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Wawasan Open University – Developing a Fully OER-based Course

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Introduction

Wawasan Open University is a relatively young and small university established in 2007, by a charitable foundation, to provide low cost, flexible access to higher education for Malaysian adults. Over the last five years it has embarked on a series of innovative and cost effective approaches to providing educational services to the Malaysian public. It uses flexible modalities to make higher education accessible to all – anytime, anywhere – and to create a lifelong learning community for aspiring individuals regardless of their previous educational, ethnic or socio-economic background.

Through a model of open distance learning, self-paced learning and flexible study pathways, WOU enables adults in the workforce to pursue their educational dreams without much disruption to their professional and personal commitments. WOU is an institution that aims to equip the contemporary workforce with industry-relevant knowledge and skills through its quality, market-driven programmes, while they continue in their jobs (WOU, 2013).

Currently, WOU offers over 40 programmes ranging from the sub-degree to postgraduate levels in the fields of business, technology, education and liberal studies, three MBA and Ph.D programmes. WOU produced its first batch of MBA graduates in 2010, and its pioneer batch of Bachelor's degree students in 2011. All its programmes are fully approved by the Malaysian Ministry of Higher Education (MOHE) and the Malaysian Qualifications Agency (MQA). On top of that, 13 programmes – i.e. CeMBA, CeMPA, as well as 6 business and 5 technology degrees – have received recognition from the Public Service Department (JPA) following the graduation of its inaugural batch of students.

This case study shows how a young and innovative university such as WOU has been able to transform its course development processes from a 'wrap-around

textbook based' model using courses it bought from the Open University of Hong Kong to an Open Educational Resource (OER) based course development model, and as a result achieving three positive outcomes in one stroke. These were substantial cost reduction in course development and delivery, quality enhancement from the use of a variety of multimedia OER and increased internal capacity building for innovative course design and development. The two models for Course Development, namely the 'wrap-around model' using OER, and the 'stand-alone model' based on copyrighted books nevertheless, exists at the University, side-by-side.

This case study describes the experience of developing and delivering one of WOU's courses based almost entirely on available Open Educational Resources as part of adoption and implementation of an OER policy and Open Educational Practices in the university. This was one of the pioneer courses which sought to adopt a new course development policy eliminating the use of copyrighted material. Schools of Studies were urged to use, reuse or repurpose available OER or create their own OER and the University is now in the process of revising all its copyrighted textbook based courses as well as courses bought from other universities.

OER Integration Initiative at WOU

Wawasan Open University has been a pioneer institution in the region to respond to the global advocacy for the OER movement. The OER-Asia initiative started 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 research in this area. OER-Asia as well as the University made concrete contributions to the drafting of the World OER Declaration jointly by the Commonwealth of Learning and UNESCO. Wawasan Open University in spite of being a new organisation took the bold decision to join the OER movement.

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 course materials.

The Management of WOU responded promptly to the directive of the WOU Council by initiating actions to systematically plan and implement the use and integration of OER in course development in the University. The University procured services of a senior professional with expertise in ODL and OER to kick start OER adoption activities in the University and lead the university in institutionalising the innovation and making it an entirely e-Learning university.

A group comprising new staff and existing champions in the university took the lead in supporting the process of OER adoption. An OER Steering Committee was constituted with participation of all schools of studies and academic support departments to plan and monitor the process.

A part of this transformation comprised rethinking various pros and cons of OER development. A discussion paper titled **'OER Integration in WOU-Policy Directions, Strategic Outputs and Action Plan'** was drafted and this was discussed in several forums including the OER Steering Committee which was constituted for the purpose of formulating further plan of action (see Menon, 2012). After lengthy and extensive deliberations an OER Policy for WOU was drafted for consideration and approval of all governing bodies of the University. The OER Policy for WOU with implementation strategies has been adopted by the OER Steering Committee, Senate, and Management Board, and endorsed by the Board of Governors of the University.

The broad OER Policy declaration is that *"WOU will promote and implement the creation, reuse, remix, repurpose and redistribution of Open Educational Resources (OER) within an 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 license for all selected course ware. It will also develop guidelines for using and mixing OER with varied open licences to make sure that legally accepted norms and standards are uniformly practiced in the University.

