviewed publication(s) arising from grants received from any of the three agencies (Canadian Institutes of Health Research,

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[11]https://en.wikipedia.org/wiki/Creative_Commons_license.

[12]https://www.ict.govt.nz/guidance-and-resources/open-government/new-zealand-government-open-access-and-licensing-nzgoal-framework/quick-guide-agencies/.

[13]http://www.ausgoal.gov.au/overview.

[14]http://www.nationalarchives.gov.uk/information-management/re-using-public-sector-information/licensing-for-re-use/ukglf/.

Natural Sciences and Engineering Research Council of Canada, Social Sciences, and Humanities Research Council) be made freely accessible within 12 months of publication.

2.2.3 Specific Policies for Constructing OER

Specific policies for constructing OER are the policies that encourage the construction of OER in a country, often associated with some initiatives with financial resources. Many countries, for example, Brazil, China, Indonesia, Japan, Korea, Poland, South Africa, Turkey, UK, and Vietnam have introduced policies for constructing OER with government funded initiatives to stimulate OER (Mulder 2013). Examples of these policies include OER Africa, Open Book Project in Arab League, Quality Video Online Course in China, and Open education Europa.

OER Africa commenced in 2008 through seed funding from the William and Flora Hewlett Foundation, as an initiative established by the South African Institute for Distance Education (Saide). The mission of this initiative is to establish dynamic networks of African OER practitioners by sensitizing and connecting like-minded educators—teachers, academics, trainers, and policy makers—to develop, share, and adapt OER to meet the educational needs of African societies.[15]

Open Book Project was initiated by the U.S. Department of State in cooperation with the Arab League Educational, Cultural, and Scientific Organization (ALECSO) in 2013, with the aim to lead education innovators to expand access to free, high-quality education materials in Arabic.[16] One of the objectives was to put a full year of high-quality college-level science textbooks—biology, chemistry, physics, and calculus—online, for free, in Arabic. The aim is to release these resources under open licenses that allow their free use, sharing, and adaptation to local context.

Quality video online course (QVOC) was initiated by Ministry of Education China in 2011, with the aim to promote the access to quality tertiary curriculum resources which could reflect the idea of modern education, demonstrate the advanced concepts of teaching, and enhance students' self-regulated learning. 1000 QVOCs have been planned to be built during 2011–2015.

The European Commission launched Open Education Europa in September 2013 as part of the Opening up Education initiative to provide a single gateway to European OER. The main goal of the Open Education Europa portal is to offer access to all existing European Open Educational Resources in different languages for learners, teachers, and researchers.[17]

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[15]http://www.oerafrica.org/about-us/who-we-are.

[16]http://iipdigital.usembassy.gov/st/english/article/2013/01/20130128141555.html#ixzz3oUCH1z00.

[17]http://www.openeducationeuropa.eu/en/about_this_portal.

In addition, an assortment of policies exists in Europe and North America to promote the construction of OER, such as the Wikiwijs in Netherlands, Digital School in Poland, and Open College Textbook Act of 2009/2010 in USA.

2.2.4 OE Policies Imbedded in Other Education Strategic Plans

In order to grasp the opportunity of digital revolution, lots of countries have implemented national education policies for promoting educational equity and quality by using information technology. In some of these national policies, the policies on development of OE have been imbedded. Examples of these polices include Mauritius Education and Human Resources Strategy Plan 2008–2020, GENIE program in Morocco, China National Educational Informatization Plan (NEIP) 2011–2020, USA National Education Technology Plan (2010), and UK Harnessing Technology strategy 2005–2014.

Promoting e-learning and Open Educational Resources by setting up online learner support system was mentioned as one of the target indicators in Mauritius Education and Human Resources Strategy Plan 2008–2020. There is a policy decision in South Africa, through the process of the Integrated Strategic Planning Framework for Teacher Education Development that all educational resources developed through funded projects have to be released under a CC license.

