OER

OPEN EDUCATIONAL RESOURCES

in Lifelong Learning

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Open Licensing

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Prof Dr Mansor formerly worked as a full-time lecturer at the Faculty of Engineering, University of Malaya (UM). During his tenure at UM, he held various administrative posts and was responsible for introducing online learning to the UM lecturers in 1998.

Prof Dr Mansor was also instrumental in the establishment of OUM, Malaysia's first open and distance learning (ODL) institution in 2000. Since joining OUM, Prof Dr Mansor has led many projects to advance teaching and learning at the University, including mobile learning, iRadio (an educational internet radio), print and electronic learning material development, question and assignment banks, fully-online courses, and the recent launch of the OUM App (an educational mobile app).

1   Introduction

1.1   Understanding Copyright and Licensing

Copyright is a legal concept that aims to protect the rights of a creator of an original work. What constitutes an original work can include creative, intellectual or artistic forms, which may encompass anything from musical compositions, computer software and multimedia, literature, movies, photography and even radio and television programmes. Along with industrial property, copyright is considered a form of intellectual property (IP). IP covers all intangible assets or creations of the mind, including things like symbols, words, phrases, patents, trademarks and industrial design.

The main motivation for a creator to consider the importance of copyright is to obtain credit for his / her work, as well as to determine the means as to how the work may be used, who can use it and in what capacity, what financial or commercial benefits are involved, and other related rights.

Initially, the concept of copyright was developed as a way to restrict unlawful printing of written work. Most countries today have enacted national copyright laws that have been standardised through international copyright treaties, including the Berne Convention for the Protection of Literary and Artistic Works (accepted in 1886); the World Trade Organization's (WTO's) Agreement on Trade Related Aspects of IP Rights (TRIPS) (accepted in 1996); and the World IP Organization (WIPO) Copyright Treaty (effective in 2002).

To fully understand the nature of these copyright treaties, a brief explanation is provided below:

1. Berne Convention for the Protection of Literary and Artistic Works:

The Berne Convention, as it is commonly called, is an international agreement that was made effective in early 1887 and is today applicable in virtually all countries. Although several countries had already enacted copyright laws in the 19th Century (e.g. France and the United Kingdom), the Berne Convention is the first framework to protect the rights of a creator from an international perspective.

2. TRIPS Agreement:

As a treaty administered by WTO, the TRIPS Agreement is effective in all WTO member countries, and considered the most comprehensive international treaty to date. It provides minimum levels of protection that each government must give to the IP of WTO members. The TRIPS Agreement even includes a dispute settlement system when there are trade disputes over IP rights.

3. WIPO Copyright Treaty:

WIPO is a specialised agency under the United Nations (UN), and its Copyright Treaty has an almost blanket coverage across the globe. The unique feature of the WIPO Copyright Treaty is the additional protection provided due to advances in ICT, e.g. it protects computer programmes as literary works. This treaty represents a major turning point in the understanding of modern copyright, where the potential as well as risks derived from ICT are acknowledged as crucial to protect the current rights of authors and creators.

Although each country has its own understanding of copyright, in broad terms, national copyright laws tend to follow the terms outlined in the major copyright treaties mentioned above. To illustrate national copyright laws, we will take Malaysia as an example. The Malaysian Copyright Act (1987) provides protection for literary, musical, artistic and derivative works, as well as films, sound recordings and broadcasts. In following the Berne Convention, copyright takes effect during the life of an author or creator, and expires 50 years after his/her death.

An important element related to copyright is licensing. The creator of a work is the copyright owner, and he / she holds exclusive right as the author who owns that work, and as such, can control how it is used, by whom, and in what manner. The usage and distribution of this work can be done through a license, which can be granted by a specific authority. Licenses dictate not only what work can be used, but also limits to the usage, such as the number of times a work can be used, the duration that it can be used, or how long the license will remain effective.

