What is the Meaning of Openness for the Universities?
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Currently, there are many projects at various universities containing the adjective 'open': open access, open textbooks, open educational resources, open source, open data … However, in many cases universities support these projects or get involved without understanding what it actually means. It is easy to sign a declaration supporting open access but this signature should be followed by acts. Joining open projects should involve a real change in the way universities work. Sometimes, the decision is based on the mere following of a trend, or the project is introduced starting from the perception that something has to be done since a lot of universities do it already.

This contribution presents a work developed within the framework of *Communia*,[1] the European Thematic Network on the Digital Public Domain that aims at becoming a point of reference for theoretical analysis and strategic policy discussion around existing and emerging issues concerning the public domain in various digital environments. The work presented here is the result of our activities of the *Communia* working group focused on education and scientific research, which the author of this contribution has been leading for two years.

One of the goals of our *Communia* working group was to built a tool to measure openness at universities – understanding the word 'openness' in a broad way. To elaborate this tool we took the criteria of the *Wheeler Declaration*[2] as a starting point. These criteria state that an 'open' university is a university whose research results are open access, whose course materials are open educational resources, that embraces open standards and free software, that licenses its patents for public good and that has an open network, without filtering or controlling access to certain sites. The tool we created in line with the Wheeler Declaration is a survey that any university can use to evaluate its openness. The survey allows a university to answer specific questions related to 'openness' on different topics, such as research, education and policies. The tool is still under construction, however, this contribution presents its general structure and sections. Furthermore, we already tested the survey within a few institutions, and we will present some initial results. We also include some examples of good practices in order to support universities to improve their openness related to a certain aspect.

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The *Wheeler Declaration*

In October 2008 participants in the *First Students for Free Culture Conference* at a campus of the University of Berkeley (California) drafted the *Wheeler Declaration. Students for Free Culture* is an international student organisation working to promote 'free culture'-ideals, inspired by the work of the American professor Lawrence Lessig, one of the founders of *Creative Commons* and an activist for openness.

The Wheeler Declaration is formulated to define an open university and it states that a university is open if:

    1. The research the university produces is open access [3]
    2. Course materials are open educational resources [4]
    3. The university embraces free software and open standards [5]
    4. The university holds patents, [6] it readily licenses them for free software, essential medicines, and the public good
    5. The university network reflects the open nature of the internet [7]

It should be mentioned that a 'university' is conceived rather broadly here, including all parts of the academic community: students, faculty, administration, etc. It is important to stress furthermore that in all those five criteria, the word 'open' is used in its broadest sense, meaning not only free access to a resource, but also allowing an unrestricted re-use of materials.

    Initiatives towards openness are often implemented top-down by rectors or ruling bodies of universities. The Declaration however was elaborated by the participants of the conference, mainly students, with the goal to pressure campuses towards openness. The initiative thus was taken by students who were concerned about how knowledge, generated within a university, can be 'unlocked' (that is, made public and accessible for all). Another relevant aspect of this initiative towards the establishment of open universities is the attempt to grade institutions on openness. There are many rankings that are grading universities, but usually openness is not taken into account.

    The campaign proposed by the participants is designed to make institutions aware about all the five criteria of the Declaration and to help them to move towards openness with a list of examples for each criterion.

The work at *Communia*

The Wheeler declaration and the related campaign was an important inspiration for our work at *Communia*. In order to clarify this, some additional information on the aim of *Communia* is needed.

    The *Communia* Thematic Network aims at becoming a European point

of reference for theoretical analysis and strategic policy discussion around existing and emerging issues concerning the public domain in various digital environments – as well as related topics, including, but not limited to, alternative forms of licensing for creative material, and open access to scientific publications and research results.

Communia started its activities on the first of September of 2007 (and will end them in March 2011). The activities are funded by the European Commission within the *eContentplus* framework. *Communia* started with 36 members and this number afterwards increased towards a total of 51 in the last year of the project. *Communia* is coordinated by the *NEXA Research Center for Internet and Society* at the *Politecnico di Torino*, an Italian university. Among its members there are European universities, libraries, non-governmental organisations, but also non-European institutions.