In the past one and half years WOU has made substantial progress in this area. One of the initiatives is the use of Open Educational Resources in the construction of its learning materials for a course on *'ICT in Education'* (2012) which is part of the M.Ed. Programme. This case study offers a summary of this experience in the development of this course by reusing and repurposing OER materials.

Programme/Course Specific Information

'ICT in Education' is a 5-credit (200 study hours), one semester (6 months), compulsory course designed for students who are enrolled in the **Masters in Education** programme of the School of Education, Languages and Communication (SELC) of WOU. Given the large number of OER in this area of study, WOU identified this course as one of its two pilots to demonstrate the feasibility of developing its learning materials by reusing and repurposing multimedia reusable learning objects (OER) drawn from the World Wide Web that were appropriately licensed. This course was identified as the course content itself was on ICT for preparing teacher educators.

The course aims at developing in the learners the required knowledge and understanding of ICT related concepts, inculcating skills of using this knowledge

in enhancing learning achievement as well as developing reflective and decision making abilities in planning and implementing ICT applications at micro and macro educational situations.

By the end of this course all learners are expected to achieve the following learning outcomes:

- Demonstrate knowledge and understanding of ICT related concepts.
- Demonstrate the skills of using ICT in enhancing learning achievement.
- Analyse the characteristics and scope of ICTs as tools for teaching and learning.
- Discuss the use of ICT's to effectively support the delivery of lessons in different disciplines.
- Elaborate the policies, planning and challenges in using ICT in education.

The course is organised into five units and twenty-two sub-units covering topics on Information and Communication Technologies (ICT) in Education.

Instructional Strategy

The course material uses multimedia resources including texts, streamed video, podcasts, audio-visuals such as pictures, diagrams, etc. This multimedia content was developed by the integration of the OER on an eXe platform. The finished product was made available to students on a CD. It was also uploaded to WOU's LMS viz. *WawasanLearn*. *WawasanLearn* has web components such as templates for content pages, discussion forums, quizzes and exercises to engage learners while they practice with the course material, acquire new material and engage with tutors and fellow students. *WawasanLearn* can deliver learning content and resources and provide seamless access to tutors and other learners for them to "meet" and interact with each other as well as tools for assignment submission, discussion and taking quizzes.

Course Structure and Development Processes

The OER material developed follow a design based on WOU's house template with minor modifications. The course is divided into Units and Sub-units. The Course Guide provides the course overview, course outcomes and other guidelines for learning. Each Unit begins with an introduction, unit outcomes and unit summary. Each sub-unit also has an introduction, outcomes and summary. The subunits consist of 2-4 sections/sub-sections and these include various inbuilt learning activities to ensure that the expected learning process takes place leading to the expected learning outcomes. These learning activities have been designed to follow a model of situated learning given that this is a course for
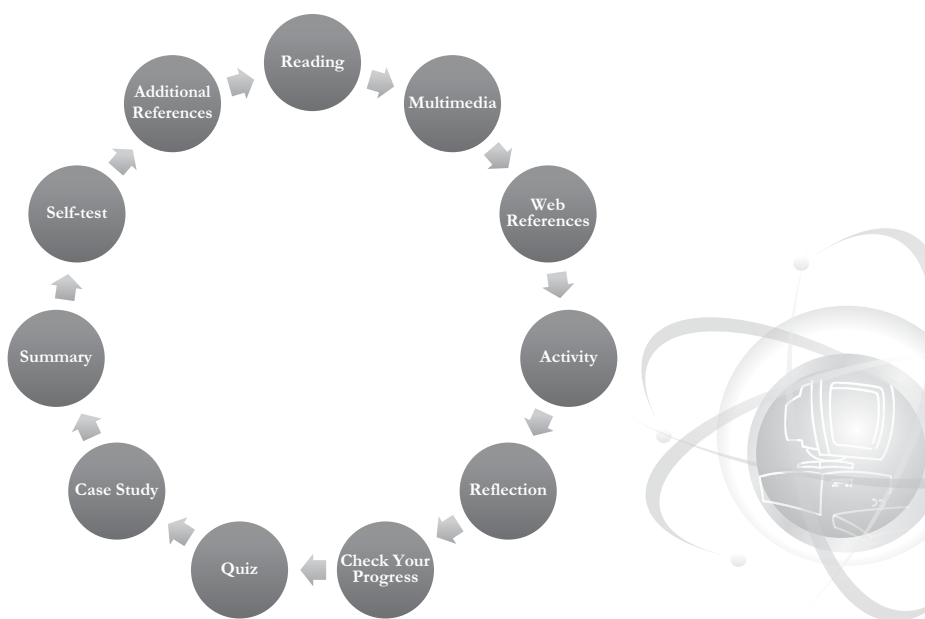
Figure 4.1: Learning Activities Used in the Material

professional development of teachers. In the best traditions of good pedagogical practices course writers wrapped instructions around the OERs to guide students in their learning.

