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promote the open dissemination of knowledge**

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**The University of Alicante’s institutional strategy
to promote the open dissemination of knowledge**

Faraón Llorens*, Juan José Bayona, Javier Gómez and Francisco Sanguino
University of Alicante
Alicante, Spain

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About the authors

***Faraón Llorens** is the Vice-Rector of Technology and Educational Innovation at the University of Alicante. He has a PhD in computer engineering from the University of Alicante and is a Professor in its Computing Science and Artificial Intelligence College. His current research focuses on artificial intelligence and the application of digital technologies in the field of education. He forms part of the executive board for information technologies and communications of the Conference of Vice-Chancellors of Spanish Universities and is the coordinator of the IT analysis, planning and governance working group which, amongst other things, produces an annual report on ICTs in the Spanish university system. Faraón Llorens is the corresponding author and can be contacted at: Faraon.Llorens@ua.es

Juan José Bayona is the Director of the Secretariat for the University Library at the University of Alicante. He has a PhD in law from the University of Alicante and is a senior lecturer in financial and tax law. His main research interests are international taxation and fiscal procedures. However as the academic head of the Library he has had the chance to present papers to congresses about OpenCourseWare, repositories and open knowledge.

Javier Gómez is a library technician in the Vice-Rectorate of Technology and Educational Innovation at the University of Alicante. He has a degree in documentation from Complutense University in Madrid. He is the repository manager of the Institutional Repository of the University of Alicante. His current research focuses on open access, repositories and free software.

Francisco José Sanguino has a BA in Spanish language and literature. He is a teacher of Spanish as a second language, and a secondary school teacher. He has received grants for the University of

Alicante's Multimedia Lab Project (2000), Spanish Language Virtual Classroom (2002), and OpenCourseWare (2007).

Abstract

Purpose – This paper seeks to present the gamble made by the University of Alicante (Spain) on the promotion of open knowledge. Information and communication technologies have become pervasive in our lives and in this changing world education cannot remain anchored in old-fashioned models which ignore the evolution that society is going through.

Design/methodology/approach – The educational environment cannot continue to be a fixed, closed and isolated environment where students – assuming a basically passive role – receive standardised teaching. It must consequently experience a fast and decisive transformation which allows it, amongst other things, to respond to the new challenge posed by society: the need for all of us to share the knowledge we generate, so that further progress can be made.

Findings – The Institutional Repository (RUA) and the OpenCourseWare of the University of Alicante (OCW-UA) were conceived from the very beginning as related projects which could constitute consecutive phases in the open publication of knowledge. In this way we achieved the aim of presenting the promotion of open knowledge not as a series of discrete projects but as a global strategic gamble of the institution. In addition to the most visible educational benefits, this policy has had the virtue of favouring the assumption by the University of its role as an online provider of quality (scientific and teaching) content.

Originality/value – RUA is the storage place of all the teaching materials published by our teaching staff, and which are retrieved from OCW-UA, while OCW-UA serves as an organisational model of teaching content self-archived by the teaching staff in RUA. The connection between the projects has allowed us to present the promotion of open knowledge as a global strategic gamble of the University, which has contributed to a greater acceptance by the teaching staff. This work is original in that it shows a successful experience of involvement by one university and its members in the promotion of open knowledge.

Keywords – Open knowledge, Higher education, Institutional repositories, OpenCourseWare, Open access, Open education

Paper type – Case study

Challenges of the knowledge society

The gamble made by the University of Alicante (Spain) on the promotion of open knowledge is one

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2 of the consequences of its adaptation to the changes experienced by society – and by education
3 along with it – during the last few years. We are witnessing an unstoppable process in which the
4 information and communication technologies (ICT) have invaded the different aspects of our lives,
5 modifying leisure, business and, in general, interpersonal relationships.
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9 In this changing world, education cannot remain anchored in old-fashioned models which take
10 no account of the changes that society is experiencing. Moreover the educational context is one of
11 the first in which the need for change becomes obvious since, in this revolution, the youngest
12 people seem to be in the best position to face the challenges that new technologies entail. These
13 youngsters, known as the “Einstein generation”, “millennium generation” or “digital natives” are
14 currently arriving at our universities and naturally demand from us that we take advantage of all the
15 potential offered by the new technologies which they know of or can at least guess at.
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18 The educational context can no longer be a fixed, closed and isolated environment where
19 students, assuming a basically passive role, receive standardised teaching. The current technology
20 makes such a model unviable and, more importantly, it makes the model undesirable and
21 unjustifiable. Thanks to ICTs, knowledge can be accessible at any time, anywhere and in various
22 formats, and there is even the possibility of personalising it in accordance with the recipient’s needs
23 and preferences. With a view to illustrate the transformation which has to take place in the
24 educational environment, Table 1 offers a contrast between the aspects that characterise the
25 traditional model and those which would correspond to a 2.0 model.
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37 Table 1. Traditional educational environment vs. the model 2.0