Generalization of Information Technologies and Communication in Education (GENIE) in Morocco was launched in 2006, revised in 2009, and lasted to 2013. Its implementation at the primary and secondary education levels help ensure access to ICTs facilities and services to more than 22 % of the Moroccan population, with appropriate content, throughout the Kingdom of Morocco. Acquisition of digital resources and the creation of a digital resources national laboratory and a national ICT portal was listed as one of the four main areas of this project.[18]

China's National Educational Informatization Plan (NEIP) (2011–2020) was released in 2012 to state the overall development goals of ICT in education in China (MOE 2012). The development goals of the ongoing 10 years' plan for ICT in Education could be termed as ConnectSCS, which stands for connecting Schools through broadband network, connecting Classes with quality digital resources, and connecting Students in cyber learning space. The construction of open educational resources platform was listed as one of the main tasks in the plan.

In Europe and North America, the development of OE is fast and advanced. Lots of government policies on the development of education by utilizing information technology have mentioned the development of OE/OER, for example, the USA National Education Technology Plan (NETP) (2010), and the UK Harnessing Technology strategy 2005–2014. However, there are still some countries in these

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[18]http://www.anrt.ma/en/missions/genie/presentation-genie-program.

regions in which the progress is slow. For example, the Romanian Strategic National Governmental Plan for 2013–2016 states for the first time that the Romanian Government, together with the Ministry of Education, will 'support innovative methods for integrating web 2.0 educational resources and open educational resources in the learning process'.[19]

2.3   Critical Analysis of OE Policies

In the previous discussion, OE polices were categorized into four levels: the overall policies for OE development, policies for open standards, specific policies for constructing OER, and OE policies imbedded in other education strategic plans. The four categories of policies reveal the levels in association with the aim of OE.

The overall policies for OE development associated directly with the strategies for developing OE in a country. From the resources collected and analyzed, it is apparent that only few countries have such policies. Wales claimed to be the first nation that fully embedded OE within a national strategy with Wales Open Education Declaration (WOED) in 2013. It focused on the obligation of universities to provide high-quality learning materials under the open license to make sure the materials could be adapted and redistributed with no cost. In comparison with WOED which has focused only on higher education, the Scottish Open Education Declaration (SOED) promotes adoption of open licensing frameworks for educational materials in all education sectors. SOED has been inspired by the UNESCO Paris Declaration in 2012, similar to Open Licensing Policy Guidelines for India's National Mission on Education through Information and Communication Technology (NMEICT), which has also been enlightened by the UNESCO Paris Declaration. In short, countries with OE policies intend to bring quality and equity education to more people by adopting open licenses to provide more open learning resources and removing unnecessary legislative barriers. Some policies still are focused on higher education, while others have started to cover both higher education and basic K-12 education. UNESCO OER Paris Declaration 2012 is important reference when a country develops their OE policies. OE policies may contain the open license and development of OER, but they should involve more than just OER to include transformation of educational mechanism to embrace open education. Policy of open education should focus on equity, access and quality. It is not only having equal access that leads to equity, it is also having equal access to success, regardless of learning difficulties, social backgrounds and other barriers.

The open license/standard plays a critical role for prompting the reuse, revision, remittance, and redistribution of OER. Smith and Casserly (2006) believe that the use of open licenses is a necessary prerequisite for an educational resource to be "open." Some countries have started to realize the importance of open license for

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[19]http://oermap.org/sector/informal/page/2/.

OER, and have begun to implement the policies for open standards, for example, New Zealand and Australia. The NZGOAL and AusGOAL are the governmental policies following CC license when releasing copyrighted works for reuse, remix or redistribution. While the UKGLF is not under the CC license, it is compatible with Creative Commons Attribution License 4.0. Canadian Tri-Agency Open Access Policy on Publications is also not under the CC license, but the policy was created by considering CC license. CC license is having more and more influence on open education policy making. Although several counties have begun to issue polices on open standards, majority of the countries do not specify which open licenses are used in their OER policy (Hoosen 2012). This is becoming the bottleneck for creating and reusing OERs in countries without such policies.

