

ATTITUDES AND UTILIZATION OF OPEN EDUCATIONAL RESOURCES

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Abstract

The use of Open Educational Resources (OER) by a number of Latin American lecturers and their students is presented. The respondents were divided in four groups, one each in Cuba, Guatemala, Peru and Brazil. They all participated in a course given by the first author of this paper about the use of learning management systems in the year 2010-12. In that course only OER were used and the participants were strongly encouraged to utilize OER in their work. Two weeks into the course the participants responded to a questionnaire with a number of statements about the use and sharing of free material on the internet.

In this study the lecturers' opinions about the use of OER at that time are compared with the use of OER by the lecturers and their students about one year after the course was finished.

In all four groups the answers to the first questionnaire showed that, even though the idea to utilize free course material in higher education was new to most of them, the lecturers were positive to the idea of utilizing OER and most of them were prepared to make material of their own available to others.

The results from the first and the second occasion are strongly correlated; the conclusion is that the attitude of the lecturers is of critical importance for the acceptance of OER. The results are consistent with the assumption that many lecturers can find plenty of useful free course material once they are made aware of OER and have methods to disseminate it to their students.

The authors adhere to the opinion that OER could increase the quality of education and contribute to the availability of education worldwide. In order to stimulate the production and dissemination of OER the authors recommend that institutions of education worldwide encourage lecturers to take part in the free sharing of material on the internet.

Keywords: information and communication technology, e-learning, Open Educational Resources, higher learning institutions, developing countries.

1 INTRODUCTION

The aim of this paper is to contribute to the efforts to implement the right to education worldwide, as stated in UN:s declaration of human rights that "...Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit." [1].

The Paris OER Declaration [2], adopted during the World Open Educational Resources (OER) Congress in June 2012 among other things recommends that states should "foster awareness and use of OER" and "encourage the open licensing of educational materials produced with public funds".

2 OPEN EDUCATIONAL RESOURCES (OER)

It is of particular interest in developing countries if OER can be utilized to improve the quality of higher education and give more people opportunity to receive a higher education while keeping the total cost for education down [3, 4].

According to UNESCO Open Educational Resources (OERs) are any educational materials that are in the public domain or introduced with an open license. It means that anyone can legally and freely copy, use, adapt and re-share them. OERs range from textbooks to curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation." [5]. In our survey we used a more simple definition i.e. OERs are information and software that are free to download and utilize for educational purposes [6].

Thanks to a number of institutions as well as individual teachers plenty of OER can be found on the internet, both course material and software [7-9]. A good example is Massachusetts Institute of Technology that announced in 2001 that they would make the materials for most of its courses freely available on the Internet over the next ten years [10]. The William and Flora Hewlett foundation have supported a number of similar initiatives [7, 11].

Many computer programs that are useful in education are available as Free Open Source Software (FOSS) [12]. There are alternatives to the proprietary operating systems, media players, word processors etc. FOSS means that the software is free to use for non-commercial purposes and that the source code may be changed and redistributed. FOSS programs tend to evolve over time and long term functionality and reliability of the software tend to be equal to that of proprietary alternatives [13, 14].

Since copying and sharing of information is a significant aspect of ICT usage, course material in form of OER allows educational institutions to more readily reap the benefits of ICT[15].

3 SCOPE AND PURPOSE

This study aims to provide useful information about a critical barrier to a wider utilization of OER in higher education by comparing the lecturers' attitudes about OER with the actual usage. The surveys were carried out in Cuba, Guatemala, Peru and Brazil.

4 METHOD

4.1 Gathering of data

The respondents were four groups of Latin American lecturers, one each in Cuba, Guatemala, Peru and Brazil. In the year 2010-12 they all participated in a 15 ECTS points course given by the first author of this paper about the use of learning management systems [16]. In that course only OER were used and the participants were strongly encouraged to utilize OER in their work. At the end of the two weeks introduction period together the participants filled out a questionnaire about their attitudes to the use of freeware in their work as lecturers in engineering education. The questionnaire about OER consisted of three statements and responses were given on a five grade Likert scale, ranging from "I fully agree" to "I do not agree at all" (table 1).

