

OER-BASED E-LEARNING INITIATIVES IN DISTANCE LEARNING: A CASE STUDY OF WAWASAN OPEN UNIVERSITY

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Abstract

Wawasan Open University (WOU) established in 2007 has been adopting the latest applications in e-learning along with the principles and practices of open education movement. This paper reports the development of OER-based e-learning in the University since 2011 after the commencement of the OER-Asia initiative and the formulation of an OER Policy and adoption of the Open License Policy. The paper also reports the OER initiatives and integration of OER-based e-learning in course development in WOU in which courses materials were developed using either the 'wrap around textbook' or the 'stand-alone' model. Further attention is channelled towards the integration of OERs in the development and delivery of the course EED502/05 ICT in Education. Guidelines and challenges of working with OERs in course development for the said course are also highlighted. Finally, the paper attempts to discuss how integration of OERs in course development has made a positive impact on the quality and cost-effectiveness of course development and presentation.

Keywords: *E-learning, Open Distance Learning (ODL), Open Educational Resources (OER)*

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Introduction

Wawasan Open University (WOU) officially launched in 2007, is a relatively young distance learning institution that was established by a charitable foundation to provide flexible access to higher education at relatively low-cost. Since its launch, the University has adopted various innovative approaches that are cost effective with the hope to make higher education accessible to all. In this attempt, the University contributes towards a vibrant learning community that inspires learning, supports innovation and nurtures all-round personal growth. WOU is also committed to the expansion of opportunities in higher education and to teaching excellence aimed at increasing the level of knowledge and scholarship among all Malaysians.

Currently, WOU offers a variety of degrees ranging from graduate diplomas to post graduate degrees in the fields of business, technology, education, liberal studies and psychology. All these programmes are fully approved by the Malaysian Qualification Agency (MQA) and many of them have received recognition from the Public Services Department.

WOU uses a blended model of open distance learning which focuses on the learners through the promotion of self-paced learning and flexible study pathways. This measure enables working people to pursue their educational goals while balancing their professional, family and personal commitments. WOU's student population consists of working adults between the ages of 21 to 74 with the majority (76.4 %) falling within the 21 to 35 age group. Since these working adult learners will not be able to attend lectures during the workday, the blended learning mode was essential in gradually introducing them independent self-learning and supplementary experiential learning. The ensuing discussion highlights the adoption of e-learning and subsequent initiatives in WOU.

Adoption of e-Learning in WOU

The adoption of e-learning in WOU is implemented in various forms and stages, such as in the development of self-contained course materials, delivery of courses to students and in the submission and marking of assessments. This discussion, however, attempts only to address the adoption of e-learning in the course development process.

In WOU's technology-enhanced open and distance learning model, the role of conventional face-to-face lectures is replaced by a set of comprehensive self-contained course materials that may include textbooks or open educational resources (OERs). Use of these supplementary resources (textbooks or OERs) actually encourages

students to engage in learning activities at any time and from anywhere that best suits their individual learning styles and needs.

Since its initial development, these self-contained course materials have been presented in various forms; in print form in the early years and subsequently in CD form. Currently, the course materials are presented in pdf format and uploaded directly into *Wawasan Learn*, WOU's home-grown Moodle-based Learning Management System. Whatever the form of development or presentation, the self-contained course materials are pedagogically designed to facilitate active engagement in both offline and online learning through the promotion of self-paced learning, self-access learning and self-directed learning. For instance, a comprehensive learning guide is provided with the course material that explicates information on how students should pace their learning to ensure optimal learning effectiveness.

These self-contained course materials are developed through a comprehensive, rigorous process that involves a team of academic experts consisting of Course Writers (CW), External Course Assessors (ECA), instructional designers, language editor, course team coordinator and the relevant academic members. Figure 1 illustrates the course development process in WOU.

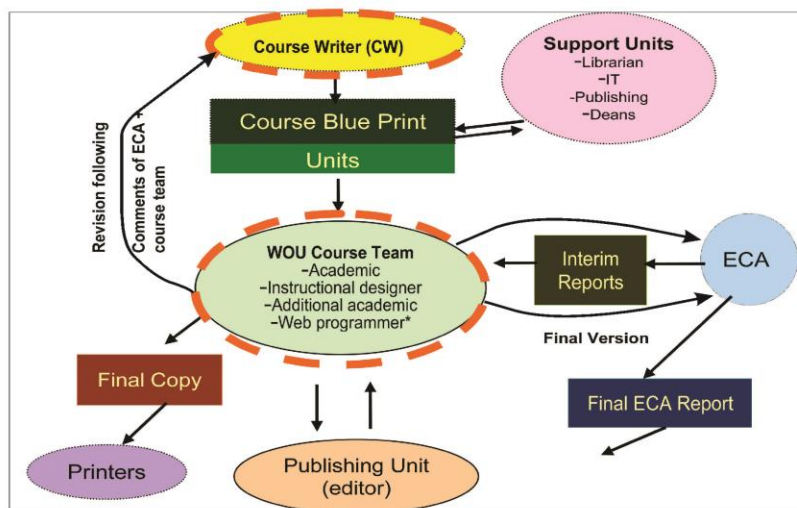


Figure 1. Course Development Process in WOU

The involvement of expert Course Writers (CW) and External Course Assessor (ECA) forms part of the Quality Assurance of the course development process. Among others, the criterion of appointment for an ECA requires that the person needs to be at least an Associate Professor