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Traditional environment	Educational environment 2.0
Analogue	Digital
Fixed	Mobile
Isolated	Connected
Generic	Personal
Consumer	Creator
Closed	Open

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53 The educational environment must consequently experience a rapid and decisive transformation
54 which allows it to respond to the new challenge posed by society: the need for all of us to share the
55 knowledge that we generate. This is, of course, the philosophy behind the promotion of open
56 knowledge to which the University of Alicante committed itself when it signed the *Berlin*
57 *Declaration on Open Access to Knowledge in Sciences and Humanities* in 2006.
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Along with the educational value of these projects, it should not be forgotten that they also have

as a virtue the fact that they help the university to assume its role as an online provider of quality teaching and scientific content. The internet is currently the vehicle for a huge mass of information which can be used in many different ways. Precisely because of the enormous volume of information available, those proposals which facilitate the selection of information are regarded as very interesting. In this respect both the collaboration of universities from all over the world within the framework of the OpenCourseWare project and the dissemination of scientific production through institutional repositories in which specialised collectors can operate, make it easier to consult the published documents and, consequently, contribute to increase the degree of satisfaction among users.

Our main goal with this paper is to show the institutional strategy followed by the University of Alicante for promoting the open dissemination of knowledge with an integral, transversal model to the University as a whole. The next section describes the different projects which form part of this overall strategy. Then the third section offers an integrated presentation of the two main projects within this initiative: the Institutional Repository (RUA) and the OpenCourseWare (OCW-UA) of the University of Alicante. The fourth section describes the incentive policy established by the University of Alicante for the purpose of involving the whole university community in these projects, after which the fifth section presents data and statistics that will allow us to measure the success achieved by these projects. Finally the sixth section provides some conclusions which can be drawn from these experiences along with some approaches and proposals for the future.

The institutional strategy of the University of Alicante

Within the University of Alicante (UA) the task of heading the adaptation of the educational environment to the challenges of the information society has been entrusted to the Vice-Rectorate of Technology and Educational Innovation (VrTIE) on which the Library and Computing services depend through their corresponding Secretariats. The structure of this Vice-Rectorate has especially favoured the task which needs to be performed because, from the very beginning, it has linked educational innovation to content along with technological tools and computer programs. A good sample of the synergy achieved is the *COPLA Coneixement Obert i Programari Lliure a la Universitat d'Alacant* [Open Knowledge and Free Software at the University of Alicante] (www.copla.ua.es) project, in which the promotion of open knowledge and free software are combined, since it is understood that both initiatives pursue the same aim: to facilitate the sharing of the knowledge generated.

In this way we drew up a plan which started in 2005, with the analysis of the challenges raised, and which in 2006 made it possible to design suitable tools required to face those challenges so that these tools could be applied in 2007. Coinciding with the 10th anniversary of UA's presence on the

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internet, we launched the www.ua.es 2.0 initiative, an “umbrella” name under which are grouped a series of new projects and portals characterised by being inspired by the philosophy and the principles of Web 2.0, that is to say, based on user communities, social networks, interactivity, participation and collaboration, multimedia content and simple, user-friendly editing tools. Thus in 2007 the audiovisual portal (Portal audiovisUA1 – portalaudiovisual.ua.es), the tool for the generation of blogs (blogsUA - blogs.ua.es), the Institutional Repository (RUA – rua.ua.es) and the OpenCourseWare of the University of Alicante (OCW-UA – ocw.ua.es) were launched. The main characteristic which is common to all these is that, once the tool has been created by the University, it is up to individual members to fill it with content.