In June 2008, *Communia* established six different working groups: *Education and scientific research*; *Technology issues*; *Libraries, museums and archives*; *Economic analysis and New business paradigms*; *Public Sphere*; *Mapping the Public Domain.* Those groups were created to work on and discuss all the issues *Communia* tried to cover, such as the digital public domain and free licenses, and this in relation to different fields: education, science, technology, archives, economics, law, etc. As a first goal, every working group had to make a list of recommendations to strengthen the public domain, as well as related aspects, such as openness in the digital environment, especially at the European level. To date, *Communia* made a set of recommendations and those will be delivered to the European Commission at the end of the project.

Apart from thinking about recommendations, working groups decided to work on specific topics. Some worked on public sector information, others worked on public domain calculators. The first working group, the one dedicated to science and education, focused on universities, i.e. institutions where research and education are combined. Universities, being a relevant source of knowledge production and dissemination, are indeed worth investigating in respect of 'openness'. In January 2009, at a workshop in Zürich, we decided to start our study based on the five criteria of the *Wheeler Declaration*. The main idea of the study was to explore how open a university is in terms of research, education, policies, use of tools as software, standards, etc. We considered the Declaration to be a good starting point, because on the one hand, it covers many aspects of universities and because on the other hand the Declaration can be used to measure openness globally, analysing different fields separately.

Looking at the Declaration, we thought the five criteria should be expanded to wider sections because they are too general. For instance, if we take the first criterion: how can we measure the extent to which 'the research the university produces is open access'? Is it enough to have an institutional repository providing free access to the publications of the faculty? Or should we need

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something else? Developing the five criteria, we also thought it would be fruitful to develop a specific tool to know the extent to which universities are open. Once we had the tool we could evaluate universities. As a thematic network, we knew that we had no budget to carry out research but, nevertheless, we could develop a survey and leave it to anyone who would like to work with it, and even leave it to universities themselves to use it as a tool to measure its 'openness'. For that reason, the survey is made available at the *Communia* website.[8]

Our goal was not to establish another ranking of universities based on 'openness' but to give a university a tool to position itself among other institutions. Indeed, we thought it would be more useful to have such a tool than to make a kind of league table. Additionally, we regarded it as important to provide some examples on how to improve the position of a university regarding each criterion.

The survey

Currently, there are a lot of instruments and techniques available to (and coming from) universities that encourage researchers to embrace open access: declarations, repositories, funds, and so on. The main question, however, is: how to measure 'openness'? In our survey, the five criteria of the *Wheeler declaration* are used as a point of departure, and these criteria are developed in wider sections in order to measure the extent to which a particular university is open in each field (e.g. regarding open access). We distinguish the following sections in the survey: policies, dissemination, research, course materials, software, standards and 'network'.

With the first section ('policies') we want to know which kind of policy a university has regarding intellectual property (e.g. copyright and patents; dissemination (especially the usage of open licenses); the use of software). We also want to know if the university that is answering the survey has signed any declaration supporting openness, for instance the *Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities*[9] elaborated in 2003 and signed by more than 250 universities around the world.

The second section includes subsections to evaluate different aspects dealing with dissemination. A first subsection starts with the website, probably the first image a virtual visitor gets from an institution nowadays. We want to know how many universities are using free licenses to share the contents of the institutional website. Usually websites use the traditional legal framework: 'All rights reserved'. However, we see a progressive change in the legal notice with the inclusion of more flexible terms that allow re-use of the contents by means of free licenses, as the ones offered by *Creative Commons*. Three other ways of dissemination that are studied are: 1) institutional repositories, 2) university presses and 3) projects concerning digitalisation. Related to repositories we already know that almost every institution has one as it can be seen

