

# **Open Educational Resources and Freedom of Teaching in College Education in Greece: Rivals or Fellows?**

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## **Introductory comments**

It is actually a given fact that both at the European (initiatives, programs, decisions, recommendations, directives and partnerships) and the international level there is an ever increasing interest for the development and operation of open access repositories (Koutras, 2012).

In our days, one can easily understand why information, both in theory and in practice, should always be provided in the best possible way to all end users as regards its size and quality.

As members of the Information Society we constantly attempt to overcome - at the national and international level- all existing obstacles to information access.

Information should be acquired more easily. Access should not be delayed by red tape and legal adversities. This is why a modern development strategy founded upon the three pillars of knowledge (education-research-innovation) needs to avoid mere statements and opt for a series of actions and initiatives that facilitate information access.

## **Historical Review**

In 1994, Wayne Hodgins invented the term "*learning object*", which quickly started to surface in discussions among educators and educational bodies. One of the roles that this term served in relation to OERs was the "popularization" of the idea that digital information may be designed and promoted in such way that it may be easily reused in a vast number of educational models (Polsani, 2003).

Focusing on the abovementioned ability to reuse information, numerous efforts have been devoted to the creation of detailed models that facilitate metadata description, content exchange and the maximization of end-user satisfaction in relation to the identification and reuse of digital educational resources (e.g. ARIADNE, IMS, IEE LTSC, SCORM, etc.).

Four years later, David Wiley invented the term "*open content*". Having as a main goal to instigate the interest of the educational community (and especially educational

tool designers) Wiley managed to integrate this term into the everyday language and discussions among internet users.

Combined to the progress and history of OERs, this concept managed to diffuse the notion of open source/ open code software. It was also used for content creation and was a main structural element for the creation of the first Open Publication License (OPL).

In 2001, a new operational framework regarding the issue of intellectual property and information diffusion started to emerge. With the support of the *Center for the Public Domain* and under the leadership of an administration board comprising technocrats, education experts, legal experts and investors, the Creative Commons licences were created, managing to add more credibility to the information provided while protecting intellectual rights.

In the same year, the MIT with its *OpenCourseWare* (OCW) initiative aimed for the publication of as many university courses as possible in a digital, open and non-commercial form.

This particular initiative had great potential and managed to create a characteristic example of commitment at the institutional level (University of MIT) in the history of OERs, triggering the creation of similar projects for free information diffusion.

## **Definitions**

Some efforts to define the notion of Open Access Repositories are worth mentioning. They may be summarized as follows:

In a 2002 UNESCO forum, a group of experts coming mainly from developing countries was asked to evaluate the potential impact that a new action (already mentioned above), the *OpenCourseWare* initiative by MIT, would have on higher education institutions. Having invented the term “*educational repositories*” during this Forum, the experts provided the following definition: *Repositories that provide free access to educational resources activated by Information and Communication Technologies (ICTs) for information exchange, use and adaptation by a community of users for non-commercial reasons* (UNESCO, 2002).

The definition provided in the online encyclopedia *Wikipedia* (2012) is also very interesting: *they are digital materials freely available and accessed by educators, students, pupils and end-users, used and reused in teaching, learning, and research.*

As initiatives regarding OERs are constantly increasing, other attempts to define and describe their role and content have been undertaken. Definitions are no longer limited to mere descriptions of the elements/materials included in the necessary OER support tools, but opt for a more reflective approach.

The William and Flora Hewlett institute, which is a pioneer agent and main funder of the OER initiative, provides the following definition: *They are high-quality resources and free access online learning items which provide to every person at any time the*

*ability to share, use and reuse knowledge* (William and Flora Hewlett Foundation, 2008).

Atkins, Brown and Hammond provide the following definition: *OERs are educational resources which reside in the public domain and have been published under a specific intellectual rights license which allows for their free use and reuse by others. They include course lectures, learning tools, models, textbooks, written tests, software, techniques and a series of other applications which are used to support information access* (Atkins et al., 2007).

With regard to other definitions and discussions that have taken place on the matter, it is worth focusing on one more definition included in the OLCOS project report: *OERs comprise the teaching content and tools that are based on a specific software and services, as well as licenses which allow for the development and reuse of content, tools and services* (Guntram, 2007).

In their simplest form, OERs can be described as educational sources/resources (textbooks, course lectures, papers, educational seminars, multimedia applications and generally “tools” designed for and used in education and learning) which are freely available and used by students/pupils and teachers/educators with no need to pay any license fees.

In conclusion, any attempt to define this specific concept (OERs) should be based on three main premises. Repositories should provide:

1. Free content access (including metadata) for educational institutions, information services, end-users, educators and students,
2. Their content should have a license for use and reuse in educational activities and educational models without adaptation/re-adaptation restrictions, and
3. They should be able to be reused as a source code in educational systems/open-access software (e.g. Open Source software).

## **Reflections**

The main general obstacles in relation to OERs are probably related to a series of legal issues as well as to the framework of Open Licensing that regulates these resources.

It should be noted that the upcoming open access content “system”, which is not very popular in Greece, will be the “Achilles' heel” of potential partnerships among bodies, institutions and generally organizations that are already protecting the intellectual rights of their data via older legal frameworks.

As regards eventual partnerships between educational institutions/educational resources: Shouldn't there be a pre-existing kind of “contract/mutual agreement” on the intellectual property rights and obligations regarding the content and diffused information?

At the same time, there may be intellectual property rights on content owned by an educational institution. Consequently and in view of a potential cooperation: Shouldn't use and reuse rights on this specific content be redefined and reconsidered?