The great challenge was now to involve the university community. To that end, the Vice-Rectorate for Technology and Educational Innovation annually publishes an action plan for that year with various calls for grants and incentives. The action plan designed by the Vice-Rectorate of Technology and Educational Innovation for the year 2010 can be found at the *Boletín Oficial de la Universidad de Alicante* [Official Gazette of the University of Alicante] (<http://www.boua.ua.es>) of 12 February 2010. This aspect will be treated in more detail later on. Figure 1 shows the strategy followed by the University of Alicante in relation to the use of technology with the aim of encouraging educational innovation, which we have briefly introduced in this section.

Figure 1. Map for the institutional strategy of the University of Alicante
(conceptual design by Faraón Llorens and graphic design by Ana Illanas)

The integration of RUA and OCW-UA

General approach

Of all the tools mentioned above, those which assume a starring role from the perspective of this paper are RUA and OCW-UA. Although the model to which each one of these projects responds will be analysed in more detail later, we would like to briefly reflect on the reasons which led us to link them. RUA and OCW-UA have always been seen as two related projects which could constitute consecutive phases in the open publication of knowledge. Before the appearance of these tools, the institutional presence of the UA on the internet took place through the website (www.ua.es), which contained all the information accessible to the general public, and an intranet – known as Campus Virtual (<https://cv1.cpd.ua.es>) – the contents of which could only be accessed by members of the institution (teaching staff, students and administrative staff).

In the field of teaching, this meant that the general public only had access to the subject descriptions, which comprise the syllabuses, methodologies, timetables, lecturers and bibliographies of the subjects, but not to the materials which were used in those subjects, which were only available to the corresponding enrolled students through the Campus Virtual platform.

With the launch of these two platforms, the first challenge posed by the promotion of open knowledge was to persuade the teaching staff to self-archive in RUA the teaching materials which they had created, and which they had been using with their students, when they considered that these materials had reached the necessary degree of quality and usefulness. When those materials sufficed to cover the subject content, the next step was including their teaching project in OCW-UA. In this way RUA becomes the storage place for all the teaching materials published by our teaching staff, of which are retrieved, from OCW-UA, those which form part of the subjects included in it, and OCW-UA serves as an organisational model for the teaching content self-archived by the teaching staff in RUA.

RUA, Institutional Repository of the University of Alicante

The project for the creation of an institutional repository started in May 2006 with the study and evaluation of the different repository management systems available in the market. Two criteria were applied in the selection of the software:

- 1) Free software: following the guidelines of the COPLA Project, the repository management system had to use an *open source licence*.
- 2) OAI-PMH: the system had to support the *OAI-PMH protocol* (Open Access Initiative-Protocol for Metadata Harvesting), in order to ensure the *interoperability* of the repository.

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Three repository management systems were selected during this first phase: DSpace, Eprints and Fedora. After carrying out a study of the technical characteristics of these three systems, we chose DSpace, taking into account the number of installations all over the world, the software development level and the fact that it was easy to install, to use and to adapt to the specific needs of the UA.

DSpace is software created by the MIT (Massachusetts Institute of Technology) and HP Labs. It is an open source platform (BSD licence - Berkeley Software Distribution) which allows capturing items in any format (text, video, audio, data...) and their metadata, distributing the archived items along the network, indexing, searching and recovering the information, and preserving the digital contents in the long term.

DSpace allows the authors to place their work, immediately after its creation, at the disposal of users and search engines through self-archiving. It allows storage of teaching materials which can be reused in content managers, creates a “reference” place to file materials which otherwise would be archived in personal pages, blogs, etc., and makes it possible to keep track of one’s own and other works by means of permanent links (URI - Uniform Resource Identifier) and statistics about use.

The Institutional Repository of the University of Alicante started its operation on 17 May 2007, with a structure based on three main areas:

- 1) RUA Docencia (Teaching) contains five general thematic areas (arts and humanities; sciences; health sciences; social and legal sciences; and engineering and architecture) and since July 2009 it has included the Technological-Educational Innovation Groups (Spanish initials GITE).
- 2) In RUA Investigación (Research) the communities are identified with the research groups recognised by the UA. Furthermore there is a collection of doctoral theses, managed by the Centro de Estudios de Doctorado y Postgrado (Centre for Doctoral and Postgraduate Studies) which contains the theses submitted at the UA, when their authors have authorised us to make them available on the internet in open access.
- 3) RUA Revistas y Congresos (Journals and Conferences) is the area within the Repository which contains the journals edited by some of the centres and units of the University of Alicante, along with the workshops and conferences organised by them.