in directories like the *ROAR*.[10] But in order to measure openness some more data need to be gained. To have an institutional repository is a good step towards openness but the precise contents and the access to these contents are fundamental. Therefore, the focus of the survey is on the exact percentage of materials freely open to anyone, about materials using free licenses (when possible e.g. *Creative Commons* licenses) and finally if contents are available in formats that can be edited by anyone (e.g. Word or Open Office-documents, and no PDFs). If the university has its own press or *publishing services*, the questions focus on the use of free licenses, especially concerning textbooks, and whether there are tools for publishing books, journals or similar works on one's own initiative. Finally, and whenever the university was engaged in *digitalisation projects*, the survey raises the point of the 'enforcement of the public domain'. We ask whether the digitised materials obtained from these projects are available to the public through portals or websites. At this point we want to know especially the status of the digitised works from the public domain, that is, works whose copyright has expired. In view of openness, it is important to maintain these works in the public domain once they are digitised and to mark them clearly on portals and websites.

The third section ('research') aims at openness in research focusing on open access activities such as: the presence of special collections, communities or sections in institutional repositories; the establishment of policies, mandates or incentives for self-archiving within the institution; measuring the percentage of articles available to the public versus the total production within the institution. Usually, when talking about open access, we think of articles published in scientific journals, but in the survey we also want to know about other works created on the basis of research, such as doctoral dissertations or technical reports. In the survey, we gather information about their availability and about the existence of policies promoting the public dissemination of theses and other research working papers. Another point taken into account when measuring openness in research concerns the journals produced within the context of a university, published by the university itself or by its departments or research groups. This subsection of our survey asks whether those journals offer free public access to full text articles and if a journal is using an open access model. Open access journals are those which offer free access to all the contents allowing an unrestricted re-use of the articles, as defined by the aforementioned *Berlin Declaration*. It implies specifically that anyone can access and read the journal without being subscribed or paying a fee, but also that anyone can copy, use, distribute, transmit and display the work publicly and can make and distribute derivative works in any digital medium for any responsible purpose, subject to proper attribution of authorship. The usual way to provide this real open access is by means of free licenses. Another subsection deals with 'the status of data'. Currently, the number of journals publishing scientific papers, together with the related experimental data obtained by

researchers, is increasing. *Biomed Central,* one of the main open access publishers, is encouraging the submission of those data.[11] Publishing experimental data allows other groups to reproduce and check the results obtained. In order to facilitate access to those data, some institutions are providing specific repositories to researchers to store data. Those repositories are databases open to anyone, but it is also important to know if the data included could be re-used. Usually, data are not protected by copyright but databases are. In the European Union, copyright laws give the creator of a database a *sui generis right* for the substantial investment in either the obtainment, verification or presentation of the contents. This right allows the database provider to lock the access – thus restricting the extraction and re-use of research data. With the survey, we try to explore the extent to which data are available and if there are any restrictions regarding their use. Finally, in the last research subsection, we explore the universities' policies regarding copyright and patents and more exactly how a university encourages or discourages the use of patents or how they are applied in certain fields or situations as software, social welfare, essential medicines, etc.

The fourth section deals with 'course materials'. During the first decade of this century, there have been a lot of projects aimed at disseminating the materials that teachers offer to their students. Probably the *Massachusetts Institute of Technology* (MIT) with its *Opencourseware* (OCW) is the most known project among all of them, after almost ten years of offering its educational resources.[12] Following MITs initiative, many universities have started similar projects of dissemination and some of them have also joined the international OCW Consortium that currently has hundreds of members, mainly universities.[13] However, some of the projects seem to just follow a trend or are stacked because there are a lot of mistakes or misuses when applying licenses to educational resources. The same content for instance is marked with a different license if you access from the institutional repository or the *Opencourseware* portal. Or the access to certain materials, such as exams, is restricted to faculty or the members of the university in general. Therefore, we want to know if the university answering the survey is engaged in this kind of initiatives and if so, how many courses are available and under which conditions of re-use. Another issue of analysis in this section is the existence of incentives (e.g. promotion) given to educators for releasing their resources.

