USE OF OPEN EDUCATIONAL RESOURCES (OER) IN ASPETE: STUDENTS' ATTITUDES, AWARENESS AND BENEFITS.

THEODOROS KOMINEAS, ANTONIA TASSOPOULOU

Abstract

The Open Educational Resources (OER) primarily address and find applications in the educational field as a useful multifunctional "tool", which focuses on the production, use and feedback of learning resources, free access and open digital publication of abundant academic material, of high quality, thus making education and material accessible to all stakeholders. The purpose of this paper is to highlight and analyze the background of Open Educational Resources (OER), characteristics, functions, applications and the potential they hold, under the EPPAIK program of ASPETE in order to disclose the scope of their abilities, which involves upgrading the quality both in the educational field and in others.

THEORITICAL FRAMEWORK

In 2002 the Education Program of the Hewlett Foundation introduced a major component into its strategic plan Using Information Technology to Increase Access to High-Quality Educational Content. The initiative is now often known as the Open Content Initiative or as the Open Educational Resources (OER) Initiative. There is an ongoing movement towards more openness in education that encourages universities to open up their gates and permit access to those that could not attend Higher Education for various reasons (Iiyoshi, 2008).

Openness has always been at the heart of open universities. These universities have been set up to relax traditional barriers to entry, study and success in higher education such as location, time, pace and required pre-qualification so that more people have access to higher education. The OER wave has brought an additional dimension to this openness: free access to educational resources and also free use and re-use. The description of Open Educational Resources (OER) from the Hewlett website is as follows: OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge (Atkins, 2007). OpenCourseWare (OCW) and Open Educational Resources (OERs) are world-wide movements in education practice (Carson, 2009). The reason for funding OER is the simple and powerful idea that the world's knowledge is a public good and that technology in general and the World Wide Web in particular provide an extraordinary opportunity for everyone to share, use, and reuse knowledge. (Atkins, 2007). A defining feature of OERs is that they are released under an intellectual property license that permits open use, adaptation and repurposing. The digital nature of the resources has been instrumental in global distribution through the internet. For learners, OERs represent a profound shift in the way they study and access information (Johnson, 2010).

For educational institutions, the motivations for engaging with open learning materials are many and varied and range from the pragmatic to the altruistic (Barrett, 2009). Institutions can promote their academic portfolio by displaying high quality examples of learning materials available to their students. OERs also allow academics to share teaching materials with an audience larger than just their own students and can increase their own productivity by accessing high-quality, ready-made teaching materials produced by colleagues from their own discipline. Students benefit from being able to access a broader range of learning materials both on their primary subject and on related topics.

For instance, Massachusetts Institute of Technology (MIT) is a world leader in the production of OERs through its OpenCourseWare (OCW) initiative. An initial pilot of OCW not only made learning materials for 500 courses available but also resulted in some unexpected benefits for MIT such as

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improved coordination and collaboration between its departments (Vest, 2004). Furthermore, the OCW initiative enabled the development of MIT's mission to spearhead an international movement (Atkins, 2007) to build a web of knowledge that will enhance human learning worldwide and advance education by constantly widening access to our information and inspiring other institutions to do the same with theirs (Vest, 2004).

There is an emerging business model for open access publishers, and for open repositories. There is evidence of open textbooks, which have proved to be competitive alternatives to traditional textbooks for their cost and accessibility benefits (Johansen & Wiley, 2011). OER are also often cited for increasing academic quality while at the same time making high quality educational resources freely available to the community (Lane, 2012).

Methodology

The main methodological tool chosen for the evaluation of basic thematic axes studying our research was a properly configured anonymous questionnaire, which was aimed at students of ASPETE. ASPETE provides concurrent technological and pedagogical education and training at tertiary level. Its mission includes the promotion of applied research in educational technology and pedagogy, as well as the provision of training, further training or specialization for in-service or prospective secondary teachers. The survey was conducted by using a digital questionnaire, which was filled online within the period of 18/01/2015 - 01/20/2015. The research took place in a population of thirty (31) persons, without taking into account the factors of gender, age, profession, place of residence and the knowledge level of the sample. The specially designed questionnaire which was used contains 14 questions about the OER. The distribution was done digitally, into 31 individuals, and for supplementing it the participants had to choose one answer except questions six (6), seven (7), nine (9) and ten (10) in which there is a choice for more than one answers.

Data analysis

Processing of the data was based on the valid questionnaires which were collected. In this case there were no void nor incomplete questionnaires from the 31 distributed. Then a second factor that was used to process the material was to categorize responses on the basis of three (3) axes.

More specifically, the first axis is the awareness of the GDP and the frequency of use. Relevant questions are one (1), four (4) five (5) and six (6). The second pillar relates to incentives that push someone to use the OER, the positive elements acquired and obstacles / difficulties encountered during use. The respective questions are seven (7), nine (9), ten (10) and eleven (11). Finally, the third axis is the personal assessment and valuation of each respondent for OER (in terms of their content, whether they would propose use of OER and if they would like to create a form of OER). The corresponding questions are eight (8), twelve (12), thirteen (13) and fourteen (14).