OCW-UA, OpenCourseWare of the University of Alicante

In a period during which an attempt was being made to create a dotcom product market, when the availability of considerable funding made possible the emergence of online projects in “user pays

education”, the Massachusetts Institute of Technology surprised everyone in the year 2000 with the announcement that they would publish their courses on the internet. It became evident that two opposite lines of development were fighting to coexist in the habitat of the digital world.

In 2002 the MIT published its first 50 courses and also saw its courses released in Spanish and Portuguese translations. The Chinese translations appeared one year later. During the following years the project went ahead despite some events which tested its strength, such as the collapse of dotcoms in the Stock Exchange, the significant social changes in the US and even, more recently, the serious global financial crisis. Seven years later the MIT has published 1,925 courses and the count goes on.

The University of Alicante set the project in motion in March 2007, after an offer by the MIT OCW to create a world consortium. Its managers proposed Universia – a university network financed by Banco de Santander – to coordinate those universities which were willing to go online with ten courses in May 2007. The University of Alicante thus became one of the founding partners of the programme in Spain.

OpenCourseWare is not an educational project which depends on a single franchise for its content or technology. In other words it does not depend on a single electronic teaching publication model. The only goal is publishing, as is explained by the MIT itself: “OCW is a free publication of MIT course materials that reflects almost all the undergraduate and graduate subjects taught at MIT” (<http://ocw.mit.edu/OcwWeb/web/about/about/index.htm>).

It takes the webpage as a model, whose menu options consist of the curricular structure of the course, to which educational resources such as notes, exercises with answers, readings, handbooks for practical activities or projects or even small applications are added. These materials are mostly PDF files and must always be text files, though there are a large number of sound and audiovisual recordings as well.

Our university decided to start from a similar model, solving the problem of course content updates with successive reissues, just as OCW MIT does. The structure for the publication of the courses takes as a reference the five groups of subjects proposed by the Ministry of Education: arts and humanities; sciences; health sciences; social and legal sciences; and engineering and architecture.

Each one of the courses has a basic set of information which is developed by the person in charge of the course by default. Next we specify the degree to which the course belongs, the areas of knowledge, the department it is part of and a brief description. All of this makes up the cover or home page. The contents are structured following the course curriculum model, which includes the following sections: objectives, contents, methodology, assessment, materials, bibliography and resources on the internet. Occasionally other options are added, e.g. videos, practical activities,

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2 exercises and so on, always seeking to afford enough flexibility for the teacher to identify with the
3 end product to a greater extent.
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6 Regarding the content publication model, although MIT OCW has the files connected both in its
7 own server and in other external ones, OCW-UA, as we have anticipated above, chose from the
8 very beginning to complement it with the Repository RUA. That implies a coordination of the
9 elements which form the page and a combination of both projects. OCW-UA is a way to freely
10 publish the teaching content of our degrees, but it is also an organisational model for the content
11 which lecturers self-archive in the Repository of the UA.
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17 However OCW-UA does not aim to become an online teaching platform, which is why the
18 teaching projects that it contains do not necessarily coincide with those currently taught at the
19 University of Alicante, though they obviously benefit from the experience and reflection of our
20 teaching staff. The editing and publishing process at our university starts with a call for financial aid
21 for the publication in OCW-UA and RUA and ends with the publication in both servers (Figure 2).
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27 Figure 2. Process of publication in OCW-UA

56 Of course the whole process starts from the “teaching experience” or the “teaching strategy”
57 which later materialises in the publication. After that a document is generated which includes the
58 course description (curriculum) along with the class materials that teachers have been using and
59 which, as we have already said, they made available to their students through Campus Virtual. That
60 documentation constitutes what we call the “course portfolio”. When the call for economic aid takes

place, the different members of the teaching staff apply for it and prepare their materials. The OCW-UA office performs the task of compiling and preparing the curriculum description and adding the URI resulting from the self-archive that the lecturer has carried out in RUA. Finally all of it is published in OCW-UA.