There are many considerations about open access seeking for answers. It is time we passed from theory to practice. That is why Greece's case is being studied here. Every country that participates in the open access movement, one way or another, presents certain differences (e.g. funding sources, educational tools etc.).

Open access and freedom of teaching are either rivals or fellows. Within this framework and in order to find out what is going on in Greece with the open access phenomena in education we conducted a survey trying to identify whether freedom of teaching is infringed by open educational material or not.

## **Methodology**

An online survey is being conducted aiming at monitoring the current situation as far as the Open Educational Resource usage and freedom of teaching in college education in Greece are concerned.

The survey objective is to identify whether the academia in Greece creates OERs or not, in which way OERs are being used by academics of all disciplines and how they are related to freedom of teaching.

In order to reach the goals of this attempt, information has been collected through an online questionnaire since March 2012. The questionnaire was based on one used by OECD in 2007 (OECD, 2007) for a survey about OERs in higher education – that stems from the challenges that education faces within the globalization framework – among the participant countries of OECD. Before the actual survey took place, a pilot study was conducted in order for questionnaire weaknesses to be identified and ameliorated. In this pilot study, Dr. Aphrodite Malliari and Dr. Maria Bottis provided us with constructive feedback. Some necessary changes were applied to the questionnaire until March 2012, date of questionnaire release. The survey is still in progress and here are presented the preliminary results only.

The questionnaire consists of 13 questions, all closed but one, that is open-ended. The questionnaire is addressed to all academics of all public universities in Greece. The sample analyzed here, in the preliminary results, is random and it was collected on May 14<sup>th</sup> 2012. At the time, there were 154 completed questionnaires and 189 partial answered. The sample was extracted randomly from the 154 completed questionnaires and gave 50 out of 154 questionnaires. The number of the completed questionnaires keeps growing as the survey is still running. The sample covers all scientific fields and academia levels of 11 public colleges all over Greece; according to official data provided by the competent ministry, the total number of public colleges in Greece is 38. In this first attempt it wouldn't be safe to generalize, not only because of the sample size but because of some controversial percentages that resulted from some questions so far, as it gets clear later on the preliminary result analysis.

This is a quantitative study. It concerns all Greece, all academia levels and all scientific disciplines. The collected data, as well as those that are to be collected, have been processed using SPSS 20 and have produced descriptive statistics. In this first phase of the analysis, the correlations among data, through variable cross tabulation, were done taking into account the qualitative factor of scientific field rather than the factor of the academia level, because it is safer as the participants present more smooth fluctuations within scientific field than academia level.

## Preliminary results

Table 1 shows the faculty level. So far, there is no significant divergence among faculty level percentages, as shown in table 1, adjunct lecturer 30%, assistant professor 20%, associate professor 20%, lecturer 16%, professor 14%.

	Valid Percent
Lecturer	16,0
Assistant professor	20,0
Associate professor	20,0
Professor	14,0
Adjunct lecturer	30,0
Total	100,0

**Table 1: Faculty level**

Faculty becomes from all disciplines as is evident in table 2. Humanities and arts assemble the largest percentage (24%) and follow Natural sciences, mathematics and informatics (20%).

	Valid Percent
Humanities and Arts	24,0
Social and Economic sciences	10,0
Business administration and management	12,0
Natural sciences, mathematics and informatics	20,0
Mechanics and engineering	10,0

Earth science, agriculture and veterinary	6,0
Life sciences	8,0
Other	10,0
Total	100,0

**Table2: Scientific field**

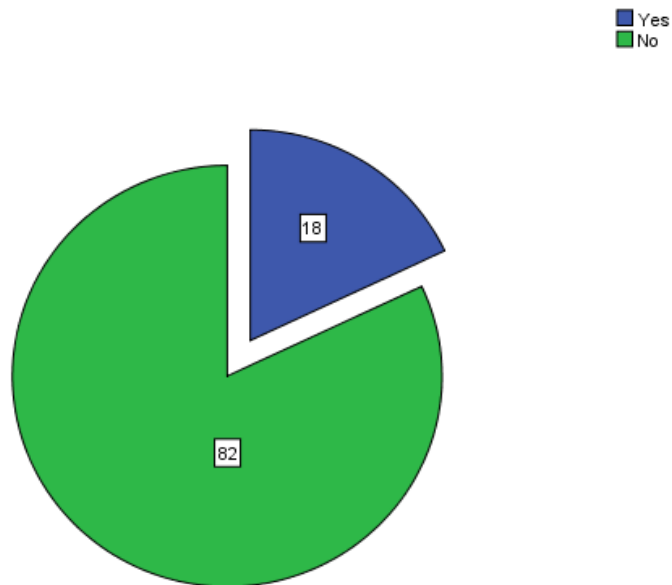
Later in the analysis of the results the scientific field is correlated with other factors producing more specific data.

After the information presented in the above mentioned tables, follows the main part of the questionnaire. The first question concerning the participation of the surveyed in OER initiative and/or program results in a negative answer giving the overwhelming percentage of 82% (table 3, chart 1).