with 5 years of experience in the relevant field. The adoption of e-learning in the course development process allowed for the searching and appointment of an ECA from different geographical locations. In WOU, appointment of ECAs come from, but is not limited to, Singapore, Hong Kong, India and Australia. It was essential that adoption of the e-learning model facilitated this appointment process and promotes active interaction between the ECA and the course development team in WOU.

In addition, the adoption of the e-learning model also leads to the provisions of effective learner support to further enrich the learning experiences in WOU. Among some, online learning support is provided on a 24X7 basis. The *Wawasan Learn* enables WOU students to access for general queries regarding the course and additional supplementary materials, links to relevant websites, forum discussions with members of their own tutorial groups or course mates all over the country as well as exchanges with their tutors and course coordinators. The University began using the version 1.9 of the Moodle and today has migrated to version 2.5 which provides many avenues for additional interaction. The University also provides access to extensive electronic library resources on a 24X7 basis from anywhere with Internet connections.

OER Initiatives at WOU

WOU was a pioneer institution in this region to respond to the global advocacy for the OER movement. The OER-Asia initiative that began in 2010 was carried out under the auspices of the University for advocating and disseminating relevant information about OER as well as developing training materials and conducting reach in the area. OER-Asia as well as WOU made vital contributions to the drafting of the World OER Declaration that was carried out by the Commonwealth of Learning and UNESCO. It is essential at this juncture to highlight the significant role of OERs in influencing the idea of open education movement in higher education institutions (Vighnarajah, 2015).

In December 2010, the Council of the Wawasan Open University asked the University to consider and develop a proposal for possible adoption of OER and bring out a detailed implementation plan in order to transform the existing course development process with an aim to increase the quality and efficiency of developing materials as well as reducing the costs involved in development.

The management of WOU responded to this directive of the Council by initiating actions to systematically plan and implement the use and

integration of course development in the University. One of the first actions was procuring a senior professional with expertise in ODL and OER to launch OER adoption activities in the University. A team of people composed of proponents of OER as well as other staff joined as members of the OER steering Committee. The authors of this paper were involved in this committee too. As part of this transformation to using OERs, a discussion paper entitled 'OER Integration in WOU-policy Directions, Strategic Outputs and Action Plan' was drafted. After much deliberation, the OER Policy for WOU was adopted to include the various facades of OER adoption and implementation ranging from development of courses to use of OERs as supplementary teaching aids during tutorial sessions. The broad OER Policy declaration was that "WOU will promote and implement the creation, reuse, remix, repurpose and redistribution of Open Educational Resources (OER) within the Open Licensing framework (WOU-OER Policy, 2012). Based on this OER policy the University also formulated an Open Licence Policy (2012) with CC-By-NC-SA as the licence for selected courses.

In the early years of course development in WOU, courses materials were developed using either the 'wrap around textbook' model or the 'stand-alone' model. In the 'wrap around textbook' model, courses materials were developed with significant, direct references to a textbook which will also be provided alongside the course material given to the student. In the absence of a textbook, the course materials were mostly adapted from Open University Hong Kong (OUHK) for a certain amount of fees. In the 'stand-alone' model, course materials were developed without any references to textbooks though textbooks were still provided (for certain courses) as supplementary reading materials. Naturally, the 'stand-alone' model proved to be more cost-effective particularly for a non-profit institution such as WOU.

Another cost-effective measure adopted was the minimizing the presentation of the self-contained course materials. The initial course materials were given in a house-style print form (collated in a file) to the students together with a textbook. However, when WOU spread its wings to East Malaysia, it was discovered that the cost of freight charges itself formed the bulk of the budget. Subsequently, course materials were introduced in the form of interactive CDs accompanied with textbooks – again, the freight charges and the cost of producing interactive CDs were still a matter of concern. Moreover, despite this being an innovative measure on the part of the University to facilitate interactive learning, the working adult students were hesitant of this change and were more comfortable with the print form.