ANALYSIS

FREQUENCY OF USE

The highest rate to this question (1) is 35% and two answers were found showing that. In one case the respondents were "Aware of the OER and their functions", while in the other they "Have heard but do not know much". The next rate is a 16% of the participants and determines the proportion of respondents choosing "Ignorance for OER" and the third rate is a 13% for those who appeared to have "Partial knowledge of the OER, but not sure knowledge of how to use them".

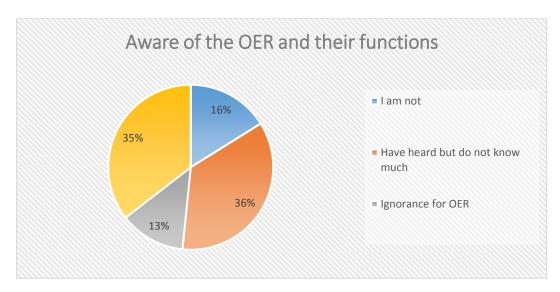


Figure 1: Awareness of OERs

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Question (5) was indicated to "Frequency of use of OER". In the circular diagram answers "rarely" and "sometimes" were chosen by the same rate of 32% of the participants in the survey. A 19% of the individuals answered "Very often" and a 16% chose "Never".

Question (6) was about "Frequency of media consumption OER". The participants were allowed to choose more than one answer. As it is shown in the bar graph, the responses "Digital Library", "Online communities" and "Tools for creating presentations" are those which are most commonly used, according to the 52% of the participants in the survey. The use of "Multimedia digital content" is around 45% and the use of "Digital educational platforms", was chosen by 32% of the respondents. A 26% of the individuals said they used "Fotodentro", a 19% of the sample chose "Digital material provided by participating in Open Studies Programs" and finally 13% of the respondents said they used "Repositories / Tanks".

INCENTIVES AND BARRIERS

Question (10) was asking the participants of the survey for the "Incentives of OER use". The most important motivation or criterion for selecting a form of OER, is the "Ease of use" for the 71% of the sample in the survey. The "Low cost" and "Coverage of a wide spectrum of disciplines" is the next criteria selected, noting a rate of 58% respectively. A 48% of the respondents chose the motivation or criterion of "Upgrading and enrichment of a working structure". What is interesting is that 45% of the answers were concentrated in the incentive / criterion relating to the "Contribution of OER in lifelong learning". The answer for "Accredited quality and efficiency" was chosen by 26% of the sample, the "Proposal by the University or workplace" attracted 10% of the individuals and a 6% of the respondents chose the "Broad adoption".

In question (5) the individuals of the survey were asked about the "Barriers to the use of OER". The responses of the pie chart showed that the 48% noted how the biggest obstacle to the adoption of the OER is the lack of information on the role and function. A 35% of the sample chose "Deficiency equipment in schools / universities / workplace", while "Connectivity" seems to be an obstacle for

13% of those who participated in the survey. It is gratifying that the linguistic and cultural diversity is not counted as an obstacle, and comprise only 3% of the respondents.

PERSONAL ASSESSMENT OER

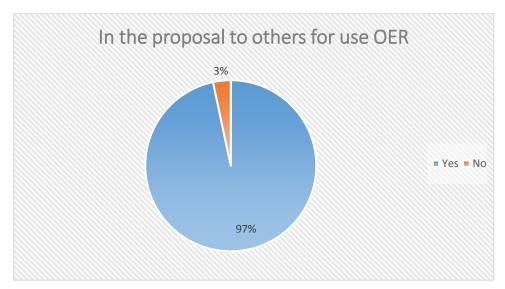


Figure 2: Proposal for use

On the pie chart it is evident that the positive answer prevails over the negative -"In the proposal to others for use OER"- with an undeniably high rate of 94% of the respondents. The negative answer moves to a negligible percentage.

Question (8) relates to the "Personal evaluation of the performance of OER" by the participants. A 61% of the individuals assessed "Adequately the performance of OER". The next rate amounts to 29% of the respondents, corresponding to a "Moderate performance". The evaluations "Very good performance" and "I do not like it at all" indicate very low rates of 6% and 3% of the respondents, respectively.

Results

After completing the analysis of data collected results emerged some important findings in relation to the research questions raised in our survey. Initially, the first research question was examined whether there is information on OER and what is their frequency of use. It has become apparent that the rate is aware of the OER and their functions (35%) is equal to the percentage that has heard the object, but does not know enough about it. It is also important that 16% are not at all informed. As for the original purpose of the OER use, it seems that the larger sample of respondents (39%) worked at first base because of some work, while encouraging considered the fact that 35% had primary aim is to raise awareness around these.

In the next question on the frequency of use, responses "sometimes" and "rarely" prevailed with an equal rate of 32%. It is interesting that 19% said they made frequent use. Moreover, a big 52% of the sample responded that the "Digital library, the "Online communities" and "Tools for creating presentations", were the most frequently used means of OER, while a 45% of the respondents said they used "multimedia digital content".

