What are OER?

Open educational resources (OER) are, according to the William and Flora Hewlett Foundation, “teaching, learning, and research materials in any medium—digital or otherwise—that reside in the public domain or have been released under an intellectual property license that permits no-cost access, use, adaptation and redistribution by others” (n.d.). Examples of OER include “full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge” (ibid). The term OER was coined at a United Nations Educational, Scientific, and Cultural Organization (UNESCO) meeting in 2002. Related terms include “open content,” “open courseware,” “reusable digital learning resources,” “open-source materials,” and “open textbooks.”

A distinguishing characteristic of OER is their use of an open license, which is a license that explicitly grants users permission to reuse, adapt, and/or share the educational content while ensuring that credit is given to the author of the resource. OER licensing gives users legal permission to do what David Wiley refers to as the 5Rs, namely the right to: “make, own, and control copies of the content (Retain)”; “use the content in a wide range of ways” (Reuse); “adapt, adjust, modify, or alter the content itself” (Revise); “combine the original or revised content with other open content to create something new” (Remix); and “share copies of the original content, your revisions, or your remixes with others” (Redistribute)” (2014). The most commonly applied type of license is Creative Commons (CC), and in particular CC licenses that allow for derivative work (through revision and remixing) and sharing with others (including redistribution in any format or medium). Having an open license differentiates OER from resources that can be accessed at no cost (i.e., “free”) but use of which is restricted in some way—for example, they “may not be modified, adapted or redistributed without obtaining special permission from the copyright holder” or they may be “restricted from use at some time in the future (including, by the addition of fees to access those resources).” Most OER today are digital, which makes them easy to repurpose and redistribute, including through printing.

Why use OER?
Over the last two decades, advocacy for OER has become a global movement. The 2007 Cape Town Declaration on Open Education invites educators and learners to “actively participate in the emerging open education movement.... by creating, using, adapting and improving open educational resources” and calls on educators, authors, publishers, and institutions to release their resources openly, especially those resources that are produced with public funding. The 2012 OER Paris Declaration issued during the first World OER Congress recommends that UNESCO member states adopt strategies and policies on OER, including those that will encourage the development and adaptation of OER in a variety of languages and cultural contexts, encourage research on OER, and facilitate finding, retrieving, and sharing of OER. Likewise, the 2017 Ljubljana OER Action Plan of the second World OER Congress recommended actions for educational stakeholders to mainstream OER to build knowledge societies and achieve the 2030 Sustainable Development Goal 4 of inclusive and quality education and lifelong learning.

The campaign for OER creation and use is based on growing recognition of OER as a means of addressing unequal access to education, variable quality of educational resources, uneven teaching and student performance, and the increasing cost of education. Other arguments include the high cost of commercial textbooks, which may lead to procurement shortages, a disincentive to renew and update textbooks, or simply going without. Finally there are practical limitations of commercial textbooks that are particularly relevant to multilingual and multicultural Philippines: a lack of textbooks in local languages, issues with regard to cultural relevance of the content, and misalignment with a recently revised curriculum. In contrast, OER are not only available free but also adaptable and customizable for use in specific learning contexts. Both the original and adapted versions can be shared widely at little or no cost. In addition, OER “challenge teachers to incorporate digital technology into their courses and programmes and enable students to access quality content in an autonomous manner. They are also an incentive for teachers, students and institutions to work together in producing original material in a collaborative manner.”

In sum, using OER may provide the following benefits (Green & Vollmer, 2017):

• reducing barriers to education such as access, cost, and language;
• allowing educators to legally keep, reuse, modify and share educational resources;
• making use of public funds for education more efficient and effective (by reducing and/or eliminating the cost of textbook procurement and distribution);
• building digital literacy skills for the modern workplace;
• transforming teaching and learning by building communities of educators, enabling effective open pedagogy, and building capacity.

However, there are challenges to OER adoption especially in developing countries. One is the need for infrastructure, including a reliable power supply and internet connection. Teachers usually need to devote a significant amount of time to finding and assessing the quality of OER, given the volume of online resources. Adapting or customizing OER for a particular learning context also requires time and a certain level of digital proficiency. Furthermore, because the majority of the available OER are in English, fluency in English is needed for educators to be able to accurately adapt for local contexts.