In essence, licensing is a way to grant permission or authorisation for the use of copyrighted material, as well as a method to grant the creator (or the license holder) the ability to set conditions and limitations to the use of his/her work. Licenses are commonly given for the use of computer software, trademarks and brands, artwork and specific characters.

1.2 Open Licensing

Grasping the concept of open knowledge is a crucial requisite in order to understand the basis of open licensing. Knowledge is defined as open "*if it is free to use, reuse, and redistribute without legal, social or technological restrictions*" (Wikipedia, n.d.). The term 'open knowledge' is commonly linked to other terminologies, such as 'open access', which is defined as "*the immediate, online, free availability of research outputs without the severe restrictions on use commonly imposed by publisher copyright agreements*" (Open Oasis, n.d.). Both these terminologies have immense repercussions in the educational context.

An open license grants permission to access, reuse and redistribute a work that is considered open knowledge. Because a major portion of knowledge is openly available through the Internet, open licensing has specific importance in the digital context. For instance, a work that has been uploaded onto a website under an open license

can be freely accessed, printed, shared, published in other media, and cited. This can include sound, text, image or multimedia. As an open licensed work, it is free to be used, shared and improved, but this depends on the permissions and restrictions dictated by a particular license.

That open licensing would be important was realised during the early days of open source software. The Open Publication License was released in 1999, with the aim of encouraging the free distribution of books and journals online. Much of the early development of open licensing was focused on software licensing, such as the Free Software Foundation's GNU General Public License (GNU GPL) that was released in 1989. Inspired by the GNU GPL, the Creative Commons (CC) Organisation was founded as a non-profit entity in 2001, providing a variety of licenses for creative work that is made available over the Internet. Today, CC represents the major provider of open licenses globally.

1.3 Open Educational Resources

Open educational resources (OER) are linked to open and distance learning (ODL) and the culture of open knowledge and content; which are all milestones of the late 20th Century. The very idea behind ODL－that education can be open, limitless, equitable, universal and often completely free－spurred the idea of placing educational resources in the public domain. In 1994, the term 'learning object' was introduced; which denotes one of the earliest conceptualisations of a group of educational resources that are provided on a digital or web-based platform. In 2002, the Massachusetts Institute of Technology (MIT) sparked a global movement of free education through its OpenCourseWare (MIT OCW) project. In the same year, the term 'OER' was first adopted at the United Nations Education, Scientific and Cultural Organization's (UNESCO's) Forum on Impact of Open Courseware (OCW) for Higher Education in Developing Countries.

OER's definition, as outlined by UNESCO, is "*any type of educational materials that are in the public domain or introduced with an open* license" (UNESCO, n.d.). This includes textbooks, curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation. Their nature means that anyone can legally and freely copy, use, adapt and re-share them.

The OER movement has grown tremendously within the last decade, with many national and regional initiatives, such as Japan OCW Alliance and OER Asia, as well as efforts from global bodies, such as the World Bank Open Knowledge Repository. International bodies like UNESCO and the Commonwealth of Learning (COL) give extensive guidance and support to institutions and countries that take part in this movement.

These developments demonstrate the increasing trend towards openness in higher education, much like the development of open source software and open access. OER's connection to open licensing is an important one, as it is through the availability of open licenses that OER have been distributed so extensively, without compromising the necessary protection and rights to their creators and authors.

2 Open Licensing

2.1 The Features of Open Licensing

2.1.1 The Benefits of Open Licensing

The advent of digital technologies in all their various forms and functions has greatly influenced the distribution and dissemination of knowledge. From an educational

standpoint, this brings both great potential and risk. The former is clearly a positive outcome, because it indicates an immense capacity to achieve truly open education. The latter is something not to be taken lightly, because ownership and authorship of academic output is a form of IP, and must be given the appropriate acknowledgement and protection.

That being said, encouraging open licensing promises many potential benefits for educational institutions, faculty and learners alike. These benefits extend to the creator, as well as to users and other individuals. They include:

- **Financial benefits for those in less privileged institutions and countries:**
  The use of open licensed materials means that educational institutions can provide teaching and learning support without incurring the great costs involved in content development.