It can be seen in Figure 3 that the page of materials for any course in OCW-UA references the URI with the materials for that same course available in RUA. The connection between both projects becomes evident once again by the fact that one can have both the direct access to the self-archived document (clicking on the option *Visualizar/Abrir* [Visualise/Open]) and the access to the record generated in RUA (clicking on the link with URI) from OCW-UA, obtaining in that case the page which can be seen in Figure 4.

Figure 3. Page with the materials for a course in OCW-UA

The screenshot shows the OpenCourseWare interface. At the top, there's a header with the OpenCourseWare logo and a search bar. Below the header, a navigation menu is visible. The main content area is titled 'Materiales' (Materials) and lists files for the course 'ciencias de la salud > control de calidad de alimentos'. The files are:

Archivo	Descripción	Tamaño	Formato	Acción
control de calidad de los alimentos.ppt		22348Kb	Microsoft Powerpoint	Visualizar/Abrir
control de calidad de los alimentos.pdf		6528Kb	Adobe PDF	Visualizar/Abrir

Below the table, a note states: 'Todos los materiales se encuentran disponibles en el siguiente IDENTIFICADOR UNIFORME DE RECURSO del Repositorio de Objetos de Aprendizaje de la Universidad de Alicante (RUA): URI: <http://hdl.handle.net/10045/8537>'. At the bottom, there's a Creative Commons license logo and footer information.

Figure 4. Page with a RUA record

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The UA’s incentive policy for the open dissemination of its work

After having designed the tools and articulated the links between them, the challenge that we faced was to persuade the university community to use it. Several initiatives were undertaken for this purpose. First, and since the beginning of the project (2007), we asked for financial aid specifically to promote the self-archive of documents in the repository:

- Funding for the constitution of research communities in the Repository of the University of Alicante (RUA) and to encourage the self-archive of documents by those communities. (<http://www.boua.ua.es/pdf.asp?pdf=1102.pdf>)
- Funding for the publication of subjects in the OpenCourseWare of the University of Alicante (OCW-UA) and to encourage the self-archive of teaching materials in its Institutional Repository (RUA). (<http://www.boua.ua.es/pdf.asp?pdf=1101.pdf>)

In the first case the aim was to encourage research groups to register as communities within the Repository, providing information about the group and defining their own self-archive policy and the collections in which they planned to present their scientific output. At the same time we wanted to reward participation in the initiative, taking into consideration the number of materials to which open access was permitted.

In the second case we acknowledged the commitment of the lecturers who decided to publish their teaching projects through OCW-UA in an open format, demanding that the materials contained in those proposals were previously self-archived in the Institutional Repository.

Together with these requests which directly and specifically sought to increase the number of materials accessible in open format through the repository, the requirement of disseminating the

results obtained in RUA was also incorporated into another series of financial aids awarded by the University of Alicante. Amongst others we can mention the following funds in which participants assume the obligation to self-archive their academic production in RUA:

- *Aid for the publication of scientific journals.* The publication in digital format of the contents of those journals which obtain this aid will be carried out through RUA, without meaning that they cannot be published in other digital platforms. (<http://www.boua.ua.es/pdf.asp?pdf=1096.pdf>)
- *Aid for the creation of Educational Innovation Technological Networks.* The materials generated as a result of this will have to be self-archived in the Institutional Repository of the University of Alicante (RUA) (<http://www.boua.ua.es/pdf.asp?pdf=812.pdf>)
- *Grants in 2009 for the development of teaching materials in the Valencian language.* The materials for which a grant is awarded will have to be deposited in RUA (Institutional Repository of the University of Alicante). (<http://www.boua.ua.es/pdf.asp?pdf=1058.pdf>)
- *A pilot project for the teaching of subjects in blended modality.* The materials generated through this will have to be self-archived in the Institutional Repository of the University of Alicante (RUA *Docencia* [Teaching]). (<http://www.boua.ua.es/pdf.asp?pdf=706.pdf>)
- *Aid to develop theses, end-of-degree projects, dissertations and research reports in the Valencian language.* This contains a recommendation to publish the works for which a grant has been awarded in the Institutional Repository of the University of Alicante (RUA). (<http://www.boua.ua.es/pdf.asp?pdf=1057.pdf>)

It is worth highlighting at this stage that the financial aids that we have been mentioning were always quite modest, their main goal being to make the Repository better known, and under no circumstances were they meant to represent a payment for the materials placed in it.