This course is designed to help students move easily from the stated objectives, to the required learning activities with appropriate logical sequencing so that each learner will be able to go through a process involving experiencing, applying, reflecting and conceptualising in an individualised manner. Figure 4.1 presents the many kinds of learning activities included in each sub-unit of the course. In addition the learners have to complete two tutor-marked assignments (TMAs) and take a final examination. The assessment process will expect students to learn and fully utilise the course materials, read extra materials related to this course, discuss topics of interest with peers and tutors, demonstrate comprehension of the concepts learnt, integrate course concepts and knowledge with learner's own experience and observations and apply course concepts to a variety of situations.

In all sub-units of the course material the learning activities given in the figure are appropriately included to facilitate learning. The course uses all types of OER materials such as book chapters, conceptual and research articles, case studies, visuals, streamed video and podcast for supporting learning. The course materials were developed by reusing and re-focussing suitable OER materials which were put through the normally adopted quality assurance and formative evaluation processes followed in the University which consists of a number of steps. Course materials development in WOU is governed by a rigorous procedure with strict adherence to a code of practice for academic quality assurance and standards
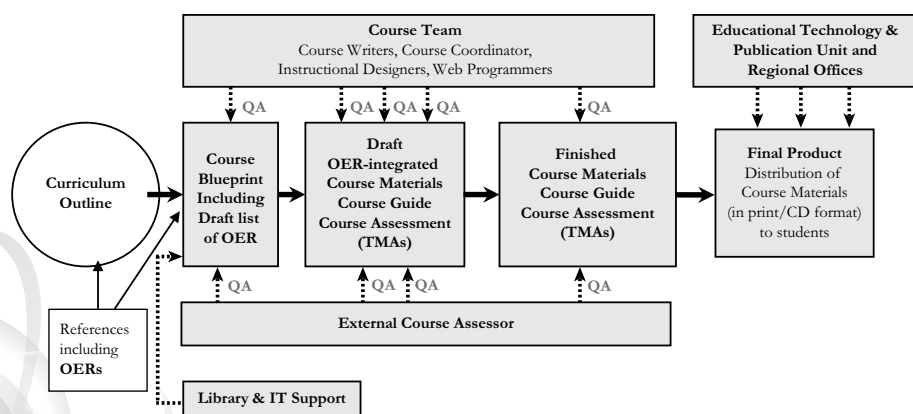
Figure 4.2: QA Processes in OER Integrated Course Development

(WOU, 2012). This process involves a number of important stakeholders. This was followed with the required modifications to suit the special QA requirements while using OER. **Figure 4.2** presents the QA processes followed by WOU in an OER integrated course development practice.

Even with the identification and adaptation of relevant OER materials in developing course materials, QA processes as indicated in **Figure 4.2** would be applied to ensure academic quality and integrity. However additional quality measures would need to be imposed when using OER materials to develop courses.

It is important to refer to all available resources including OER rather than only referring to one or two standard textbooks while formulating the curriculum. With the formalisation of the course blueprint, the Course Coordinator (CC) or course writer (CW) will be tasked to identify the relevant OER materials for each unit/topic based on the prescribed learning outcomes of the course. This comprises three simple steps where:

a. CC/CW will identify and shortlist reputable and peer-reviewed OER repositories upon discussion with the Course Development Team (CDT)

b. CC/CW will then locate the relevant materials from the OER repositories agreed by the CDT with due consideration given to the copyright license of the materials

c. CDT will then assess the quality and relevance of the OER materials collated before finalising and confirming the OER materials that will be adapted or used to develop the course content of the specific courses.