Moving on to the second research strand involving motivation, benefits and obstacles of OER it becomes apparent that "Technological Sciences" response was chosen by 39% of the sample, "Educational Sciences" response attracted 35% of respondents, while it seems that no respondents chose "Health Sciences", «Literature" and "History of Art". The fact that there is low or no cost involved in gaining access to scientific material and academic courses seems to be undeniably high motive for 74% of those who participated in the survey. In the same strand of the questionnaire, the

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question examining incentive / criteria for the selection of a form of OER, 71% of respondents chose the "ease of use" and 58% of individuals chose "low cost of disciple". It is worth noting that 45% of the participants in the survey, chose "relating to the contribution of OER in lifelong learning". As far as obstacle/ difficulty in adopting OER is concerned, the prevailing characteristics was the "lack of information on the role and functions" with 48% and "inadequate equipment in schools / universities / workspaces" came second with 35% of the sample choosing it.

Finally, the third research axis depicts how respondents assessed OER. In particular, the performance is characterized as "Satisfactory" by 61% of the sample, while the response "I liked it all" shows a very low rate of 3%.

An overwhelming proportion of the sample (namely 94%) responded positively to the question about "whether they would recommend OER or not", while a 58% of individuals described OER as "pertaining their subjects of extensive academic and research material". Finally, 45% of the respondents said that they would be willing to create OER material, while an equal 45% of them declared they were undecided.

CONCLUSION

In conclusion, the total research results cannot be recorded as discouraging since only 16% of the respondents appeared to be ignorant of the OER, while the 35% of the individuals first used them to get more information. In addition, it can be considered optimistic that 94% of the participants in the survey would recommend OER, while the fact that interested parties are not sufficiently informed about OER and their functions seems to be the main reason related to the difficulty in dealing with it.

It should be noted that OER – according to the results- seems to be clearly associated with the fact that there is low or no cost involved, which is justified in the present ever-increasing economic hardships. In other words, it is clearly recorded that personal development programs are hard to access when they involve any form of pricing.

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Bibliography

ATKINS, Daniel E., John Seely BROWN and Allen L. HAMMOND. *A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and New Opportunities* [online]. William and Flora Hewlett Foundation, 2007. [viewed 09 April 2016]. Available from: http://www.hewlett.org/uploads/files/Hewlett_OER_report.pdf.

BARRETT Brendan F. D. et al. Challenges in the adoption and use of OpenCourseWare: experience of the United Nations University. *Open Learning: The Journal of Open, Distance and e-Learning* [online]. February 2009,vol. 24, 31–38 [viewed 09 April 2016]. Available from: http://www.tandfonline.com/doi/pdf/10.1080/02680510802627803.

CARSON, Steve. The unwalled garden: growth of the OpenCourseWare Consortium. s.l.: Open Learning: The Journal of Open and Distance Learning. *Open Learning: The Journal of Open, Distance and e-Learning* [online]. Massachusetts Institute of Technology, USA. February 2009, vol. 24, 23-29 [viewed 09 April 2016]. Available from:

http://www.tandfonline.com/doi/pdf/10.1080/02680510802627787.

Olympiáda techniky Plzeň 2016, 17. 5. 2016 www.olympiadatechniky.zcu.cz

IIYOSHI, Toru ed. Vijay M.S. KUMAR. *Opening up education: The collective advancement of education through open technology, open content, and open knowledge* [online]. London, England Mit Press: Cambridge, Massachusetts, 2008 [viewed 07 April 2016]. Available from: https://mitpress.mit.edu/sites/default/files/titles/content/9780262515016_Open_Access_Edition.pdf.

JOHANSEN, Justin and WILEY David. *A sustainable model for OpenCourseWare development* [online]. All Faculty Publications: By an authorized administrator of BYU Scholars Archive, 2010 [viewed 7 April 2016]. Available from:

http://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=1102&context=facpub.

LEVINE, Johnson, L. A., Smith, R., & S, STONE. *The 2010 Horizon Report* [online]. Austin, Texas: The New Media Consortium, 2010 [viewed 8 April 2016]. Available from: http://www.nmc.org/pdf/2010-Horizon-Report.pdf.

LANE, Andy. *Widening participation in higher education through open educational resources* [online]. United States of America by Information Science Reference (an imprint of IGI Global), 2012 [viewed 7 April 2016]. Available from: http://oro.open.ac.uk/32946/1/.

VEST, M. Charles. Why MIT Decided to Give Away All Its Course Materials via the Internet. *Section: The Chronicle Review* [online]. The Chronicle of Higher Education. 2004, vol. 50, B20 [viewed 09 April 2016]. Available from:

http://web.mit.edu/ocwcom/MITOCW/Media/Chronicle_013004_MITOCW.pdf.

Contact person

Theodoros Komineas (tkomineas@gmail.com), Antonia Tassopoulou (an_tass90@outlook.com.gr)