- **Publicity of work:**
  The improved circulation and distribution of a work increases its use and publicity.

- **Opportunity to enhance, improve, adapt and add value to a work:**
  Open licensed work may be open to changes and enhancement, leading to improved product. Creators and authors can also obtain easy feedback from users who adopt their work.

- **Opportunity to improve on a global body of knowledge:**
  Open licensing can encourage peer production of knowledge. At its most extensive, this can involve mass collaboration (an example of which is Wikipedia). This greatly adds to a global body of knowledge that can be created and used, as well as improved and added to, by many different people around the world.

- **Driving innovation:**
  Open licenses that allow for derivative work greatly encourages innovation, as users of an original work can contribute their own ideas to generate new works.

- **Promotion of OER and the concept of democratised education:**

  Open licensed materials encourage sharing for creative and educational purposes, which is an essential feature of OER, ODL and the concept that education should be a universal privilege for anyone who seeks it.

In a nutshell, the role of open licensing, especially from an educational perspective, is as a mechanism to promote open access and open knowledge of creative, cultural, scientific and research input as well as scholarly work that have the potential to create universal benefits.

2.1.2 Open License Providers

The most prominent license provider is Creative Commons (CC). The licenses provided by CC are the most comprehensive currently available; are used by many prominent individuals and organisations that provide their works — whether content, multimedia, creative works, software and others — over the Internet. Unlike licenses like the GNU GPL, CC licenses are used in websites, educational materials, film, photographs, blogs and et cetera (Fitzgerald, 2007). A detailed explanation of CC will be provided in the subsequent parts of this chapter.

Apart from CC as the major player in open licensing, an example of an open license specifically used in education is the AEShareNet Free for Education (FfE) license. AEShareNet is a licensing scheme that originated in Australia, and is widely used in the vocational, education and training sector in the country. The uniqueness of a FfE-licensed work is that it can be used freely for educational purposes, but not for any other reasons, including distribution to the public, and it also does not allow for derivative work. However, it does not discriminate between for-profit and not-for-profit education providers (Fitzgerald, *ibid.)*.

A majority of available licenses have been created for the specific purpose of computer software, such as the aforementioned GNU GPL. They include:

- **MIT License:**

  The MIT License is a permissive free software license that permits reuse in other software as long as all copies of the licensed software include a copy of its terms. This license is compatible with GPL. One example of a notable software package that has used a version of the MIT License is Expat (a programming library that has been used in various open-sourced projects).

- **BSD Licenses:**

  These are a family of licenses that outline similar requirements as the MIT License. It originated from the University of California, Berkeley, hence, lending the name of Berkeley Software Distribution (BSD). They were originally used for a Unix-like operating system (OS).

- **Apache License:**

  This is a free software license written by the Apache Software Foundation. It allows users to use the software for any purpose, to distribute and modify it as well as to distribute modified versions under the license terms without concern for royalties. The Apache License is one of the most prominent software licenses, and has been used by Google and the Android OS.

- **GNU GPL:**

  Created by the Free Software Foundation, the GNU GPL is the most widely used software license. A majority of free software initiatives listed on Freecode, SourceForge. net, Red Hat Linux and Metalab have adopted the GNU GPL. It is useful to note that GNU has also created a Free Documentation License (the GFDL), which serves a similar purpose to CC licenses, although it is not as widely used as the latter.

- **Mozilla Public License:**

  This is a free, open source software license developed by the Mozilla Foundation. It is a hybrid of the modified BSD license and the GNU GPL and is currently used by Mozilla Firefox, Mozilla Thunderbird, as well as Adobe and other software.

- **Artistic License:**

  This software license is used for certain free and open source software packages. It is often used in combination with the GNU GPL.