	Valid Percent
Yes	18,0
No	82,0
Total	100,0

**Table3: Participation in OER initiative and/ or program**

**Participation in OER initiative or program**

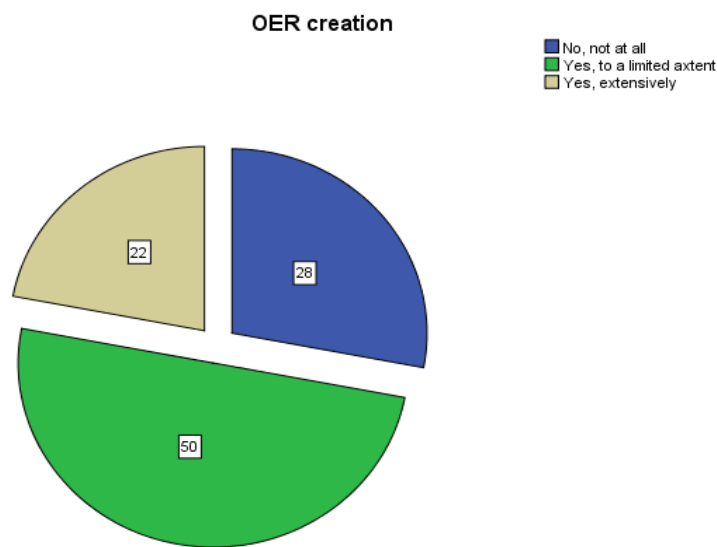


**Chart 1: Participation in OER initiative or program**

Whether the participants create or not OERs, half of them answered “yes, but to a limited extent”. 28% answered “no, not at all” and 22% “yes, extensively” (table 4, chart 2).

	Valid Percent
No, not at all	28,0
Yes, to a limited extent	50,0
Yes, extensively	22,0
Total	100,0

**Table 4: OER creation**



**Chart 2: OER creation**

Most of the disciplines consider that the main inhibitors that prevent professors from using OERs among others are the following, as shown in table 5:

- Lack of interest in new pedagogical methods
- Lack of administration support

The main inhibitor for the disciplines humanities and arts and social and economic sciences are lack of time and lack of equipment unlike the other disciplines. Natural sciences, mathematics and informatics are the only disciplines that stated that lack of time prevent professors from using OERs much. It is interesting that the same disciplines consider that lack of administration support prevents professors from using OERs little (30%), while at the same time consider in a percentage of 28,6% that prevents them from it a great deal. It is remarkable that health sciences chose as the only inhibitor the lack of administration support (table 5).

	Lack of information about OER creation and use	Lack of time	Lack of equipment	Lack of interest in new pedagogical methods	Lack of a model for open content initiatives	Lack of administration support
Humanities and Arts	✓	✓	✓			✓
Social and economic sciences		✓	✓			✓
Business administration and management	✓		✓	✓	✓	✓
Natural sciences, mathematics and informatics		✓		✓		?
Mechanics and engineering				✓		✓
Earth science, agriculture and veterinary	✓			✓		
Health sciences						✓
Other				✓	✓	

Table 5: Inhibitors that prevent professors from using OERs

Apart from the barriers presented above, this survey is interested in the benefits that result from OER use in classroom. Particularly, the next table (table 6) rates the importance of those benefits according to each scientific field.

	Gain access to best possible resources	Promotion of scientific research and education as publicly open activities	Reducing cost for students	Reducing costs of course creation for the university	Outreach to disadvantaged Communities	Becoming independent of publishers	Creating more flexible educational Materials
Humanities and Arts	Of little importance	Neutral	Neutral	Of little importance	Neutral	Neutral	Neutral
Social and economic sciences	Very important	Very important	Neutral	Very important	Very important	Neutral	Neutral
Business administration and management	Important	Neutral	Neutral	Neutral	Very important	Unimportant	Very important
Natural sciences, mathematics and informatics	Important	Of little importance	Unimportant	Neutral	Unimportant	Of little importance	Neutral
Mechanics and engineering	Very important	Very important	Very important	Very important	Important / Very important	Neutral	Very important
Earth science,	Neutral	Neutral	Important	Very important	Very important	Important	Important



<b>agriculture and veterinary</b>							
<b>Health sciences</b>	Unimportant	Of little importance	Of little importance	Unimportant	Of little importance	Unimportant	Neutral
<b>Other</b>	<b>Important</b>	<b>Important</b>	Of little importance	Neutral	Unimportant / Of little importance	<b>Very important</b>	<b>Very important</b>

**Table 6: Importance of benefits that result from OER use in classroom**

Humanities and arts are indifferent to almost all benefits and find of little importance the access to best possible resources and the cost reduce of course creation for the university. Social and economic sciences find very important the access to best possible resources, promotion of scientific research and education as publicly open activities, cost reduce of course creation for the university and outreach to disadvantaged communities. Business administration and management find very important the latter mentioned and the creation of more flexible educational materials; consider important the access to best possible resources and unimportant the independence of publishers. Natural sciences, mathematics and informatics find unimportant the cost reduce for students and the outreach to disadvantaged communities, consider of little importance the promotion of scientific research and education as publicly open activities and the independence of publishers; the only important benefit for this discipline is the access to the best possible resources. Mechanics and engineering find very important all benefits but one, which is the independence of publishers. Earth science, agriculture and veterinary consider among others as important and very important benefits the following:

- Cost reduce for students
- Cost reduce of course creation for the university
- Outreach to disadvantaged communities
- Independence of publishers and
- the creation of more flexible educational materials.

Health sciences are presented indifferent to the creation of more flexible educational materials and consider all other benefits unimportant and of little importance. Other disciplines consider as very important the independence of publishers and the creation of more flexible educational materials. They also consider important the access to best possible resources and the promotion of scientific research and education as publicly open activities and last, they find of little importance the cost reduce for students and the outreach to disadvantaged communities.