Countries appear active in the OER movement mainly through initiatives by institutions and engaged individuals, and through specific projects or programs with public funding (Hoosen 2012). In late first decade and at the beginning of the second decade of twenty-first century, we have started to witness emerging efforts of a few countries to develop and establish their national OER approach (Mulder 2013), for example, China's QVOC. For these policies, the sustainable development of OER construction supported with government funds should be considered, and governments must decide for themselves the best use of public funds (Stacey 2013). From a public policy perspective, it is important to understand how to integrate public and nonpublic funding models in order to reduce education cost and maximize public investment returns (Sabadie et al. 2014). In fact, some initiatives even happen cross boarders, for example, OER Africa intends to meet the education needs of all African societies, and OE Europa offers OER in different languages for various countries in European Union. This suggests that the international OER partnerships will be the norm in the future and new models of funding will be required to support this trend which will need to be based on collaboration as opposed to current models which foster competition (Stacey 2013). Therefore, the open license must be taken into consideration from the very beginning of OER construction. However, it has seldom been seen in various country policies at present. It should also be noted that the objective of these policies is not to just produce OER but also to use the OER to broaden access to quality education and ensure the learners' success.

Information and Communication Technology (ICT) in education plays a decisive role for promoting educational equity and quality (MOE 2010), which has been recognized by lots of governments. Lots of countries have issued some education strategic policies to promote the ICT usage in education. Four levels of construction for promoting ICT in education have emerged, namely infrastructure, learning resources, teaching capacity, and administrative capacity. The concept of OER has been treated as an important issue/task in some of the national education strategic policies, such as Morocco GENIE, China NEIP (2011–2020), and USA NETP (2010). On the other hand, in some of the country policies, the OER construction is just mentioned, with no specific strategies promoting OER construction and usage, for example, Romania SNGP (2013–2016). In some developing countries in Arab states, limited internet penetration, challenges of piracy, issues related to the rule of

law and censorship, and vast disparities in purchasing power[20] have been some of the main challenges for creating and using OER. In some regions, such as Latin America, OER is still in its early stages and faces many challenges that need to be addressed (Torres 2013).

2.4   Suggestions for Developing OE Policies

Since the beginning of OER movement, it has grown mainly in developed countries, with some exceptions, such as Africa, Brazil, India, and China (Torres 2013). Similar patterns can be seen with the initiation of OE policies, which have also grown mainly in developed countries in Europe and North America, with some exceptions, such as India, South Africa, and China. In general, there are very few functioning national-level policies supporting open education and open licensing standards, although there are multiple OER projects being implemented with public funding. Even for the existing policies of the overall OE development and open standards, policy matters are often difficult to understand beyond a narrow circle of policymakers, experts, and stakeholders (Touzé 2014). Many countries have not released any OE policies. However, OE is being recognized as one of the important methods for promoting educational equity and quality, with many countries all over the world working together for a better education for all. If any country fails to grasp the opportunity in this digital revolution age, it would be a big loss for its education development, especially for the developing countries. As indicated by previous research, one of main barriers to reap the benefits of OE/OER is fragmentation combined with a lack of clear and uniform legal policies (Sabadie et al. 2014). Therefore, it is imperative for both developed countries and developing countries to release OE policies urgently to reap the benefits of OE.

The world has become more of a global village nowadays. Developed countries are slowly realizing their obligation to provide quality education resources in different languages to help some poor countries to broaden learning opportunity and promote educational quality. The Open Book Project in Arab League is a good example, supported by the U.S. department of State. It is critical for the developing countries to also be aware of the importance of grasping the opportunity of digital revolution by releasing OE policies according to their economic and education situations. Both the developed countries and developing countries should develop their policies from a global point-of-view. Policies for OE are not just about access to content and resources; more should be taken into consideration to promote learning success through the revolution of education methods and practices.

A "government policy development template to progress effective implementation of open educational resources (OER): draft document" was announced by

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[20]http://publishingperspectives.com/2012/03/survey-what-is-the-biggest-obstacle-to-arab-digital-publishing/.

UNESCO in 2012 (UNESCO 2012a, b), which gave a reference for making OE policies. Components, such as mission and objective of the policy, policy context, overview of OE, scope of the policy, a brief explanation of how the proposed strategy articulates with or requires changes to the existing policy (in the instance of a standalone policy), areas of responsibility, and status of the policy could be included in the overall OE development policies. In addition, the SOED could be referenced as it is the national-level policies enlightened from the OER Paris Declaration 2012. Open licensing policy or open standard policy is the foundation for creating and sharing quality learning resources, which should either be integrated in the OE policy or be released alone as a separated policy. The NZGOAL and AusGOAL are good references for making open licensing policies under the CC license.