Since the creation of the GNU GPL by the Free Software Foundation in 1984, and the establishment of CC in 2001, open licenses have become an integral part of the Internet. As stated above, software licenses are more common — most open source software use open licenses, either as a single license, or in combination as dual licenses. CC licenses have been adopted by many prominent organisations, which include (details available at http://creativecommons.org/who-uses-cc):

- **Al-Jazeera;**
- **Flickr;**
- **Google** (and all its digital services, including Picasa and YouTube);
- **MIT OCW; and**
- **Wikipedia.**

A detailed explanation of CC licenses used in the educational context will be given in the subsequent parts of this chapter.

How useful are open licenses? One example is Google, the widely-referred Internet behemoth. By using CC licenses, Google has enabled users to license their own content via its services, and facilitates the discovery, sharing and adoption of CC-licensed material by enabling CC-search capabilities through its web, image and book search engines, as well as YouTube. In education, the MIC OCW initiative is the most outstanding example. By releasing materials from over 2,000 academic courses through CC licenses since 2004, MIT has not only come closest to realising the concept of free education, it has almost single-handedly triggered global interest in the OER movement.

2.1.3 Importance of Open Licensing in the Context of Education:

Open licenses are critical for defining OER (Bissell, 2009). An important point to note at this juncture is that copyright universally indicates the term 'all rights reserved', which means that the author holds all rights to a piece of work. The significance of open licensing, especially through the work of CC, is that 'all rights reserved' is tweaked to 'some rights reserved' (Bissell, *ibid.)*, thus creating an immense opportunity whereby a user has the freedom to adjust, modify, share, exchange and derive new work from a licensed material. This is the premise of a universally democratised education, and much is reflected in the continued success of large-scale initiatives like the MIT OCW.

By providing additional resources to help learners succeed, open licensed educational materials can improve courses and curricula as well as enhance the effectiveness of academic programmes. From an educator's perspective, these materials can be included as additional resources to a readily available programme, as well as modified and customised to suit the needs of a particular audience. Independent learners have just as much to gain as well, as they can take up courses at any time for the sake of learning something new, without actually enrolling into a formal study arrangement. For creators and license holders, the possibilities are certainly exciting. Through open licensing, their work can be inspire entirely original work or repurposed as derivative work — both instances that will likely not materialise if not for open licensed materials.

A fine illustration of the potential of open licenses is the course materials provided through MIT OCW. Because of the permissions outlined in their CC licenses, they have been translated into many languages, including Spanish, Portuguese, Chinese, Thai, French, German, Vietnamese, and Ukrainian (Vollmer, 2012).

It is crucial to acknowledge that open licensing has led not only to an increased production and distribution of OER as well as new OCW projects; it has also influenced new initiatives in the sphere of democratised education. These examples include

massive open online courses (MOOCs), open textbooks, mobile educational apps and learning object repositories — many of which have been established through CC licenses. These examples will be further discussed in the next section of this chapter.

2.1.4 Issues and Challenges in Open Licensing

Distribution of educational materials with an open license is often considered a worthy exercise in creating a world of free and democratised learning. However, it is not free from several key issues. Foremost amongst these is awareness, which is currently a problem especially in many developing countries, including Malaysia. Open licensing, OER, MOOCs and OCW are relatively unheard of outside the Malaysian ODL circle. Simply illustrated, entering the combined terms 'Malaysia' and 'MOOCs' on Google yields no significant results save several news articles. A few of the country's most established public universities (e.g. University of Malaya) have only recently embarked on their own OCW initiatives. This is something that needs to be addressed, and can perhaps be remedied through the help of global or regional bodies, e.g. UNESCO, COL, OER Asia or the Asian Association of Open Universities (AAOU).

As educational materials, it is important to ensure that an open license used is compatible with copyright laws, academic and institutional missions. The proliferation of OER, MOOCs and OCW initiatives signal a widespread interest, but each institution needs first to determine how it can contribute to, take advantage of, or leverage on, this phenomenon. In this regard, institutional commitment needs to be made clear. Additionally, before applying for an open license, individuals and institutions need to clarify copyright ownership of all the relevant work, both original and derivative.