To sum up, according to all disciplines, the very important benefit that results from OER use in classroom is the outreach to disadvantaged communities. Next important values that are worth mentioning are the cost reduce of course creation for the university and the creation of more flexible educational materials. The most unimportant benefit appears to be the outreach to disadvantaged communities. However, the same benefit resulted as a very important one too. There is a contradiction observed, but this benefit is considered more very important than

unimportant because it brought together higher percentages as a very important one. The other unimportant benefit resulted to be the independence of publishers. For more detailed information about the percentages of this table, please see annex, table (%) II.

After having analyzed the benefits and barriers of OER use, it is time to ascertain whether academics use OERs in their lectures or not. In this question 40,8% answered “yes, to a limited extent” and 30,6% “yes, extensively”. Only the 28,6% doesn’t use OERs in classroom at all (table 7).

	Valid Percent
No, not at all	28,6
Yes, to a limited extent	40,8
Yes, extensively	30,6
Total	100,0

**Table 7: OER use in classroom**

To analyze OER origin variable set with scientific field variable cross tabulation was implemented. The results of this analysis appear in table 8. In the sector of humanities and arts the OER used has been bought from some editor (50%) and has been created by colleagues of their institution (42,9%) among others. In social and economic sciences the OER used has been retrieved freely on the internet (4,8%). Among others, 28,6% of business administration and management academics state that the OER used has been created by colleagues of their institution. Academics from natural sciences, mathematics, informatics (10,7%), mechanics and engineering (14,3%) have created the OER used in classroom by themselves among others. The same percentage for mechanics and engineers stands for the OER used in classroom that has been retrieved freely on internet. Earth science, agriculture and veterinary academics said that the OER used comes among others from collaborations with other educational institutions. Academics from Health sciences answered that, among others, the OER used has been bought from some editor.

Next for the questionnaire was to identify the changes that the academia was willing to accept to its educational material.

		The OER used has been created by you	The OER used has been created by colleagues of your institution	The OER used has been retrieved freely on internet	The OER used comes from collaborations with other educational institutions	The OER used has been bought from some editor etc.
<b>Humanities and Arts</b>	within OER origin	21,4%	42,9%	14,3%	25,0%	50,0%
<b>Social and economic sciences</b>		3,6%	0,0%	4,8%	0,0%	0,0%
<b>Business administration and management</b>		10,7%	28,6%	9,5%	0,0%	0,0%
<b>Natural sciences, mathematics and</b>		10,7%	0,0%	9,5%	0,0%	0,0%

informatics						
Mechanics and engineering		14,3%	0,0%	14,3%	0,0%	0,0%
Earth science, agriculture and veterinary		10,7%	0,0%	9,5%	50,0%	0,0%
Health sciences		10,7%	14,3%	14,3%	25,0%	50,0%
Other		17,9%	14,3%	23,8%	0,0%	0,0%
Total	of Total	80,0%	20,0%	60,0%	11,4%	5,7%

**Table 8: Scientific field and OER origin cross tabulation**

According to question 10, whether the academy would grant to other colleagues its educational resource unaltered for educational purposes, 68% answered “yes, but only when my quality as main creator is kept” (table 9).

	Valid Percent
Yes, without restrictions	26,0
Yes, but only when my quality as main creator is kept	68,0
No	6,0
Total	100,0

**Table 9: Grant unaltered ER to other colleagues for educational purposes**

Academia willingness to grant their educational material is also clear in the next question, where the majority (46%) answered that would allow changes to their educational resource content and republish of a new version for educational purposes only when their name is acknowledged (table 10).

	Valid Percent
Yes, without restrictions	16,0
Yes, but only when my name is acknowledged	46,0
Yes, but only when my rights as the primal creator are protected by some license.	26,0
No	12,0
Total	100,0

**Table 10: ER content change and republish of a new version for educational purposes**

To examine whether use, sharing and reuse of OERs influence positively and/or negatively freedom of teaching the participants were asked to agree or disagree with the following statements (table 11).

Most of the disciplines agreed that they do not like all students to have access to their educational material but only those they choose. Humanities and arts have the same percentage of agreement and disagreement on this statement (33,3% in each). Earth science, agriculture and veterinary and health sciences disagree. For the statement “I don’t like all professors to have access to my educational material but only those I choose” natural sciences, mathematics and informatics have no opinion while humanities and arts, social and economic sciences and business and administration sciences express their agreement. On the other hand, mechanics and engineering, earth science, agriculture and veterinary and health sciences disagree. Social and economic sciences express no opinion concerning changes to their educational material content. Humanities and arts, business administration and management, natural sciences, mathematics and informatics and health sciences appear to agree on changes to their educational material content. Those who believe that nobody should apply changes to their educational material content belong to mechanics and engineering, earth science, agriculture and veterinary and other disciplines. The majority of the disciplines that gave an answer about the following statement agree that supplemental changes to their educational material by other colleagues of the same field would enhance its quality. Most of the disciplines believe that the disposal of their material for open use would not benefit a lot of students all over Greece. Disciplines that believe the opposite are social and economic sciences, mechanics and engineering and earth science, agriculture and veterinary; while natural sciences, mathematics and informatics keep a neutral attitude. Most of the scientific fields do not believe that whatever interference with their educational material by other colleagues would alter its initial content and purpose. Of those, business administration and management and health sciences believe also the opposite. Again, most of the disciplines but humanities and arts and natural sciences, mathematics and informatics believe that whatever change to the content of their educational material would not constitute plagiarism. Finally, most of the disciplines believe that use and reuse of educational material generally promotes new ideas and enhances scientific research. Humanities and arts and health sciences appear to disagree with that statement.