The final measure was to present the course materials in pdf format which to be uploaded onto *WawasanLearn*. This was a definitely cost-effective measure but concerns were raised on how to substitute the accompanied textbook as a supplementary reading material - in other words, quality of the self-contained course materials was questioned. It was in this perspective that OER initiatives were examined and implemented in WOU.

Integration of OER-based e-Learning in Course Development

Integration of OER-based e-learning in course development was a relatively new challenge for academic and academic-support staff in WOU. At that point in time, OERs were gaining much popularity in the academic society for many reasons for one of which was for quality and cost-effectiveness. Integration of OERs in course development were also attempted by other academic institutions in the region – see for instance, the Post Graduate Diploma in e-Learning (PGDEL) offered online by the Indira Gandhi National Open University (IGNOU) (Mythili, 2014).

In WOU, the course EED502/05 ICT in Education was one of the two courses that were first attempted with OER-based e-learning. The notion of OER-based e-learning was basically the delivery of OERs, or OER integrated courses, using the e-learning mode. The EED502/05 ICT in Education course was designed for students taking the Masters in Education programme of the School of Education, Languages and Communication. This course was chosen on two grounds; first, students need to have basic hands-on experience and skills of engaging with ICT, and second, engagement in this course required the students to be exposed to the development of trends in the field of ICT. Hence, integration of OERs in the course development of this course provided the basic knowledge, skills and experiences of engaging with ICT.

The development of the course adhered to the normative course development process at WOU, but additional quality assurance (QA) processes were necessitated to ensure the quality of selecting OERs and its integration process was not compromised. Figure 2 illustrates the QA processes in OER integrated course development.

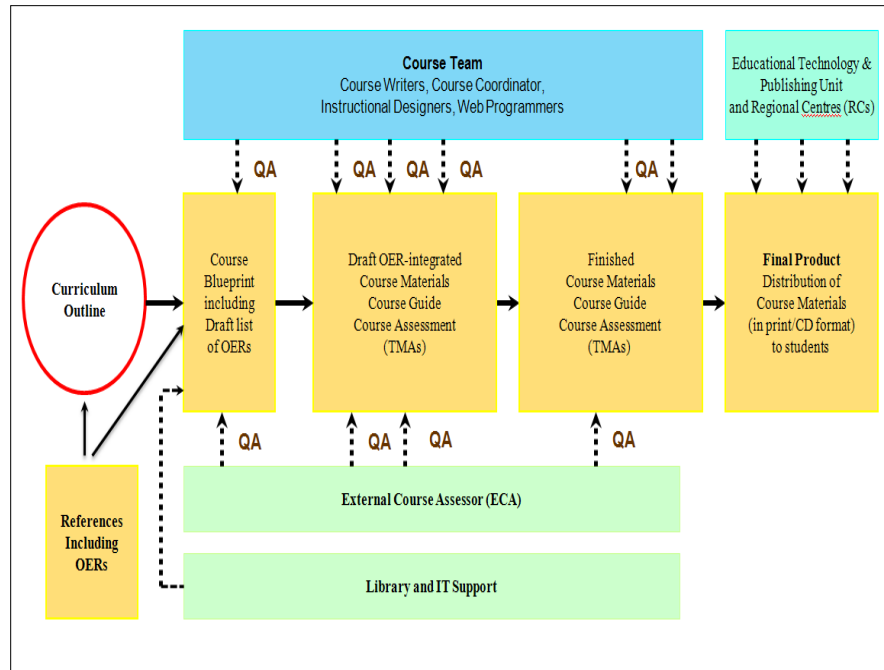


Figure 2. QA Processes in OER Integrated Course Development (Menon, M.B., 2014)

In the development of this course, OER materials used in the development of this course included book chapters, conceptual and research articles, case studies, streamed video, podcasts and visuals. Selection of these OER materials were deliberated by the Course Writers (CWs), External Course Assessors (ECA), instructional designers, course team coordinator and the relevant academic members. Each member of this course development team played specific roles in both searching and selecting OER materials, assessing the relevance of the OER materials and/or ensuring effective integration of the OER materials in the course development process.

To ensure that appropriate OERS were used, the course development team had to follow three simple steps as follows:

- Identify and shortlist reputable and peer-reviewed OER repositories in discussion with the Course Development Team.
- Locate the relevant materials from the OER repositories agreed by the Course Development Team with due consideration given to the copyright license of the materials

- Assess the quality of the collated OER materials before finalising and confirming the OER materials that will be adapted or used to develop the course content of the course.