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5 Cape Town Open Education Declaration (2007). Unlocking the promise of open educational resources. Open Society Institute and the Shuttleworth Foundation. Available at: http://www.capetowndeclaration.org/read-the-declaration
Early OER-related Initiatives

In the Philippines, awareness of OER as a means of addressing issues related to access to and quality of teaching and learning resources in basic education has been increasing since 2012, albeit slowly. An Australian Government-funded project in 2012–2014 piloting the use of tablets in Grade 7 mathematics, science, and English classes in nine public secondary schools in five schools divisions included pre-loading the tablets given to participating schools with OER and freeware from Education Services Australia (ESA) and other sources. The project report recommended that those in charge of curriculum and instructional materials development undertake a systematic selection and aggregation of learning resources for all topics in the curriculum and in “different media types that support the full range of learning tasks in each learning area” and that “priority should be given to [OER] which can be adopted, customised, and remixed for use in Philippine classrooms.”

The broader framework for learning resource development and distribution at the Department of Education (DepEd) evolved from the 2010–2015 Strengthening Basic Education in the Visayas (STRIVE) project, also funded by the Australian Government. The baseline research for this project showed that “the desired 1:1 textbook: student ratio did not exist in most schools surveyed, most teachers had no teacher manuals, teachers were having to use their own money to augment the instructional resources in the schools, schools which lose their textbook collection because of calamities do not get replacements and few supplementary materials are available at the schools”.

It was also found that there is a “highly variable distribution of resources across all levels and in most subject areas” and the procurement process for textbooks and supplementary materials is “problematic”. A Learning Resource Management and Development System (LRMDS) was established to address these issues in Regions 6, 7, and 8, the STRIVE project sites. The LRMDS, which has since become a flagship program of the Bureau of Learning Resources (BLR) and which has been renamed the Learning Resource Portal (LR Portal), aims to strengthen the learning resource development and distribution systems at the region and division levels through “support for the assessment, acquisition, adaptation, development, production and distribution of teaching/learning materials to schools” (p. 8). This includes digitization and enhanced provision of quality learning materials particularly in reading in the early grades, as well as technology and livelihood education, English, science, and mathematics in other grades and the Alternative Delivery Mode and Alternative Learning Systems programs; development and utilization of quality assurance systems for learning resource provision and use; and adoption of ICT-enabled solutions to strengthen the learning resource support systems.

The LR Portal includes print and digital resources for learning, teaching, and professional development that have been commissioned by DepEd, through various programs and projects, to meet specific requirements and teaching, training, or learning content contributed or licensed via third party agents, such as cultural institutions, government agencies, not-for-profit organizations, or commercial publishers. This material may be licensed and procured content that can be used as is (in its current state) or modified to meet local needs and digitized to be made available to teachers and students, as well as materials developed by teachers for local use. All materials are to be reviewed, evaluated, and catalogued for sharing and distribution via the portal. The evaluation of resources focuses on instructional design (including soundness of content and pedagogical approach), technical design (including usability, accessibility, and interoperability), and compliance with intellectual property rights (including observance of terms of use and standards for the modification, creation of derivatives, reproduction, and redistribution of resources).

Although no reference is made to the term OER in LRMDS project reports, policies, and guidelines, the LR Portal as a whole carries the CC BY-NC-SA license, which allows users to share (copy and redistribute in any medium or format) and adapt (remix, transform, and build upon) the material, with attribution and for non-commercial purposes, and to distribute derivative work under the same license as the original and with no additional restrictions. On the other hand, it is accessible only to users with DepEd-provided login credentials, which means that they are not readily available to a global audience.

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In September 2015 UNESCO organized an OER Policy Forum in Manila attended by DepEd, the Commission on Higher Education (CHED), South East Asian Ministers of Education Organization’s regional center for educational innovation and technology (SEAMEO-Innotech), the University of the Philippines Open University (UPOU), and selected state universities and colleges. The aim was to develop understanding among policymakers of the potential of OER to advance education and to enable them to formulate sector-wide OER policies for the Philippines. DepEd also participated in a workshop to formulate a joint circular to be issued by DepEd, CHED, the Technical Education and Skills Development Authority (TESDA), and UPOU in support of OER; however, the release of this has been stalled by personnel changes in some of the agencies.