In order to ensure the success of the project, it was considered that its diffusion could not be confined to the aforementioned financial aids. We gave presentations about the different tools in which an effort was made to inform the university about the philosophy driving the project and about the advantages that this project could bring. Among these advantages, visibility on the internet was undoubtedly the decisive argument which encouraged the teaching staff to participate in the project. This visibility is obtained through the appropriate inclusion of RUA in the teaching and scientific (re)collectors and portals (Oaister, OpenDOAR, Scientific Commons, DOAJ, Openarchives.eu, Scirus, DARTeurope, DR RD, Recolecta, Universia, etc.). So that the participants in the project could check the extent of the visibility gained, we also implemented a statistics module through which it was possible to know the number of visits to – and also the number of downloads of – self-archived materials, with an additional indication of the countries from which access had taken place (Figure 5).

Figure 5. Image of the module for visit statistics and downloads by countries

Along with visibility, another argument which also seemed to exert a great influence on the teaching staff was precisely the philosophy that inspired the whole project: open knowledge. This consideration led us to show our commitment using a concrete example: at our request, the *Reglamento general de publicaciones de la Universidad de Alicante* [General Regulations for Publications at the University of Alicante] (<http://www.boua.ua.es/pdf.asp?pdf=787.pdf>), approved on 30 January 2008, explicitly stated that the publications made through it would always recognise the authors' right to proceed to self-archive their work in an Institutional Repository.

The results of the project at the University of Alicante

From the very beginning, the monitoring of these two projects has shown significant success for both of them, both in relation to the constant increase of content (internal indicator) and visits received (external indicator). The sustained growth in the size of RUA as well as the increase in the number of downloads is clearly visible in Figures 6 and 7.

Figure 6. Sustained RUA growth (source: Registry of Open Access Repositories ROAR)

Figure 7. Statistics about visits and downloads in RUA

Similarly through gathering the data in a single table, we can observe how OCW-UA has also achieved sustained growth both in its contents and in the visits generated by them. Figure 8 shows the traffic since its appearance in 2007 together with the relationship with the publication of the courses according to the financial aid approved. At the time of writing there are over 50 new courses in process which we will be able to publish shortly and which will continue to improve these results.

Figure 8. Statistics about traffic in OCW-UA

Despite being relevant when it comes to assessing how successful the implementation of the project has been, these general data require a more detailed analysis which can enable us to draw more conclusions about its functioning. The results obtained during the last two years and five months have been highly satisfactory, as shown by the figures below:

- 99 research groups registered, 47.37 percent of the total number of research groups at the UA (Table 2), who have registered more than 2,900 research materials (Table 3).
- 21 journals edited by UA units in digital format, with more than 6,200 full-text articles (which represents the entire range of journals published at our University).
- 890 doctoral theses in open access.
- More than 1,200 teaching materials and learning objects.
- In all, over 10,000 materials, most of them in open access without any restrictions, which have given rise to more than 560,000 visits and 1,450,000 downloads.

One of the more rewarding characteristics associated with open knowledge promotion in the context of the University of Alicante is that we have managed to involve all scientific areas in the projects. It is undeniable that their participation varies depending on the project analysed and on the parameters used to measure it, but on the whole, one can state that the involvement in the open knowledge philosophy has not been confined to the areas which were presupposed to be the most technologically advanced. A good example of this is, for instance, the participation of research groups by scientific areas collected in Figure 9, which is described in more detail in Table 2 (October 2009).