The faculty in association with the course writers developed a Blueprint based on the curriculum approved by the Malaysian Qualification Agency. The blueprint

included a draft list of OERs and other resources identified for use in the Course. Course materials were developed by the four course writers from within WOU who were responsible for the development of the course. The draft materials were reviewed by the Course Coordinator (CC) and edited for design compliance by the Instructional Designer (ID) before it was subjected to a review by the External Course Assessor with regard to content correctness, suitability of OER used and effectiveness of the learning activities. The course writers revised the materials based on the remarks of the ECA and further modified by the CC and the ID. The final draft version was subjected to language and copy editing. The course package created contains 22 sub-units which are available as individual Reusable Learning Objects with CC BY NC SA licence for external use which again makes this material unique.

Challenges Faced

The following are challenges faced by the course team in the reuse of OERs in the present course:

a. *Quality of available OERs on the internet:* There are different types of OERs with texts and multimedia materials available on the web ranging from peer reviewed journal articles, books and chapters by known publishers, to blogs by known and unknown authors in the field. This type of heterogeneity in the resources posed a major problem for the course team in terms of choices. In view of this there was an immediate need to develop quality indicators of identifying appropriate resources by users. These indicators would include additional criteria including searchability, content correctness and extent of openness of OERs.

b. *Combining resources with various types of licences:* This was a major challenge encountered by the course team. While the course writers remixed and modified resources which had a CC BY SA licence, in other types of licences with CC BY ND SA, the resources were provided as reference or reading materials without remixing with other resources or mixing with newly created materials. The developed course adopted a CC BY NC SA licence according to the open licence policy of the University, although it was mentioned that the OER resources used in the course will be governed by the licence indicated by individual resources.

c. *Resources not showing any open licence but could be available on request:* The course team found useful resources which were developed with support from multi-lateral organisations such as UNESCO, but with copyright protection. In such cases the team had to write to their authors to obtain permission for copying and using such material. There are a number of resources of this type on the web developed by multilateral organisations or national governments and in many of these cases, the organisations/governments usually do not have

any objection to their use and reuse. However, users of such material cannot consider these as OER unless they carry a CC licence. The Paris Declaration (2012) recommends that national governments should consider giving open licence to all resources developed and produced with public support.

d. *Resources which are modified continually:* There are a large number of resources which are created by a community of authors and are modified regularly. All Wiki resources fall in this category. The Course team made use of a few of these resources either by indicating the date on which the resource was included in the course or by rewriting the content as a new creation.

e. *Use of copyrighted resources openly available on the web:* The course team in very rare cases made use of such copyrighted resources especially some YouTube videos. In such cases links were provided to students for download and use. They were not copied and embedded in the course packages. This of course was not a good solution the resources could be removed by the authors from the site at any time leaving the students stranded. In addition students with slower connections to the Internet may have found difficulty in downloading some of these resources.

f. *Formulation of the curriculum framework:* The curriculum framework already finalised by the Faculty and approved by the MQA had been developed basing on one or two copyrighted textbooks. The course team had very little leverage in modifying the framework to include materials which are more recent and available with open license. This could have been avoided if all types of online materials with different licenses could have been referred while formulating the curriculum framework.

Reflection on OER Integration

The course is divided into 4-5 sub-units. Each sub-unit in the course is developed as a standalone part of the unit to afford portability in the event of further reuse. Digitised OER materials selected for use were anything from book chapters, journals articles, audio and video clips, podcasts from Vimeo and YouTube, and materials published by governments and multi-lateral agencies such as UNESCO.

These were suitably reused and repurposed leading to the creation of Reusable Learning Content (RLC). RLC is defined as *"open educational content designed to be reused, therefore, reproducible, addressable and flexible to be adapted multiple times in multiple ways, in multiple purposes, in multiple formats and in multiple contexts by multiple users"* (Okado, 2010). Each sub-unit of the course has been developed as a RLC and hence the course package has 22 RLCs available for use by others. The course used all the four levels of reusability as defined by Okado et.al. (2012). These are:

- Adopt same content (whole, part or combination)
- Adopt same content, but adapt structure, format, interface or language

- Adapt part of the content

- Recreate content and contribute to new productions

Reflections on Practices

These self-instructional course materials are supported with face-to-face tutorials, and *WawasanLearn* (an on-line system to enhance students' learning from a distance). The range of media materials used, while at times repetitive, is aimed at meeting the different learning styles of our learners. Learners are provided with the expected learning outcomes for each sub-unit and guided to go through essential reading materials, view videos, listen to podcasts, respond to questions, reflect on issues and problems, perform activities and undertake self-test. The learning activities in the units and sub-units are designed to motivate and facilitate learning, and encourage reflective practice. In addition, two tutor marked assignments (TMAs) are given for the learners to work on and submit as part of their assessment requirements. Students can discuss the course materials and TMAs in the tutorial sessions organised five times during the semester. Tutors who are trained to support students in their tasks provide specific feedback to each learner on the assignment submissions.