Four years later, in June 2019, the Office of the Undersecretary for Administration of DepEd released an aide-memoire about the OER Project under its Digital Rise Program for developing information, media, and technology skills among teachers and learners and achieving a vision of the “Public School of the Future.” The aide-memoire notes the availability of a wide variety of OER in various learning areas, and in digital format that teachers can customize to fit specific learning needs and share with other teachers, thereby promoting teacher collaboration. The aide-memoire also presents OER as a strategy for addressing “challenges encountered by the public school system most specially the Last Mile Schools in terms of access to learning materials and skills to create or reuse contents.” (p. 3) This informs the two components of the OER Project, namely, provision of an offline OER library for all schools and training of teachers in OER creation and use.

The offline OER library includes more than 7,000 resources from the LR Portal; about 1,500 teaching resources from CHED’s Teach Together Program for Senior High School; 20,000 interactive exercises from Khan Academy; and 5.8 million Wikipedia articles and other Wikimedia resources (including Wikivoyage, Wikispecies, Wiktionary, and Wiki for Schools and Business) that are preloaded to the computing devices given to schools under the DepEd Computerization Program (DCP). The offline library is deemed to be especially useful for schools that are located in remote areas with no internet connection (“last-mile” schools).

The teacher training component consists of workshops delivered around the country by ICTS staff. The workshop focuses on the creation of OER using free and open source authoring tools such as CourseLab 2.4, WonderShare Quiz Creator, and Kolibri. Unlike other training programs implemented by DepEd where participants are handpicked by school heads and division and regional officials, OER workshop participants are recruited through open invitations or calls posted on social media. The workshops are usually held on weekends outside of school premises, participants bring their own laptop, and no incentives are offered.
(e.g., continuing professional development credits) are offered for participation. Those trained are expected to conduct one-on-one or small group training for their peers using the school-based Learning Action Cell (LAC) mechanism. Some become “OER volunteers” and “OER core leaders,” organizing and facilitating workshops for large groups (ranging from 100 to 750 participants) in collaboration with local government units and civic organizations.

According to the trainers and workshop facilitators, teachers find the training very relevant and empowering as it enables them to quickly develop interactive multimedia materials and assessment tools (such as drills, games, and quizzes), which their learners find engaging, as well as teaching resources for mother tongue-based education (in Grades 1 to 3), literacy skills development (e.g., integrating voice-overs to help develop listening skills), and lessons requiring use of local examples to facilitate learning. The trainers and facilitators note that the learning resources developed by the teachers are reusable, which reduces the time teachers spend preparing for class, and that use of these resources in the classroom can help facilitate the shift to a more learner-centered pedagogy as teachers can focus more on observing how learners are engaging with the content and on providing the necessary feedback and guidance. In addition, the OER training workshop aims to develop the teachers’ digital literacy skills and skills in ICT-supported teaching, and encourages them to provide their learners with opportunities for digital learning in the classroom.

There were only 12 participants in the first three-day OER workshop held in May 2019, but more than 10,000 teachers had been trained as of September 2019. However, there is no formal monitoring and evaluation of the effectiveness of the OER training, particularly whether and to what extent it is improving the quality of teaching and learning; nor is there monitoring and evaluation of the use of the offline OER library by teachers and learners. It is also unclear whether teachers develop OER based on a well-defined need (i.e. lack of existing materials, or subject matter that is traditionally hard to teach) or because the subject is well suited to multimedia transformation.

**Insights, analysis, and recommendations**

The initiatives described above suggest an increasing awareness of and engagement with OER on the part of DepEd, backed by a considerable financial and material commitment in the form of hardware and software provision through the DCP. However, there are certain areas that need to be addressed to improve DepEd’s adoption of OER as a strategy for effective teaching and learning in schools.