As mentioned earlier, exploring the use of OERs in course development was a relatively new challenge for the academic and academic-support staff in WOU. Following are some of the challenges faced by the course development team in the process of integrating OERs in the development of the said course:

- *Quality of available OERS on the Internet:* The heterogeneity of OER that were available posed a major problem in terms of choices. Quality indicators had to be developed in the areas of searchability, content correctness and extent of openness of the OERS to help the course team make their choices.
- *Combining resources with various types of licenses:* This was a major challenge the course team faced. While the course writers remixed and modified resources which had a CC-BY-SA licence, resources which had other licenses were given as reference materials.
- *Resources not showing any open license but could be made available on request:* Many useful resources from multi-lateral organisations such as UNESCO were found but they had copyright protection. These materials could not be considered as OERS unless they carried a CC-BY licence.
- *Resources which are modified continually:* There were a large number of resources that were created by a community of authors but modified regularly. All Wikis belong to this category. The course team made use of a few resources by indicating the date on which the resource was included in the course or by rewriting the content as new creation.
- *Use of copyrighted resources openly available on the web:* Some YouTube videos were used. But in these cases, the links were provided to the students for download and use. They were not copied and embedded in the course packages.
- *Formulation of the curriculum framework:* The framework for this course was done using copyright textbooks and had already been approved by the MQA. Hence, the course team had very little leverage in modifying the framework to include more recent materials with open licence.

Cost-effectiveness of OERs for Course Development

While open educational resources generally came about with the notion of sharing what already is available, it is undeniable that the purpose of sharing what is already available is to basically ensure minimum costing, wherever possible. Cost-effectiveness is not entirely a new concept, though it has taken on a new face with the recent rapid advancement of open educational resources. Effective adoption and adaptation of open educational resources facilitate cost effectiveness since the money spent to develop the course is optimized for use in other areas instead of focusing on a single-application materials development. Cost-effectiveness basically refers to the ratio of costing against efficiency. In the context of course development, cost-effectiveness refers to minimum costing in ratio to the expenses needed to develop a said course.

The course EED520/05 ICT in Education developed in WOU also fully adopted and adapted available open educational resources to ensure minimum costing. In developing a standard course, expenses include payment to the course writers which actually constitutes the major portion of the expenses; payment for external reviews; and publishing and freight costs.

Adoption of open educational resources for course development allows for minimizing of costing, particularly in terms of payment for course writers. This measure works mostly if there are open educational resources available for course writers to adopt and adapt for the course development process. Availability of such resources permit the writers the time to adopt and adapt what is already available rather than having the need to write from scratch. In such instances, payment to course writers can be reduced in lieu of the amount of work required for the writing process. Such measures also translate into a time saving factor. That is, what may take the course development duration of, for example, one year to complete may be completed in six months with the aid of open educational resources. Ultimately, this course can be offered earlier which also implies revenue for the university.

Moreover, revisions of course materials in WOU are handled by members of the University, such as course coordinators and instructional designers, instead of the original course writers. This process is possible since the course coordinator and instructional designer only need to

search out and expand on the number of open educational resources that were incorporated in the development of a said course. The cost of textbooks in higher education is taking a significant toll in the cost of higher education. Wiley, Green and Soares (2012) pointed out that "[a]ccording to the nonprofit U.S. Public Interest Research Group, college textbook prices have increased at nearly four times the rate of inflation for all finished goods since 1994. College students spend an average of \$900 per year on textbooks - 27 percent of the cost of tuition at a public, four-year university."

With such alarming figures, more and more research and development in open educational resources seem to provide a viable alternative in replacing expensive, and in some instances proprietary, textbooks (Wiley, Hilton, Ellington and Hall, 2012). They highlight that proprietary textbooks are being scrutinized for their rising costs and that the textbooks selection process are typically slow and bureaucratic. In their discussion, attention was also channeled towards the works of Baker (2008) and, Baker, Thierstein, Fletcher, Kaur and Emmons (2009) in substituting proprietary textbooks with open textbooks constructed from either full or partial collection of open educational resources.

Conclusion

The paper discussed the journey of WOU in integrating open educational resources (OERs) in the course development process. These measures were taken in light of the principles and practices of the open education movement, the OER-Asia initiative and formulation of the OER policy. The paper also discussed the reasons that led to the need to adopt and integrate OERs in course development one of which was to achieve cost-effectiveness without compromising the quality of the self-contained course material and its supplementary reading materials. The course EED502/05 ICT in Education was selected for purposes of discussion to exemplify the integration of OERs in the course development process. To this effect, guidelines and challenges for effective integration, as well as normative and OER-based models were presented to illustrate and make brief comparison on the course development process. Attempts on integrating OERs in course development have brought about a positive impact on the cost-

effectiveness without compromising the quality of neither the course material nor students' engagement in the learning process.

It was also part of WOU's pioneer efforts to adopt a new course development policy, minimizing the use of paid, copyrighted material. This successful effort has spurred the University to currently revise many of its courses to include OERs as a more cost-effective measure. This action is also in line with measures taken by other universities in minimizing technical, legal and cost concerns that may facilitate and expedite production of self-contained course materials.

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