	I don't like all students to have access to my educational material but only those I choose	I don't like all professors to have access to my educational material but only those I choose	I don't want anybody to apply changes to the content of my educational material	I believe that supplemental changes to my educational material by other colleagues of the same field would enhance its quality	I believe that the disposal of my material for open use would benefit a lot of students all over Greece	I believe that whatever interference with my educational material by other colleagues would alter its initial content and purpose	I believe that whatever change to the content of my educational material would constitute plagiarism	I believe that use and reuse of educational material generally promotes new ideas and enhances scientific research
<b>Humanities and Arts</b>	Mostly disagree/ Strongly agree	Mostly agree	Strongly disagree	Strongly disagree	Strongly disagree	Strongly disagree	Strongly agree	Mostly disagree
<b>Social and economic sciences</b>	Strongly agree	Strongly agree		Mostly disagree	Mostly agree		Mostly disagree	
<b>Business administration and management</b>	Mostly agree	Strongly agree	Mostly disagree		Mostly disagree	Mostly disagree/ Mostly agree	Mostly disagree	Mostly agree
<b>Natural sciences,</b>	Mostly agree		Strongly disagree /			Strongly	Mostly agree	

<b>mathematics and informatics</b>			Mostly disagree			disagree		
<b>Mechanics and engineering</b>	Strongly agree	Strongly disagree	Strongly agree	Mostly agree	Strongly agree	Strongly agree		Strongly agree
<b>Earth science, agriculture and veterinary</b>	Strongly disagree	Mostly disagree	Mostly agree	Mostly agree	Mostly agree	Mostly agree		Mostly agree
<b>Health sciences</b>	Mostly disagree	Mostly disagree	Mostly disagree	Strongly agree	Strongly disagree	Mostly disagree/ Strongly agree	Mostly disagree	Mostly disagree
<b>Other</b>	Mostly agree		Strongly agree	Strongly agree	Mostly disagree	Mostly disagree	Strongly disagree	Strongly agree

**Table 11: Factors that influence the Freedom of Teaching (agreement/ disagreement statements)**

## First Conclusions

It is very positive the fact that all academia levels are informed about OERs and they use it, or at least, they express their opinion about their use, sharing and its interference or not to freedom of teaching. It is also positive the fact that this small sample covers all disciplines. Although academics do not participate in any OER initiative, however, they use and they create by themselves, individually, OERs mainly to a limited extent (50%) as well as extensively (22%) as it is evident in table 4.

Obviously, health sciences are well informed as far as OERs are concerned, since the only obstacle they find is lack of administration support. On the other hand, business administration and management considers all factors appearing in table 5 as barriers, except from lack of time.

It is not surprising that humanities and arts present a neutral attitude to most benefits of table 6 because, actually, it is confirmed the fact that they consider as an inhibitor “information about OER creation and use”. Social and economic sciences identify most of the benefits of OER use, since one of their problems was quite personal, that is lack of time. Business administration and management recognize the need for strengthening the educational process, as well as the quality of scientific research and education as a whole through the use of OERs, since they ascertain deficiencies in equipment, pedagogical methods, in a model for open content initiatives and administration support. Natural sciences, having had experience in releasing open content traditionally (see e.g. arxiv.org), recognise the importance of gaining access to the best possible resources as a benefit resulting from the OER use in classroom. Very positive is the fact that mechanics and engineers as well as their colleagues from earth sciences, agriculture and veterinary see the importance of all benefits that stem from the OER use. Last but not least, health science academia find no benefit at all from the OER use in classroom, though they appear to have a different opinion later

on the question 12, since they express, in general, a positive attitude towards open content and material sharing (see table 11).

Even more encouraging is the fact that, despite the benefits and mostly the barriers that exist, the majority of academic community in Greece uses OERs in classroom as it is shown in table 7.

Academics of all disciplines create their own OERs among others. Though this is not expressed by the majority of the percentages in each scientific field, however remains a stimulating factor as far as the OER popularity and use among academia of all disciplines. Finally, it seems that academia uses OERs that have been retrieved freely on internet, a lot, meaning that they trust OERs and probably consider important the low cost of such action (table 8).

As far as educational material sharing is concerned, it is found that academia is willing to grant its educational material to colleagues for educational purposes, if it is about material that has not been altered and where the quality of the writer as the main creator is kept. Furthermore, academia is willing to accept changes and republish of educational material mostly in the case when the name of the writer is acknowledged (46,0%) and less when the rights of the primal creator are protected by some license (26%) (table 9 and 10).

As for the freedom of teaching and its relation to the use, reuse and sharing of OERs, it is found that academics of the majority of the scientific fields like to have the control over who should access their educational material, though they do not seem to face the same concern about changes, supplemental or not, to the content of their educational material, as they think of them as something positive that enhances its quality.

Precisely, academia of almost all disciplines does not believe that the use of OERs offense freedom of teaching, though they would like to control who uses their materials. On the contrary, it is important that they see that the use, sharing and reuse of educational material promote new ideas and enhance scientific research (table 11).