The participants' experiences and use of OER was outlined with a questionnaire, distributed about one year after the course was finished (table 2-4). Of all who passed the course, more than 75% answered the questionnaire in all groups.

4.2 Interpretation of data

To enable a comparison of the results from different groups we put numerical values to the responses on the Likert scales. The numerical differences are small but reflect the pattern of the responses well.

5 RESULTS

Table 1: Responses to the first questionnaire, given after two weeks of on-campus work. Participants marked the most appropriate answer according to the following scale. (1 = I fully agree, 2 = I agree, 3 = Neutral, 4 = I disagree, 5 = I strongly disagree)

No.	Statement	Group	1	2	3	4	5	Avg.
1	I think the use of free course material on the internet offers great opportunities to increase the quality of higher education.	Cuba (n=10)	100,0%					1.00
		Guatemala (n=13)	84,6%	15,4%				1.15
		Peru (n=6)	83,3%		16,7%			1.33
		Brazil(n=13)	92,3%	7,7%				1.08
2	I am willing to make a lot of my course material available as freeware on the internet.	Cuba (n=10)	90,0%	10,0%				1.10
		Guatemala (n=13)	69,2%	23,1%	7,7%			1.38
		Peru (n=6)	83,3%	16,6%				1.16
		Brazil(n=13)	92,3%	7,7%				1.08
3	I think peer recognition is important as a reward for work on freeware.	Cuba (n=10)	100,0%					1.00
		Guatemala (n=13)	30,7%	69,3%				1.69
		Peru (n=6)	83,3%	16,6%				1.17
		Brazil(n=13)	100,0%					1.00

Table 1 demonstrates a positive attitude about OER in all groups, with the group in Guatemala more reluctant than the others to share their material. Looking at the average responses from each group (last column) we see that the groups from Cuba and Brazil are more positive to the use of OER and more willing to share their efforts than the groups from Peru and Guatemala.

Table 2: Responses to question 1 and 2 on the second questionnaire, given ca 1 year after the course was finished. Participants marked the most appropriate answer according to the following scale. (1 = On many occasions 2 = Test or one-time basis 3 = Not at all)

No.	Statement	Group	1	2	3	Avg.
4	During the last year I have searched the internet for OER in the form of text and image.	Cuba (n=10)	90,0%	10,0%		1.10
		Guatemala (n=13)	77,0%	15,4%	7,6%	1.31
		Peru (n=6)	100,0%			1.00
		Brazil(n=13)	100,0%			1.00
5	During the last year I have searched the internet for OER in the form of video	Cuba (n=10)	40,0%	40,0%	20,0%	1.80
		Guatemala (n=13)	38,4%	46,0%	15,6%	1.54
		Peru (n=6)	33,3%	66,7%		1.67
		Brazil(n=13)	84,6%	15,4%		1.15

Table 2 shows if the respondent has looked for OER on the internet. Most of them have looked for text and images but not so many have looked for video. A special problem for the Cuban participants is limited access to internet, that makes it almost impossible to download video.

Table 3: Responses to question 3 and 4 on the second questionnaire, given ca 1 year after the course was finished. Participants marked the most appropriate answer according to the following scale. (1 = On many occasions 2 = Test or one-time basis 3 = Not at all)

No.	Statement	Country	1	2	3	Avg.
6	During the last year I have made educational text or images, available on the internet as OER.	Cuba (n=10)	70,0%	20,0%	10,0%	1.40
		Guatemala (n=13)	61,5%	30,7%	7,8%	1.46
		Peru (n=6)	66,8%	16,6%	16,6%	1,5
		Brazil(n=13)	77,0%	15,4%	7,6%	1,15
7	During the last year I have made educational video available on the internet as OER.	Cuba (n=10)	70,0%	20,0%	10,0%	1,4
		Guatemala (n=13)	38,4%	38,4%	23,2%	1,85
		Peru (n=6)	50,0%	50,0%		1,5
		Brazil(n=13)	77,0%	15,4%	7,6%	1,3

Table 3 shows that many of the respondents have shared OER. The participants from Cuba and Brazil have been more active than their colleagues from Peru and Guatemala. That is not surprising, considering the differences in answers to question 3 in table 1, apparently Cuban and Brazilian lecturers are more open to peer recognition as reward for their efforts.