While it is crucial to protect copyright, moral rights are not to be neglected. When using open licenses, it is ideal for works to be used properly according to their intended objectives. Ensuring so can be challenging as these works can easily travel beyond traditional notions of limits and boundaries. This relates to the problem of potential infringement, as well as the risk of violating copyright ownership of

third-party contributors.

Although copyright law and licenses protect the rights of a creator, it is still likely that downstream users will resort to piracy, plagiarism, abuse, unlawful copying and other unauthorised and unethical activities. Educating users on the proper use of materials will be important to curb these problems. Every open licensed work must clearly state its specific attributions to inform all potential users. In the event that the attributions are violated, legal action based on copyright and IP right needs to be properly exercised. Unfortunately, this is admittedly quite complicated, as it is easy for misuse of licensed work in a digital setting to escape the attention of their creators.

Bissell (2009) also adds that in addition to individual copyright, there are other rights to consider, especially if a learning resource incorporates materials from other sources, or contains photographs or footage of private individuals. Consent from these third parties need to be obtained, but other complications can take place. Compatibility between licenses also needs addressing if an author decides to use multiple licenses for one piece of work.

One key term that needs to be understood in any attempt to distribute open licensed educational materials is 'fair use'. Fair use is a form of exception that allows limited use of a copyrighted work. Examples of situations that allow fair use are commentaries, criticisms, news reporting and for teaching and learning purposes. Albeit this is clearly beneficial for educators and learners alike, legal complications may arise.

Because many of these issues are related to the legal aspects of copyright and licensing, educators, academics and creators need to be aware of the relevant laws to understand what is best for their needs and objectives, especially in creating and distributing OER. While the desire to add to a global body of knowledge is indeed honourable, it is equally important to ensure that not only are open licensed educational materials are properly used.

2.2 Creative Commons

2.2.1 Brief Background

As has been previously stated, CC licenses are the most widely distributed, and have been adopted by many individuals and organisations, including Google, Flickr, MIT OCW and Wikipedia. CC provides free licenses that are meant to work alongside copyright while allowing permission for sharing and using creative work that are distributed on the Internet.

CC was established as a not-for-profit organisation in 2001, and released its first set of copyright licenses in 2002. It was founded on the premise that *"many citizens of the Internet want to share their work ─ and the power to reuse, modify, and distribute their work ─ with others on generous terms"* (Bissell, 2009). The concept of 'some rights reserved' expounded by CC is a standardised way of ensuring that works can be distributed and used freely for certain purposes or under certain conditions. This concept represents a middle ground between the 'all rights reserved' implied in copyright and the 'all rights granted' involved in the complete freedom of use for works dedicated in the public domain. By 2009, there was an estimated 350 million CC licensed work (CC, n.d.) including media, photographs, films, music and academic content.

2.2.2 Types and Features of Licenses

CC offers six licenses with different combinations of attributions. Each license carries a set of conditions chosen by the creator. These conditions range from the most basic (CC BY), which allows all forms of use, redistribution, modifications and commercialisation as long as the original creator is given credit; to the most restrictive (CC BY-NC-ND), which allows use and distribution, without allowing commercialisation or modification to the original work.

Additionally, CC also allows individuals to waive all rights to their work through the CC0 license. This refers to all work dedicated to the public domain, where the works are licensed as 'all rights granted' or 'no rights reserved'. Works in the public domain are completely free to be used in any way, without any restrictions from copyright or database law.

An explanation of each of the CC licenses is provided in the table below (Table 1).