## References

1. Atkins E. D., Brown S. J., Hammond L. A. (2007), A review of the Open Educational Resources (OER) Movement: Achievements, Challenges and New Opportunities, Report to The William and Flora Hewlett Foundation, Online at <http://www.hewlett.org/uploads/files/ReviewoftheOERMovement.pdf>, accessed 31.01.2012
2. Caswell T., Henson S., Jensen M., Wiley D. (2008), Open Content and Open Educational Resources: Enabling universal education, e-Journal IRRODL, Volume 9, No 1, ISSN: 1492-3831
3. Geser G. (2007), Open Educational Practices and Resources-OLCOS Roadmap 2012, Online at [http://www.olcos.org/cms/upload/docs/olcos\\_roadmap.pdf](http://www.olcos.org/cms/upload/docs/olcos_roadmap.pdf), accessed 31.01.2012
4. Koutras N. (2012), Educational resources and open access repositories, Law library of Athens, Athens
5. Koutras N., Araka I., Makridou E. (2011), Institutional Open Access in College Education: A proposal for their role in Open Educational Resources in Greece, 4<sup>th</sup> International Conference on Information Law, Corfu, Online at [http://conferences.ionio.gr/icil2011/download.php?f=papers/017-koutras-full\\_text-en-v002.pdf](http://conferences.ionio.gr/icil2011/download.php?f=papers/017-koutras-full_text-en-v002.pdf), accessed 31.01.2012
6. Lawrence L. (2006), Re-Crafting a Public Domain, Yale J. L. & Human, Volume 18, p. 56, Online at <http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/yallh18&div=20&id=&page=>, accessed 31.01.2012
7. OECD (2007), Giving Knowledge for Free: the emergence of open educational resources
8. Polsani R. P. (2003), Use and Abuse of Reusable Learning Objects, Journal of Digital Information, Volume 3, No 4
9. UNESCO (2002), Forum on the impact of open courseware for higher education in developing countries: final report, Paris, Online at <http://unesdoc.unesco.org/images/0012/001285/128515e.pdf>, accessed on 31.01.2012
10. Wiley D. (2002), Learning Objects Need Instructional Design Theory, The ASD e-learning handbook-best practices, strategies, and case studies for an emerging field pp. 115-139, USA, CWL Publishing Enterprises, ISBN: 0-07-138796-X
11. Wiley D., Barclay M., Dawson D., Lambert B., Nelson L., Wade D., Waters S. (2004). Overcoming the Limitations of Learning Objects, Scholarsarchive, Byu Harold B. Lee Library Digital Collections, USA, Online at <http://contentdm.lib.byu.edu/cdm/singleitem/collection/IR/id/166>, accessed on 31.01.2012
12. William and Flora Hewlett Foundation (2008). Open educational resources (OER)-making high quality educational content and tools freely available on the web

# **ANNEX**



	Highest values
	Values that are close to each other but state opposite opinions
	Medium values

Note I

	Lack of information about OER creation and use	Lack of time	Lack of equipment	Lack of interest in new pedagogical methods	Lack of a model for open content initiatives	Lack of administration support	
<b>Humanities and Arts</b>	0,0	42,9	12,5	36,4	33,3	50,0	Not at all
	33,3	16,7	33,3	44,4	14,3	10,0	Little
	16,7	15,4	16,7	0,0	42,9	21,4	Somewhat
	27,3	10,0	30,8	8,3	10,0	25,0	Much
	27,3	50,0	50,0	37,5	38,5	28,6	A Great Deal
	24,0	24,0	24,0	24,0	24,0	24,5	Total
<b>Social and economic sciences</b>	0,0	0,0	0,0	0,0	0,0	0,0	Not at all
	0,0	0,0	11,1	11,1	14,3	10,0	Little
	8,3	15,4	5,5	10,0	0,0	0,0	Somewhat
	0,0	20,0	15,4	16,7	10,0	25,0	Much
	18,2	12,5	50,0	12,5	15,4	14,3	A Great Deal
	10,0	10,0	10,0	10,0	10,0	10,2	Total
<b>Business administration and management</b>	0,0	14,3	12,5	18,2	0,0	0,0	Not at all
	0,0	8,3	0,0	0,0	0,0	10,0	Little
	0,0	23,1	11,1	0,0	0,0	7,1	Somewhat
	27,3	0,0	23,1	25,0	15,0	16,7	Much
	13,6	12,5	0,0	12,5	23,1	14,3	A Great Deal
	12,0	12,0	12,0	12,0	12,0	10,2	Total
<b>Natural sciences, mathematics and informatics</b>	0,0	28,6	37,5	27,3	33,3	0,0	Not at all
	66,7	8,3	11,1	11,1	28,6	30,0	Little
	25,0	0,0	16,7	30,0	14,3	21,4	Somewhat
	27,3	50,0	23,1	0,0	20,0	16,7	Much
	9,1	25,0	0,0	37,5	15,4	28,6	A Great Deal
	20,0	20,0	20,0	20,0	20,0	20,4	Total