Table 4: Responses to question 5-7 on the second questionnaire, given ca 1 year after the course was finished. Participants marked the most appropriate answer according to the following scale. (1 = On many occasions 2 = Test or one-time basis 3 = Not at all)

No.	Statement	Country	1	2	3	Avg.
8	During the last year, the students in my classes made use of OER in the form of text and image.	Cuba (n=10)	90,0%	10,0%		1,10
		Guatemala (n=13)	77%	23%		1,23
		Peru (n=6)	83,3%	16,7%		1,17
		Brazil(n=13)	92,3%	7,8%		1,08
9	During the last year, the students in my classes made use of OER in the form of video.	Cuba (n=10)	90,0%	10,0%		1,10
		Guatemala (n=13)	30,7%	46,3%	23,0%	1,92
		Peru (n=6)	17,0%	83,0%		1,83
		Brazil(n=13)	84,6%	15,4%		1,15
10	During the last year, the students in my classes made use of OER in the form of software.	Cuba (n=10)	80,0%	20,0%		1,20
		Guatemala (n=13)	23,0%	61,5%	15,5%	1,92
		Peru (n=6)	100,0%			1,00
		Brazil(n=13)	92,3%	7,7%		1,08

Table 4 shows that most of the lecturers have had their students utilize OER on many occasions. The Guatemalan group is lagging behind, and we can only conclude that the students' use of OER is no big concern for their lecturers. It may be surprising to see how often video have been used in Cuba, considering the big problems with access to computers and internet, but this is possible by sharing via intranet and portable memory devices [16].

Today the use of free software is widespread in most countries, but most Cuban students do not have computers of their own, which is why they do not use free software more (question 10).

6 SUMMATION OF THE RESULTS

In table 1 the respondents from Cuba and Brazil show a more positive attitude towards OER than their colleagues from Peru, and in particular Guatemala. They also appear to be less reluctant to make their course material available as OER and more appreciative to peer-recognition as reward for their efforts.

Comparing this with the responses to statement 8, 9 and 10 we conclude that the lecturers' attitude is of critical importance for the utilization of OER.

7 DISCUSSION

To utilize OER could be an economically feasible way for educational institutions to meet the challenges of modern technology and increasing demands for higher education [5]. But, the transition from a teacher-to-student, textbook based pedagogy, to a flexible learning environment must be supported by the educators and it means that most teachers will need encouragement and support to take the step from conventional textbook/classroom education [17-19].

Educational software is an important part of the available OER. FOSS includes educational programs ranging from basic training such as spelling or typewriting to sophisticated programs for experts in different fields [15, 20]. A group of programs of special interest to educators are Learning Management Systems, programs that integrate tools for teaching, learning, evaluation and course administration [21, 22]. Several fully functional, free alternatives to proprietary LMS are available today [23].

It is no doubt that most teachers could find OER for students in their courses on the internet. But, in order to use OER while maintaining the quality of education teachers must spend time and effort to investigate the resources and select suitable material [24]. It poses a problem since when teachers in developed countries identify barriers to the use of educational technology, the most common answers are lack of time and insufficient support [25].

Considering the lecturers' fear of additional workload, their decision to search for, or not search for, OER may be perfectly understandable from the teachers' perspective while it may be unfortunate from the students' perspective. With that distinction in mind we can understand the gap between the availability and utilization of OER. Therefore many lecturers may need special encouragement and support and this investigation confirm our supposition that peer-recognition is very important for many educators. We would expect lecturers to be more appreciative to peer-recognition as reward for their efforts if the workplace is oriented towards cooperation and interaction [26].

8 CONCLUSIONS AND RECOMMENDATIONS

In this investigation the lecturers with a more positive attitude towards OER had their students utilize OER in their studies more often. We conclude that the lecturers' attitude is of critical importance for the utilization of OER and that staff development needs to address awareness about OER as an important step in the process of making higher education accessible to growing numbers of students. In order to facilitate computer-assisted education at low cost we strongly advocate a wider use and production of OER and FOSS in developed countries as well.

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