Figure 9. Research groups in RUA by scientific areas

Table 2. Research groups in RUA by scientific areas

Scientific areas	No. of research groups at the UA	No. of research groups in RUA	Percentage of groups registered within RUA
Health Sciences	10	8	80 %
Chemical Engineering	4	3	75 %
Computer Engineering	17	11	64.7 %
Humanities	40	22	55 %
Chemical Sciences	21	10	47.62 %
Social Sciences	32	15	46.87 %
Physical and Mathematical Sciences	15	7	46.66 %
Civil Engineering and Architecture	13	6	46.15 %
Nature Sciences	23	10	43.48 %
Economics	17	4	23.53 %
Legal Sciences	17	3	17.65 %
TOTAL	209	99	47.37%

The success reflected by the participation of every scientific area in the repository can also be checked in relation to the presence of materials in the RUA, which is illustrated once again by Figure 10 and the more detailed description offered in Table 3 (October 2009).

Figure 10. Percentage of research materials in RUA by scientific areas

Table 3. Research materials in RUA by scientific areas

Scientific areas	No. of research materials
Physical and Mathematical Sciences	615
Humanities	579
Computer Engineering	330
Social Sciences	319
Nature Sciences	291
Chemical Sciences	252
Health Sciences	244
Chemical Engineering	85
Civil Engineering and Architecture	61
Legal Sciences	48
Economics	45

Like the repository, OCW-UA has achieved the participation of all the scientific areas present at the University, particularly the social and legal sciences and humanities, as proved not only by the number of courses published but also by the number of visits that they have generated. This information is shown in Figure 11. It can thus be observed that social and legal sciences had the largest number of visits (644,000) corresponding to 27 courses published. It is followed by humanities with 26 courses and 506,287 visits, and engineering and architecture, which published 22 courses and had 376,217 visits. Finally, and despite having published a very low number of

courses (two and four, respectively), health and other sciences have achieved an important impact in relative terms (46,569 and 81,527 visits, respectively).

Figure 11. Courses published and number of visits to OCW-UA by knowledge areas (October 2009)

In the case of OCW-UA, the heterogeneity of participation in terms of knowledge areas also becomes visible through the analysis both of the most often visited courses and of those materials which have generated the highest number of downloads, shown in descending order in Table 4. The list of the content most often requested from OCW-UA has hardly changed throughout this period of course requests, at least until the dates indicated. Despite showing a few divergences, the list of the most often downloaded materials also enables us to see the variety in terms of participation and of the interest raised by OCW-UA among the different scientific areas:

	Most requested content	Most downloaded materials
1	Text analysis and writing	New technologies applied to education
2	Economics of globalisation	Text analysis and writing
3	Basic psychological processes	Economics of globalisation
4	English phonetics	Computer techniques
5	New technologies applied to education	English phonetics
6	Advertising creativity	Computing I
7	Drama techniques in the teaching of 2L and FL	Advertising creativity
8	Psychopathology of criminal behaviour	Psychopathology of criminal behaviour
9	Learning and motor development	Object-oriented programming

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In an attempt to deepen the knowledge of the people who had decided to collaborate in OCW-UA and to maintain the success of the project, a survey questionnaire was developed. This questionnaire was answered by 40 of the participants and the most relevant results drawn from the survey are presented below.

First it can be seen that lecturers with PhDs are more prone to publication in OCW-UA (31 doctors as opposed to 9 non-doctors). As for the age profile of the teaching staff, those between 40 and 45 years of age are currently the most inclined to disseminate knowledge freely (25-30 2.5 percent, 30-35 25 percent, 35-40 17.5 percent, 40-45 37.5 percent, 45-50 12.5 percent, 50-55 2.5 percent, and 55-60 5 percent).

The following answers were given to the question “Why did you decide to publish your course in open access?”: 32.5 percent due to the incentive of financial aid, 42.5 percent because it is a good idea to publish teaching projects, 77.5 percent because it is appropriate to provide open access to knowledge, and 27.5 percent to make learning easier for students.

And regarding their interest in publishing either a new course or a reissue of the same one in the future, nobody answered that they would not do it again, and only 20 percent showed doubts in this respect or linked it to receiving greater benefit (7.5 percent answered that they did not know; 12.5 percent answered that they would publish as long as more advantages are obtained). The remaining 80 percent expressed interest in publishing a course once more (32.5 percent answered “yes, definitely” and finally 47.5 percent answered that they were indeed likely to publish again).

Although it may sound somewhat optimistic, we think that the survey results could validate the conclusion that our teaching staff are satisfied with the publication of their teaching projects in open access and that they are willing to take part in the project once they have acquired enough teaching experience and professional stability, not for economic reasons, but because of their support for the open knowledge approach.