Table 1 The CC Licenses
(Summarised from http://www.creativecommons.org/)

TYPE OF LICENSE	DESCRIPTION
No Rights Reserved CC0	This license means works are placed in the public domain. It allows complete freedom of use, modification, enhancement, reuse, sharing and redistribution, whether for individual or commercial purposes, without restriction under any law.
Attribution CC BY	This license allows for distribution and all forms of modifications, even commercially, as long as the original author is credited for the original creation.
Attribution-ShareAlike CC BY-SA	This license allows for distribution and all forms of modifications, even commercially, as long as the author is credited and all new works based on the original carry the same license. This is the license used by Wikipedia.
Attribution-NoDerivs CC BY-ND	This license allows for distribution in commercial and non-commercial uses as long as the original work is not modified and credit is given to the original author.
	This license allows for all forms of modifications, but only for non-commercial purposes. The origi-

Attribution-NonCommercial CC BY-NC	nal author must be credited and new works must also be non-commercial, but authors of new works are not obligated to license their works the same way.
Attribution-NonCommercial-ShareAlike CC BY-NC-SA	This license allows for all forms of modifications, but only for commercial purposes. New works based on the original must credit the original author and license their creations under identical terms.
Attribution-NonCommercial-NoDerivs CC BY-NC-ND	This restrictive license only allows others to download and share original works while giving credit to the original author. Modifications and commercial use are not allowed.

CC provides a clear guide on choosing licenses on its website. Useful things to remember before choosing a copyright include:

- Ensure that an original work can be copyrighted;
- Ensure that the creator or group of creator has the authority over the original work;
- Understand how open licenses work; and
- Be specific about the license applied.

2.2.3 CC Licenses in Education

The use of CC in education reflects a major development in the open movement. In particular, CC licenses are an integral component in the creation and distribution of OER. Through CC, various forms of OER, including textbooks, lesson plans and even entire courses can be shared, customized, combined and re-purposed; all with the aim of making education freely accessible.

Some of the major examples of the use of CC in education include many OER initiatives such as OER Commons and OER Africa; MIT OCW; MOOCs providers

such as Peer 2 Peer University (P2PU); Khan Academy; and repositories such as Connexions. Essentially, all these providers have made educational content freely available as digital materials. The following is a brief explanation for each example:

- ## OER Commons and OER Africa:

  OER Commons is one of the largest OER databases on the Internet, with almost 50,000 materials that are freely available, including assessments, audio lectures, lecture notes, homework and assignments, games, simulations and textbooks for a wide range of subject matters. The OER Commons itself uses a CC BY-NC-SA license.

  OER Africa is a regional initiative that is a one-stop centre that consolidates all OER created in the region based on four themes, i.e. agriculture, health education, foundation courses and teacher education. It also links to a useful database, repositories, and relevant OER projects throughout Africa. It uses a CC BY license.

- ## MIT OCW:

  Much has already been described on MIT's revolutionary role in the OCW movement. All its course contents are released under a CC BY-NC-SA license. Recently, the renowned institution announced MITx and edX (a joint effort with Harvard University), an initiative that provides certification to learners for completion of specific series of courses.

- ## P2PU:

  P2PU is centred on the concept that "*everyone has something to contribute and everyone has something to learn*" (http://www.p2pu.org/). P2PU offers courses in various subject matters using community-produced content such as OER and other Internet resources. Learners who complete a particular course are given badges for their achievement. All P2PU content is made available under a CC BY-SA license.

- **Khan Academy:**

Khan Academy offers over 3,000 instructional videos covering various subjects from basic algebra to advanced chemistry and biology. All its videos are licensed under CC BY-NC-SA, and have been translated into various languages. Currently, Khan Academy houses almost 5,000 YouTube-hosted videos, and includes tutorials and assessments. It has delivered more than 300 million lessons since 2006.

- **Connexions:**

Connexions is an educational content repository and content management system that compiles and arranges learning objects into modules and collections to suit the needs of various levels of study. Open licensed textbooks and courses are arranged into more than 17,000 modules that are licensed under CC BY, and are continuously edited, translated and adapted. More than 2 million people use Connexions' materials each month. Schools can also order low-cost hard copy sets of the materials as textbooks.