For releasing policies on constructing OER, sustainable development approaches must be taken into consideration as it is one of main barriers for mainstreaming the OER approach in national educational systems (Mulder 2013). For now, virtually all of the existing policies are concentrating on the production and distribution of OERs; however, a further shift is needed to focus on the infrastructural conditions that support the proliferation of OERs (Kerres and Heinen 2015). The infrastructure, learning resources, teaching ability, and administrative ability are the four levels of construction for ICT in education, which should also be reflected in national policies for promoting the creation and use of OER.

Governments must take the threefold responsibility of accessibility, quality, and efficiency for education development (Mulder 2013), and releasing OE policies is one of the most effective methods. For the commonwealth of learning in a global village, (inter) national OE policies will play a vital role for improving educational equity, quality, and efficiency with more and more counties, and international organizations taking part in OE practices.

References

Belawati, T. (2014). Open education, open education resources, and massive open online courses. *International Journal of Continuing Education and Lifelong Learning, 7*(1), 1–15.

Bonk, C. J. (2009). *The world is open*. San Francisco, CA: Jossey Bass.

Chen, Q., & Panda, S. (2013). Needs for and utilization of OER in distance education: a Chinese survey. *Educational Media International, 50*(2), 77–92.

Friedman, T. L. (2005). *The world is flat*. New York: Farrar, Straus and Giroux.

Hodgkinson-Williams, C., & Gray, E. (2009). Degrees of openness: The emergence of Open Educational Resources at the University of Cape Town. *International Journal of Education and Development Using Information and Communication Technology, 5*(5), 101–116.

Hoosen, S. (2012). *Survey on Governments' Open Educational Resources (OER) Policies*. Vancouver & Paris: Commonwealth of Learning & UNESCO.

Kerres, M., & Heinen, R. (2015). Open informational ecosystems: The missing link for sharing educational resources why ecosystems? *International Review of Research in Open & Distance Learning, 16*(1), 24–39.

Lane, A. (2012). A review of the role of national policy and institutional mission in European distance teaching universities with respect to widening participation in higher education study through open educational resources. *Distance Education, 33*(2), 135–150. doi:10.1080/01587919.2012.692067.

MoE of P.R.C. (2010). National middle and long term plan for educational transformation and development (2010–2020). Retrieved from http://old.moe.gov.cn/publicfiles/business/htmlfiles/moe/moe_838/201008/93704.html

MoE of P.R.C. (2012). Ten-year development plan for ICT in education in China (2011–2020). Retrieved from http://www.moe.edu.cn/ewebeditor/uploadfile/2012/03/29/20120329140800968.doc83c4d329.html

Mulder, F. (2013). The LOGIC of national policies and strategies for open educational resources. *International Review of Research in Open & Distance Learning*, *14*(2), 96–105. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/1536

Sabadie, J. M. A., Castano Munoz, J., Punie, Y., Redecker, C., & Vuorikari, R. (2014). OER: A European policy perspective. *Journal of Interactive Media in Education, 5*(5), 1–12.

Smith, M. S., & Casserly, C. M. (2006). The promise of open educational resources. *Change: The Magazine of Higher Learning, 38*(5), 8–17.

Stacey, P. (2013). Government support for open educational resources: Policy, funding, and strategies. *International Review of Research in Open and Distance Learning, 14*(2), 67–80.

Torres, N. P. M. (2013). Embracing openness: The challenges of OER in Latin American education. *Open Praxis, 5*(1), 81–89. doi:10.5944/openpraxis.5.1.33.

Touzé, S. (2014). *Open Educational resources in France*. Moscow: UNESCO Institute for Information Technologies in Education.

UNESCO. (2012). A Government policy development template to progress effective implementation of Open Educational Resources (OER): Draft document. Retrieved from http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/oer_country_policy_template.pdf

UNESCO. (2012). Paris declaration on Open Educational Resources. Retrieved from http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf

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