WawasanLearn offers the facility for learners to interact regularly with their tutors and other learners as well as access additional learning materials including the digital library as well as OER repository online. Learners can contact their tutors and course coordinators through e-mail and telephone as well. Face-to-face support is provided to the students through five sessions of tutorials one for each unit. The tutorials were also done using video conference facility.

Feedback from Stakeholders

The course was pilot-tested with eight students during the July 2012 semester. Reactions of the students were obtained through a questionnaire and intensive discussions in personal interviews. The course material was also reviewed by three external experts. Feedback from learners, external experts and also the internal course team was discussed and appropriate modifications are being carried out. A second version of the course is currently being put together.

Based on feedback received from students and experts, the course units were subject to the following quick modifications.

- Reducing textual information wherever necessary.

- Rechecking the status of CC licenses with respect to materials that are referred.

- Proposing to include on online quiz items.

- Guidelines for students to use online web services.

- Editing of materials to make it free from spelling and grammatical errors.

- Attempts are being made to use tablet with materials loaded with provision for recording the students learning, nature of interactions with materials, peers and tutors.

The modified package will be offered to the new cohort of students starting the course in July 2013. The course writers have started a detailed comprehensive review of the course materials. Systematic feedback on the course package will be obtained from the students registering for the course during the July 2013 semester.

Conclusion

The development of this course is a first attempt in Malaysia and probably in the entire region to create a full 5-credit course by using/reusing/repurposing OERs and open source materials available on the web. All learning activities in the course were developed by the team by repurposing the OERs to achieve the learning outcomes of the course.

Another achievement of this effort was the significant reduction in the course development time. Normally a typical 5-credit course development in WOU takes about 12-18 months. This course with OER use took only 8 months to complete. Use of available RLOs obviously helped in this regard. A further value was added through the reduction of costs especially in the elimination of prescribed textbooks. Finally from the point of pedagogy, this course was rich in multimedia which presented content in formats that suited learners with different learning styles.

This experience has provided us with insights into the reuse and repurposing of OERs and in the development of Reusable Learning Objects. We think the present course materials adopted a new approach for OER creation by reusing/re-purposing available OERs without making changes to them. This would increase the reusability of the entire package. The localisation is provided through locally appropriate 'instruction' and the newly created learning activities. Other users can adopt/adapt these learning activities as well as develop their own.

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References

Gajaraj, D., Menon, M.B., Phalachandra, B., & Abeywardena, I.S. (2012). *EED 502/05 ICT in Education*. Wawasan Open University, Penang. http://eprint.wou.edu.my/36/

Karunanayaka, S. & Naidu, S. (2009). Developing Professional Competencies of Teacher Educators in the use of Educational Technology, with Scenario-based Learning. In W. Kinuthia & S. Marshall (Eds.) *Cases 'n' Places: Global Cases in Educational Technology*, Information Age Publishing, USA.

Karunanayaka, S. (2006). *First Experiences in Collaborative Online Learning: A Case Study*. Paper presented at The Fourth Pan-Commonwealth Forum on Open Learning (PCF4), 30 October to 03 November, Jamaica.

Karunanayaka, S. (2007). Practitioner-oriented postgraduate programme in teacher education. In T.K.S. Lakshmi, K. Rama & J. Hendrikz (Eds.) *An Anthology of "Best Practices" in Teacher Education*. India: NAAC. pp. 14-18.

Karunanayaka, S. (2008a). Introducing an online learning course at the Open University of Sri Lanka. In K. Rama, A. Hope & U. Coomaraswamy (Eds.) *Quality Assurance Toolkit: Distance Higher Education Institutions & Programmes*. India: NAAC.

Karunanayaka, S. (2008b). *Online Learning to Enhance Teacher Professional Development*. Paper presented at The Fifth Pan-Commonwealth Forum on Open Learning (PCF5), 13 July to 18 July, London University, The United Kingdom.