Conclusions

The present paper has shown that the Institutional Repository (RUA) and the OCW of the University of Alicante (OCW-UA) are neither disconnected nor isolated initiatives. Both are interconnected and they feed each other. But they additionally form part of an institutional strategy which relies on the use of technology as the driving force of educational innovation and the open dissemination of the teaching-related as well as the scientific production. The data about the growth of self-archived content in the platforms demonstrate that the members of the UA community have

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2 taken up this philosophy as their own. The indicators for the volume of access to these platforms
3 show their success and encourage us to continue along this line of work. Furthermore the more or
4 less balanced participation of the different areas tells us that the use of technological platforms is
5 not exclusive to technical areas. There is a task remaining however, not only for us but also for the
6 specialists in educational technology: the design of indicators and the creation of measuring tools
7 which can allow us to assess the impact of these initiatives in particular, and the use of technology
8 in teaching in general.
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11 The connection between the projects has allowed us to present the promotion of open
12 knowledge as a global strategic gamble of the University, which has contributed to a greater
13 acceptance by the teaching staff. The originality of this work lies precisely in the fact that it shows a
14 successful experience of involvement by one university and its members in the promotion of open
15 knowledge. The good reception that the projects – and, in general, the open knowledge philosophy –
16 have had allows us to suggest a new method in its promotion. It is probably the right time for the
17 University of Alicante to adopt a mandate model which can imply, even if it is from a moral point of
18 view, the obligation to publish the results of academic activity in open access. The idea consists in
19 declaring that we are all obliged (at least morally) to permit open access to the teaching or scientific
20 materials generated within the University, in such a way that the teaching staff who do not permit
21 this access might think that they are causing some damage to the institution or, at the very least,
22 preventing it from obtaining some benefit. This would mean that self-archives in the repository will
23 start to be regarded as one of the normal activities performed by the teaching staff which
24 consequently should not receive specific financial aid but which should indeed be taken into
25 account when the time comes to determine the amount of money allocated to each research or
26 teaching group.
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29 The success obtained in the implementation of projects demands us to – or at least enables us to
30 – reflect on their possible improvement, for which two main actions are proposed.
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33 1) Improving the quality of materials. A new unit, the FragUA, has been created for this
34 purpose, combining the library, computing and educational innovation services, seeking to facilitate
35 the use of ICTs for the development of teaching and scientific materials. This unit places at the
36 disposal of users the space, equipment and software required to develop new educational projects,
37 as well as the documentary resources and the technical advice that make it possible to improve
38 those projects. More specifically FragUA must serve to increase our production of audiovisual
39 materials and their incorporation into academic activity.
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42 2) The gamble on reusability. All the projects associated with open knowledge have as their
43 ultimate goal to permit the sharing of knowledge in order to encourage the creation of works
44 derived from that process. It is therefore interesting to bear in mind that project success should not
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be measured, at least not primarily, according to the number of materials that they incorporate, but focusing on the use of those materials. This reflection surely justifies the proposal of specific aid for the groups who support collaboration, either encouraging the participation of students in teaching projects or cooperating with other researchers in the generation of new results or, finally, accrediting the diffusion reached with the number of downloads or that of visits received.

Luckily, all these challenges are already being faced, which is why we will soon be in a good position to think about new challenges, for which we are going to need to start a new process of observation, design, implementation and evaluation.

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Figure 0: Map for the institutional strategy of the University of Alicante (conceptual design by Faraón Llorens and graphic design by Ana Illanas)

Figure 1: Process of publication in OCW-UA

Figure 2: Page with the materials for a course in OCW-UA

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control de calidad de los alimentos.pdf		6528Kb	Adobe PDF Visualizar/Abrir

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Figure 4: Image of the module for visit statistics and downloads by countries

Figure 5: Sustained RUA growth (source: Registry of Open Access Repositories ROAR)

Figure 6: Statistics about visits and downloads in RUA

Figure 7: Statistics about traffic in OCW-UA

Figure 8: Research groups in RUA by scientific areas

For Peer Review

Figure 9: Percentage of research materials in RUA by scientific areas

Figure 10: Courses published and number of visits to OCW-UA by knowledge areas