In addition to the above examples, there are commercial providers of educational materials that leverage on the open licensed content provided by Connexions and Wikipedia, in addition to fully copyrighted and commercially published material. Such providers include e-textbook rental or sales companies such as Boundless, Chegg and CourseSmart. The latter is unique in that it was founded by some of the major publishers in higher education, including Pearson, McGraw-Hill, Macmillan and John Wiley & Sons, thus representing the largest e-textbook retailer currently available.

3　Future Prospects

3.1　Potential Future Scenario

Many of the CC-licensed works and initiatives described in this chapter have proven that there is a significant demand for free, accessible and customisable educational materials. The increased awareness, understanding and use of open licensing can encourage the further growth of OER and their distribution amongst educational proponents; thus encouraging equally positive developments in the quality of said materials and the education environment as a whole.

It can be surmised that educational institutions will find it useful to examine their roles, objectives and initiatives from the unique perspective of OER. Open universities and other institutions that leverage on e-learning will especially benefit from creating and using OER, at the very least, as a way to complement currently available educational materials, or as an exercise in learning from, and emulating the quality of work provided by other, more established providers.

We can anticipate as well a future where through open licensing and OER, educational institutions can design fit-for-purpose courses and programmes by careful selection of relevant content. These courses and programmes can be made to cater to a specific target market or local needs, or even to suit different learning styles and delivery modes. This may prove to be a crucial element in the future of higher education itself, where the traditional higher education offering is likely to be unbundled and re-bundled, especially by savvy institutions catering to a wide range of learners and clientele — a development in line with the increasing pervasiveness of ICT and the changing notion of the relevance of higher education with professional demands.

However, a word of caution is warranted at this point, as the use of open licensed content or OER alone cannot hope to solve larger issues in education, e.g. quality of programmes and graduates and academia-industry discord. Rather, the increasing availability of learning materials that can be used, reused, modified and redistributed is an opportunity that education institutions can judiciously leverage on in order to narrow current gaps in higher education provision, which will hopefully contribute to a more positive outlook in the future.

With the many potential benefits offered through open licensed educational materials, it is likely that open licensing can further boost internationalisation practices, especially in terms of encouraging working relationships between institutions and improving the quality of academic courses and programmes. In achieving the former, the work of international organisations like UNESCO is essential. Through hosting events like the World OER Congress, effecting global declarations like the recent 2012 Paris OER Declaration that aims to boost the OER movement through various large-scale initiatives (UNESCO, 2012) and with the contribution of COL, releasing the Guidelines for OER in Higher Education in 2011, UNESCO is playing a major role in creating a platform through which institutions can foster collaboration on open licensing and OER. It is interesting to note that the UNESCO/COL Guidelines themselves have been published using a CC BY-SA license.

Educational institutions can leverage on these positive developments to take part in regional OER initiatives and other inter-institutional collaborations that can promote mobility, sharing and exchange, while doing their own part to promote open licensing as a way to share educational materials in an ethical and legally accepted means.

Given the open nature of the Internet where 'copy-and-paste' is easily executed with a few clicks, educational institutions need to make a conscious effort to understand the relevant laws and regulations related to copyrighted material. As has been expounded many times before, protecting the rights of authors and creators remains an important element in the production and distribution of materials.

Fair use of copyrighted material will continue to hold importance in the context of education. While fair use is commonly applied for teaching and learning purposes, many outside the OER sphere may be unaware of its significance. In this regard, this e-ASEM publication can help to emphasise that it is critical not only to understand the terms of fair use, but the overall relevance of licensing and what benefits and limitations are involved.

3.2 Considerations for e-Asem Member Countries and Other Relevant Educational Institutions

For e-ASEM member countries, open universities and other relevant educational institutions that have an interest in creating, developing or using OER, there are many points related to open licensing that are worth considering. The future prospects with relevance to OER and open licensing appear to be promising, provided that these points are given necessary attention.