<b>Mechanics and engineering</b>	50,0	0,0	12,5	9,1	33,3	0,0	Not at all
	0,0	16,7	22,2	0,0	0,0	10,0	Little
	16,7	15,4	11,1	30,0	28,6	21,4	Somewhat
	0,0	10,0	0,0	8,3	10,0	8,3	Much
	9,1	0,0	0,0	0,0	0,0	0,0	A Great Deal
	10,0	10,0	10,0	10,0	10,0	10,2	Total
<b>Earth science, agriculture and veterinary</b>	0,0	0,0	25,0	0,0	0,0	0,0	Not at all
	0,0	25,0	0,0	0,0	28,6	20,0	Little
	16,7	0,0	5,6	10,0	0,0	7,1	Somewhat
	9,1	0,0	0,0	16,7	5,0	0,0	Much
	0,0	0,0	0,0	0,0	0,0	0,0	A Great Deal
	6,0	6,0	6,0	6,0	6,0	6,1	Total
<b>Health sciences</b>	50,0	0,0	0,0	9,1	0,0	0,0	Not at all
	0,0	16,7	22,2	33,3	14,3	10,0	Little
	8,3	7,7	11,1	0,0	14,3	21,4	Somewhat
	9,1	10,0	0,0	0,0	5,0	0,0	Much
	4,5	0,0	0,0	0,0	7,7	0,0	A Great Deal
	8,0	8,0	8,0	8,0	8,0	8,2	Total
<b>Other</b>	0,0	14,3	0,0	0,0	0,0	50,0	Not at all
	0,0	8,3	0,0	0,0	0,0	0,0	Little
	8,3	23,1	22,2	20,0	0,0	0,0	Somewhat
	0,0	0,0	7,7	25,0	25,0	8,3	Much
	18,2	0,0	0,0	0,0	0,0	14,3	A Great Deal
	10,0	10,0	10,0	10,0	10,0	10,2	Total

**Table I (%) I: Inhibitors that prevent professors from using OERs**

	Positive highest values
	Negative highest values

Note II

	Gain access to best possible resources	Promotion of scientific research and education as publicly open activities	Reducing cost for students	Reducing costs of course creation for the university	Outreach to disadvantaged Communities	Becoming independent of publishers	Creating more flexible educational Materials	
<b>Humanities and Arts</b>	0,0	0,0	0,0	33,3	0,0	0,0	0,0	Unimportant
	100,0	0,0	0,0	100,0	33,3	33,3	0,0	Of little importance
	44,4	40,0	33,3	0,0	50,0	50,0	44,4	Neutral
	17,4	28,6	33,3	28,6	21,4	16,7	31,8	Important
	20,0	13,3	20,0	16,7	6,7	11,1	5,6	Very important
	24,5	24,5	25,0	24,5	24,5	24,5	24,5	24,5
<b>Social and economic sciences</b>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Unimportant
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Of little importance
	0,0	10,0	16,7	0,0	8,3	14,3	0,0	Neutral
	8,7	4,4	5,6	10,7	7,1	8,3	13,6	Important
	20,0	20,0	15,0	16,7	20,0	11,1	11,1	Very important
	10,2	10,2	10,4	10,2	10,2	10,2	10,2	Total
<b>Business administration and management</b>	0,0	0,0	0,0	0,0	0,0	50,0	0,0	Unimportant
	0,0	0,0	0,0	0,0	0,0	33,3	0,0	Of little importance
	11,1	30,0	33,3	20,0	8,3	14,3	0,0	Neutral
	17,4	4,8	11,1	14,3	14,3	8,3	9,1	Important
	6,7	13,3	10,0	8,3	20,0	5,6	22,2	Very important

	12,2	12,2	12,5	12,2	12,2	12,2	12,2	Total
<b>Natural sciences, mathematics and informatics</b>	0,0	0,0	100,0	33,3	50,0	0,0	0,0	Unimportant
	0,0	33,3	33,3	0,0	0,0	33,3	0,0	Of little importance
	11,1	0,0	0,0	40,0	16,7	14,3	44,4	Neutral
	21,7	28,6	22,2	14,3	28,6	8,3	9,1	Important
	20,0	13,3	15,0	16,7	13,3	27,8	16,7	Very important
	18,4	18,4	18,8	18,4	18,4	18,4	18,4	Total
<b>Mechanics and engineering</b>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Unimportant
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Of little importance
	11,1	0,0	0,0	20,0	16,7	0,0	0,0	Neutral
	0,0	9,5	5,6	3,6	7,1	16,7	9,1	Important
	26,7	20,0	15,0	25,0	13,3	16,7	16,7	Very important
	10,2	10,2	8,3	10,2	10,2	10,2	10,2	Total
<b>Earth science, agriculture and veterinary</b>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Unimportant
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Of little importance
	11,1	10,0	0,0	0,0	0,0	0,0	0,0	Neutral
	8,7	9,5	16,7	7,1	7,1	25,0	13,6	Important
	0,0	0,0	0,0	8,3	13,3	0,0	0,0	Very important
	6,1	6,1	6,2	6,1	6,1	6,1	6,1	Total
<b>Health sciences</b>	100,0	0,0	0,0	33,3	0,0	50,0	0,0	Unimportant
	0,0	66,7	33,3	0,0	16,7	0,0	0,0	Of little importance
	0,0	0,0	16,7	0,0	0,0	0,0	11,1	Neutral
	8,7	0,0	5,6	7,1	7,1	16,7	9,1	Important
	6,7	13,3	5,0	8,3	13,3	5,5	5,6	Very important
	8,2	8,2	8,3	8,2	8,2	8,2	8,2	Total
<b>Other</b>	0,0	0,0	0,0	0,0	50,0	0,0	0,0	Unimportant
	0,0	0,0	33,3	0,0	50,0	0,0	0,0	Of little importance
	11,1	10,0	0,0	20,0	0,0	7,1	0,0	Neutral
	17,4	14,3	0,0	14,3	7,1	0,0	4,5	Important
	0,0	6,7	20,0	8,0	0,0	22,2	22,2	Very important
	10,2	10,2	10,4	10,2	10,2	10,2	10,2	Total