Karunanayaka, S. (2008c). Designing an online learning community among teacher educators. *AAOU Journal*, Volume 3, No. 2.

Karunanayaka, S., Gunawardena, C., Naidu, S., Lekamge D. & Menon, M. (2008). Questioning Best Practices with an Innovative Pedagogical Design for Professional Development of Teacher Educators. *International Journal on Teaching and Learning*, Malaysia.

Karunanayaka, S., Lekamge D., Gunawardena, C., Naidu, S. & Menon, M. (2005). *MATE (International) Programme: A novel approach to developing global partnerships in teacher education*. Paper presented at the 'Asian Roundtable on Open and Distance Learning for attainment of Millennium Development Goals', Sponsored by the Commonwealth of Learning and the Open University of Sri Lanka. 20-22 May, Colombo.

Karunanayaka, S., Lekamge, D., Gunawardena, C., Naidu, S., & Menon, M. (2007). Professional development of teacher educators with collaborative learning designs and networking. *Indian Journal of Open Learning*, 16(2), 101-112.

MATE-International-Program Handbook (2004). *Master of Arts in Teacher Education (International) Programme*. The Open University of Sri Lanka: Department of Education, The Faculty of Education.

MATE-International-Study Guide, (2004). *ESP 2242 - Teacher Educator as an Educational Technologist.* The Open University of Sri Lanka: Department of Education, The Faculty of Education.

Mathur, S.K. (2006). Indian Information Technology Industry: Past, Present and Future and a Tool for National Development, *Journal of Theoretical and Applied Information Technology*, August 2006, Volume 2, No 2.

Meno, M., & Ali, K. M. (2012). Learning from advocacy: A Case of OER Policy implementation In: A *Regional Symposium on Open Educational Resources*, 19-21 September 2012, Penang, Malaysia.

Menon, M. (2011). *Integrating open educational resources in situated learning design for professional education.* In: 24th ICDE World Conference on Open and Distance Learning, 2-5th October 2011, Bali, Indonesia.

Moore, M., & Kearsley, G. (2005). *Distance education: A system view.* Belmont, CA: Thomson – Wadsworth.

Naidu, S., Menon, M., Gunawardena, C., Lekamge, D. & Karunanayaka, S. (2005). *Quality Teaching and Learning in the Master of Arts in Teacher Education (MATE-International) Program at the Open University of Sri Lanka.* Paper presented at the ODLAA Conference, November, 2005, Adelaide, Australia.

Naidu, S., Menon, M., Gunawardena, C., Lekamge, D., & Karunanayaka, S. (2007). How can scenario-based learning engender and promote reflective practice in online and distance education. In M. Spector (Eds.), *Finding Your Online Voice: Stories Told by Experienced Online Educators* (53-72), NJ: Lawrence Erlbaum.

Okada, A. (2010). *Reusing Educational eContent:* http://labspace.open.ac.uk/course/view. php?id=5571, retrieved 2008-04-29.

Okada, A., Mikroyannidis, A., Meister, I., & Little, S. (2012). Co-learning - collaborative networks for creating, sharing and reusing OER through social media. In: *Cambridge 2012: Innovation and Impact - Openly Collaborating to Enhance Education*, 16-18 April 2012, Cambridge, UK.

OUSL Home page.(2013). [Online].<http://www.ou.ac.lk> Accessed 31.05.2013.

Singh, G., O' Donoghue, J., and Worton, H. (2005). A study into Effects of eLearning on higher Education. *Journal of University Teaching and Learning Practice*, 2(1).pp. 13-24.

Strachota, E. (2006). The use of Survey Research to Measure student Satisfaction in Online courses. Presented at the Midwest Research to Practice Conference in Adult Continuing and Community Education, University of Missouri - St. Louis, Oct. 4-6, 2006.

Wawasan Open University (2012). QA Process in Course Development in WOU.

Wawasan Open University (2012). WOU-Policy on Open Licence, http://eprint.wou. edu.my/WOU_Open%20Licence%20Policy%20(Sept%202012).pdf

Wawasan Open University (2012).WOU-OER Policy http://eprint.wou.edu.my/policies. html, World Open Educational Resources (OER) Congress (2012) Paris OER Declaration, UNESO, Paris.