First, it seems that OER as a concept is neither consistently understood nor widely adopted within DepEd, resulting in little or no collaboration among DepEd units in promoting OER. In fact, the OER Project and the Digital Rise Program as a whole are being implemented by the ICTS Unit with hardly any involvement from the BLR, Bureau of Curriculum Development (BCD), and Bureau of Learning Delivery (BLD). Thus, use of the offline OER library is not being maximized, and the OER developed during the teacher training workshops are not shared among teachers even within the same school and/or division. Participants in the OER training workshops are advised to refrain from sharing the learning resources they have developed until they have gone through BLR’s quality assurance process. This limits the usefulness of these resources as OER or as resources that are available for others to reuse, revise, remix, and redistribute.

From a conceptual standpoint, teaching and learning resources that cannot be shared or made available for reuse and repurposing by others are not OER. The downplaying of sharing as an aspect of OER creation and use is therefore surprising. ICTS proposes to enable the sharing of resources by developing an OER portal where the OER created by teachers are catalogued by learning area and grade level and an editable version of each learning resource can be downloaded. However, ICTS admits that the OER workshop outputs will have to be “quality assured” before they can be published in the portal. There is also the issue of better coordination between ICTS and BLR to address the question of different typologies of OER and whether there should be different repositories for different types of resources. For example, the LR Portal described earlier is mostly devoted to static resources (i.e., lesson plans, worksheets, images, drawings, and the like) that can be printed or projected for use with the whole class. ICTS, on the other hand, is promoting

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**In March 2020, in the wake of school closures and community quarantine due to the COVID-19 pandemic, DepEd launched the DepEd commons, a searchable online database of interactive digital resources. Within the first two weeks it registered 2.6 million views.**

- Abanil, A. Personal Communication, April 2, 2002. Government-funded project
the development of interactive multimedia resources for use either by students or by teachers in whole group formats. The indexing, quality control, and reuse of static and interactive digital resources are very different.

The relevant standards and processes for the review of learning resources, including OER, are in place at BLR. One of their concerns is developing awareness of and respect for intellectual property rights (IPR) in teachers’ use and remixing of resources. This is a valid concern in light of the prevalence of downloading proprietary material, such as images and videos, for inclusion in slide presentations. However, orienting teachers to IPR rules and protocols, as BLR proposes, may not be sufficient. A more effective approach would be to encourage teachers to make use of OER repositories as a source of materials for adoption and adaptation. This aspect of the OER training workshop being implemented by ICTS must be improved as the emphasis at present appears to be more on developing digital resources from scratch rather than on maximizing the use of existing resources in the offline OER library either as resources for use “as is” or as resources that can be revised and/or remixed. In the OER cycle, OER creation is undertaken when there is no suitable OER available or when revision of an existing OER is deemed not feasible and/or productive.

Finally, the lack of coordination between ICTS, BLR, and BLD is limiting the reach and impact of the OER teacher training program. While the demand-driven model of teacher training that has been adopted to date has resulted in a rapid increase in the number of teachers trained, there is uneven recruitment of teachers across divisions and regions. In some cases, due to micropolitics in schools and divisions, teachers whose participation in the training workshop has not been endorsed through official channels have difficulty persuading their colleagues of the program’s value. This impacts negatively on the formation of a community of practice around OER use for teaching and learning within and across schools, which puts into question the scalability and sustainability of OER as a strategy for improving access to education and the quality of teaching and learning.

Recommendations: How can the issues and challenges be addressed?

To address the issues and challenges discussed, the following are recommended:

- Improve collaboration within DepEd bureaus and departments (ICTS, BLR, BLD) so that the OER initiative and repository becomes a shared product owned and supported by all.

- Formulate a comprehensive OER policy framework where the standards, processes, and guidelines for use and creation of OER are clearly laid out, based on a comprehensive review of relevant policies and programs. This framework should provide for the systematic evaluation of the impact of OER on access to and the quality of teaching and learning.

- Define clearly the similarities and difference between ‘open’, ‘digital’ and ‘interactive’ educational resources, and provide clear instructions for accessing, creating and distributing such resources.

- Make it easier to find OER by linking them to specific curricular competencies—not only subject and grade level—and building curated collections or ‘playlists’. Ensure that teachers look for existing resources before creating new ones.