'Software' and 'standards' are the two following sections that the survey examines. The questions here are related to the use of free (i.e. free as 'without restraint', rather than 'without paying') software tools. Free software allows not only the re-use but also the creation of derivative works built upon the original ones. The survey also gathers information about the default installation of free software programs on computers that are available to faculty and students. Apart from the use or existence of free software programs, the survey focuses on whether the university provides students and faculty with a repository for

software (also known as *software forge*) allowing collaborative development over the net. Usually, students and researchers use these platforms to publish the software code while starting communities. And these communities are the base of free software development. Regarding standards, the survey basically focuses on file formats used in documents, images and contents in general. We try to investigate the use of those open standards in any communication among the members of the academic community (students, faculty, staff) and also in external relations.

The last section of the survey ('network') deals with the final point of the *Wheeler Declaration*, stating that an open university network should reflect the open nature of the internet, meaning that there should be no restrictions at all when trying to connect to any site. The survey asks if there are any applications which are freely usable on the internet, but forbidden or technically blocked within the university network, if there are any free internet applications which are controlled/restrained, and if the student traffic data (or data of other non-employees) are logged or otherwise stored/recorded as a way to control the use of the internet.

The first results

The major goal of our working group at *Communia* was not to carry out the survey. However, we asked some institutions to answer a first draft of the survey in order to obtain feedback and refine the questions. Since many of the members of our network are universities, we decided to start with our own institutions. We also tried to get an answer from the members not belonging to a university but who could contact a university in their country. The call was not a success. We received around ten answers from four countries. This is by no means a representative sample. Nevertheless, the data retrieved offer a point of departure to reflect upon current developments related to 'openness'.

The answers on the survey indicate that almost all universities have an institutional repository with a wide range of uses – including a research collection where researchers post their papers. However, there is not a clear figure about the precise percentage of the self-archived publications. As expected, universities are also engaged in projects on open educational resources (like the OCW), but, there is a wide range of answers when asked about the licenses. Some universities just answered that the materials are online and others specified the kind of license used, mainly a *Creative Commons* license.

An important observation based on the answers is that there seems to be a lack of policies. Many universities do not have any policy related to copyright, although almost all have a policy on patents, and there is also no policy either on dissemination of software, data or publications.

Some of the questions were not answered. Regarding those questions, we seem to face a problem regarding the choice of respondents. In many cases,

people from libraries were contacted. They are often involved in open initiatives (such as the open access movement), but without the expertise required to answer technical questions (especially with respect to the section on 'network'). In the future, it is necessary to contact someone at the university who will be able to answer all the questions or at least to contact someone who is able collect all the answers within the university.

Conclusion

We are at an early stage of the work and thus we cannot present here final conclusions regarding the understanding of the word 'openness' within universities. Nevertheless, one issue seems to be already rather clear: the apparent lack of a (policy) strategy towards openness. Many universities are engaged in different projects, but within one institution there is not one guiding direction or a coordination of all the initiatives. However, we think universities – as sources of knowledge – should promote the public dissemination of knowledge and should share it openly with the society in general. Universities have a pivotal role to play in the dissemination and sharing of knowledge. Perhaps our survey can offer a starting point here. The survey is a first step in developing a tool for the measurement of openness in universities. With the survey, universities are able to grade themselves on different aspects, and they have a basis to work towards a shared and open knowledge base. However, a lot of work remains to be done, especially in raising awareness.

NOTES

1. http://www.communia-project.eu
2. http://wiki.freeculture.org/Open_University_Campaign#The_Wheeler_Declaration
3. http://wiki.freeculture.org/Open_University_Campaign/Open_Access
4. http://wiki.freeculture.org/Open_University_Campaign/OCW
5. http://wiki.freeculture.org/Open_University_Campaign/Free_Software
6. http://wiki.freeculture.org/Open_University_Campaign/Patents
7. http://wiki.freeculture.org/Open_University_Campaign/Internet
8. http://www.communia-project.eu/WGI
9. http://oa.mpg.de/lang/en-uk/berlin-prozess/berliner-erklarung
10. http://roar.eprints.org
11. http://blogs.openaccesscentral.com/blogs/bmcblog/entry/in_defence_of_supplemental_data
12. http://ocw.mit.edu/about/our-history
13. http://www.ocwconsortium.org