As iterated earlier, lack of awareness is an ongoing issue. Educational institutions need to understand the salient aspects of OER and open licensing. Inter-institutional and regional organisations and associations, such as UNESCO, COL and e-ASEM, are one such avenue whereby this awareness issue can be dealt with. At the institutional and local levels, awareness campaigns can be conducted to educate faculty members, tutors, learners and other potential users.

At this juncture, it is necessary to acknowledge that of the near-limitless number of content available on the Internet, the current uptake of open licenses is not completely inclusive, although through the initiative of parties like MIT and Khan Academy, millions of open-licensed learning materials are already accessible, often with very few restrictions.

For educational purposes, it would be wise for education providers to leverage on

these currently available materials to complement or design academic programmes, rather than casting a wide net in search of usable content. In addition to Google-based services, many video-based websites, such as Vimeo, as well as music, image and photography websites like Fotopedia, Wikimedia Commons and SoundCloud also allow users to mark original work with CC licenses, thus making a considerable amount of relevant content valid for use, whether for education or any other purpose.

Quality is potentially one of the most essential features of open licensed educational materials. That the creation and distribution of OER can lead to national and regional repositories of learning materials is a positive development for the educational community, but at the same time, these learning materials need to be selected from the most suitable and of the highest quality. However, it must be said that licensed materials that allow for derivative work also provides an opportunity for quality improvement. This can encourage an open approach that welcomes enhancement; a reflection of a universal educational philosophy that emphasises sharing, exchange and betterment. Additionally, perhaps some form of peer review process can be put in place in order to ensure and improve the quality of published materials.

Promoting regional development will require institutions to consider solutions to language and cultural barriers, particularly in countries where English is not commonly used as a second language. Of course, through a license that allows for translation into other languages, MIT OCW has proven that this issue can be overcome, although a large-scale initiative involving many countries and institutions, for instance, one between e-ASEM member countries, may require a different solution.

Educational institutions need also to consider how OER will impact profit-making activities. Similarly, they need to evaluate how they intend to approach the concept of openness in education, as the increasing use of OER and large-scale initiatives such as MOOCs will continue to challenge the very conditions that have allowed education to be considered a tradable service. Many for-profit and private educational institutions argue over MOOCs, citing them as a disruption or a threat towards their

own income-generating objectives. What is critical at this juncture is for all types of educational institutions to consider ways to leverage on the features of MOOCs to improve curricula, delivery methods, teaching, learning and assessment practices. In short, openness in education, via OER and open licensing, should be seen not as a threat, but an opportunity.

Educational institutions and learners will only stand to benefit from the growing numbers of open licensed learning materials. In theory, an entire academic programme can be packaged using carefully selected resources and lesson plans. This can create a way for standardised curricula across institutions and countries as well as ease credit transfer arrangements as well as facilitate mobility of learners.

For many educational institutions that are still new to the concept of OER, it will be useful to create incentives to encourage faculty members and other relevant individuals to contribute to the creation and development of learning resources to share with external parties. Apart from promising academic and professional recognition to the relevant contributors, it is important for institutions to declare their commitment to the concept of openness and provide the necessary environments and support systems to encourage faculty members to adopt the same level of focus to this cause.

The continued growth of OER and open licensed materials plays an active role in providing solution to the problem of insufficient learning resources, particularly in underdeveloped nations and less privileged institutions. The idea of a nation- or region-wide repository to consolidate all relevant learning resources, like that of OER Commons and OER Africa, is indeed a useful one. Again, this links to the idea that academic programmes can be built on OER. As has been proven by many MOOCs providers, this is not only feasible, but can be executed well using an online platform, with learners hailing from all corners of the globe.

What these new developments indicate is that the future of education will only stand to benefit from the powers of the Internet and the many possibilities that it offers

— in particular, freedom, openness, universality, accessibility and opportunity for all. Open licensing has proven to be one component that is essential in creating an ethical, respectful and legally accepted means to realise the true potential of OER in a borderless, digital world.

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