Tables II (%) II: Importance of benefits that result from OER use in classroom

	Positive highest values
	Negative highest values
	Medium values

Note III

	I don't like all students to have access to my educational material but only those I choose.	I don't like all professors to have access to my educational material but only those I choose.	I don't want anybody to apply changes to the content of my educational material	I believe that supplemental changes to my educational material by other colleagues of the same field would enhance its quality	I believe that the disposal of my material for open use would benefit a lot of students all over Greece	I believe that whatever interference with my educational material by other colleagues would alter its initial content and purpose	I believe that whatever change to the content of my educational material would constitute plagiarism	I believe that use and reuse of educational material generally promotes new ideas and enhances scientific research	
<b>Humanities and Arts</b>	21,9	22,7	66,7	100,0	50,0	62,5	20,0	0,0	Strongly disagree
	33,3	10,0	0,0	60,0	25,0	0,0	0,0	50,0	Mostly disagree
	25,0	33,3	9,1	12,5	30,8	11,1	14,3	20,0	Neutral
	20,0	50,0	22,2	16,7	13,0	25,0	42,9	27,3	Mostly agree
	33,3	16,7	29,2	0,0	37,5	37,5	50,0	8,3	Strongly Agree
	24,0	24,5	24,0	25,0	24,0	24,0	24,0	24,0	Total
<b>Social and economic sciences</b>	12,5	9,1	0,0	0,0	0,0	0,0	20,0	0,0	Strongly disagree
	0,0	10,0	0,0	20,0	0,0	0,0	22,2	0,0	Mostly disagree
	0,0	0,0	36,4	0,0	7,7	22,2	7,1	20,0	Neutral
	0,0	12,5	11,1	4,2	17,4	12,5	0,0	9,1	Mostly agree
	33,3	16,7	0,0	14,3	0,0	0,0	0,0	8,3	Strongly Agree
	10,0	10,2	10,0	6,2	10,0	10,0	10,0	10,0	Total
<b>Business administration and management</b>	9,4	9,1	0,0	0,0	0,0	0,0	10,0	0,0	Strongly disagree
	16,7	10,0	33,3	20,0	50,0	25,0	22,2	0,0	Mostly disagree
	0,0	0,0	9,1	25,0	7,7	5,6	14,3	10,0	Neutral
	40,0	0,0	22,2	12,5	13,0	25,0	14,3	18,2	Mostly agree

	0,0	33,3	8,3	0,0	0,0	12,5	0,0	8,3	Strongly Agree
	12,0	10,2	12,0	12,5	12,0	12,0	12,0	12,0	Total
Natural sciences, mathematics and informatics	15,6	22,7	33,3	0,0	0,0	37,5	20,0	0,0	Strongly disagree
	16,7	10,0	33,3	0,0	0,0	25,0	22,2	16,7	Mostly disagree
	75,0	33,3	27,3	50,0	30,8	16,7	21,4	40,0	Neutral
	20,0	25,0	11,1	20,8	21,7	25,0	28,6	18,2	Mostly agree
	0,0	16,7	16,7	14,3	12,5	0,0	10,0	8,3	Strongly Agree
	20,0	20,4	20,0	20,8	20,0	20,0	20,0	20,0	Total
Mechanics and engineering	12,5	18,2	0,0	0,0	0,0	0,0	0,0	0,0	Strongly disagree
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Mostly disagree
	0,0	0,0	9,1	0,0	7,7	11,1	21,4	10,0	Neutral
	0,0	0,0	0,0	16,7	8,7	0,0	14,3	9,1	Mostly agree
	33,3	16,7	16,7	14,3	25,0	37,5	10,0	16,7	Strongly Agree
	10,0	10,2	10,0	10,4	10,0	10,0	10,0	10,0	Total
Earth science, agriculture and veterinary	9,4	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Strongly disagree
	0,0	30,0	0,0	0,0	0,0	0,0	0,0	0,0	Mostly disagree
	0,0	0,0	0,0	0,0	7,7	11,1	14,3	0,0	Neutral
	0,0	0,0	22,2	12,5	8,7	12,5	0,0	9,1	Mostly agree
	0,0	0,0	4,2	0,0	0,0	0,0	10,0	8,3	Strongly Agree
	6,0	6,1	6,0	6,2	6,0	6,0	6,0	6,0	Total
Health sciences	9,4	4,5	0,0	0,0	50,0	0,0	0,0	0,0	Strongly disagree
	16,7	30,0	33,3	0,0	0,0	12,5	22,2	33,3	Mostly disagree
	0,0	0,0	0,0	12,5	7,7	11,1	0,0	0,0	Neutral
	0,0	0,0	11,1	8,3	0,0	0,0	0,0	0,0	Mostly agree
	0,0	0,0	8,3	14,3	25,0	12,5	20,0	16,7	Strongly Agree
	8,0	8,2	8,0	8,3	8,0	8,0	8,0	8,0	Total
Other	9,4	13,6	0,0	0,0	0,0	0,0	30,0	0,0	Strongly disagree
	16,7	0,0	0,0	0,0	25,0	37,5	11,1	0,0	Mostly disagree
	0,0	33,3	9,1	0,0	0,0	11,1	7,1	0,0	Neutral
	20,0	12,5	0,0	8,3	17,4	0,0	0,0	9,1	Mostly agree
	0,0	0,0	16,7	42,9	0,0	0,0	0,0	25,0	Strongly Agree
	10,0	10,2	10,0	10,4	10,0	10,0	10,0	10,0	Total

Tables III (%) III: Factors that influence the Freedom of Teaching (agreement/ disagreement statements)

