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## OER, OPEN ACCESS AND SCHOLARSHIP IN PORTUGUESE HIGHER EDUCATION

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### Abstract

The present paper is part of a PhD research, which is being developed in the scope of the Doctoral Programme in Education, specialisation in Distance Education and eLearning at Universidade Aberta, the Portuguese Open University. The theoretical framework for the research is Open Education, particularly the specific fields of Open Educational Resources (OER) and Open Access (OA). The main objective of the research is to identify and understand the awareness, knowledge and attitudes of scholars in Portuguese public Higher Education Institutions (HEI), regarding OER and OA and, in particular, to compare scholars' awareness, attitudes and perceptions towards OER and OA in the context of their teaching and research practices. This will also allow us to represent the Portuguese reality and, consequently, position the Portuguese public higher education practices within the global panorama and also may be able to inform future decisions, whether institutionally, governmentally or even within a broader perspective. The current paper intends to present the research project and also to reflect the literature review carried out so far, in order to contextualise the research problem and also to describe the methodological procedures defined for the study.

### Introduction

In September 2013, the European Commission (EC) presented an action plan to tackle the challenges faced by schools and higher education institutions, to adapt to new technologies and incorporate them in their teaching methods. Opening up Education<sup>1</sup> was the motto launched by the EC to promote innovation and digital schools in European educational institutions.

In the educational arena, and particularly in the higher education scenario, many institutions have incorporated technology in their management, administration and educational programmes, with examples such as the investment in Learning Management Systems (LMS) and continuous access to library resources in electronic equipment, among other examples. Without questioning the benefits of these initiatives for education in general, and students in particular, these investments have been made within the framework of the dominant educational model, teacher-centred and based on the unidirectional knowledge transfer. Nonetheless, the development of new models of distance learning and, more recently, the appearance of Massive Open Online Courses (MOOCs) that have had an unprecedented popularity, also unveils the need for changes in the traditional paradigm, particularly in higher education, whose potential beneficiaries are spread throughout the world, and hence the need to "open up education" (European Commission, 2013).

A set of initiatives that has had echo in the domain of open education is the movement of the Open Educational Resources (OER), which have been considered essential in promoting opportunities for pedagogical innovation. However, several studies and authors (Conole, 2012; Wiley & Hilton, 2009; Yuan & Powell, 2013; Ehlers, 2011; Mulder, 2011) confirm that, over a decade after the beginning of the OER movement, neither the traditional business model of higher education nor the pedagogical approach have undergone major changes. Ehlers (2011) acknowledges that this happens because there is still an emphasis on access to digital content, without considering its potential support to educational practices. Thus, it is suggested that we should consider "extending the focus of attention on open education beyond resource access to innovative open educational practices (OEP)" (Ehlers, 2011, p.2).

In this process, teachers play a fundamental role. In the report "Open Educational Resources – Open content for higher education", presented to UNESCO, Albright (2005) recognises the importance of the involvement of faculty members, whether in "top-down" systems or by means of "bottom-up" initiatives in OER development. Considering the career of faculty, it includes not only teaching activities, but also research work. In this context, their practices

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<sup>1</sup> [http://ec.europa.eu/governance/impact/planned\\_ia/docs/2013\\_eac\\_003\\_opening\\_up\\_education\\_en.pdf](http://ec.europa.eu/governance/impact/planned_ia/docs/2013_eac_003_opening_up_education_en.pdf)

are positioned at a research level and open education also has expression through the open access movement. This movement aims to promote free and unrestricted access to scientific and academic literature, upholding the impact of researchers and institutions' work. In 2003, representatives of important European scientific institutions subscribed the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities<sup>2</sup>, supporting the movement and encouraging their researchers to promote free access to their work.

Within this background, it is, thus, fundamental to understand the specific role of scholars and to analyse their educational and research practices within the framework of these global movements and within the current situation of Higher Education Institutions.

### **Higher Education Institutions at present**

Similarly to many other society spheres, Higher Education Institutions have been facing several challenges, which have led to various changes, not only in terms of scholarly practice, but also in the role of higher education in the current 21<sup>st</sup> century. As put forward by Mackness (2014), "Universities are being hit by disruptive waves", and this includes factors of diverse origin, such as rising costs of education, decreasing resources in institutions, demographic factors as the decreasing number of students, globalisation and the increasing competition among institutions, no longer in a local or national perspective, but at a global level, not to mention the challenges posed by emerging technologies and environments themselves. At the same time, these same institutions have a recognised need to develop and improve their curricula, to invest in quality, to take care of their own financial health, to connect with the broader community, to promote students' employability and to adapt to different learning environments and contexts. Among the drivers of change we may also include global economic and social forces that, together with sustainability issues, make it crucial for institutions to find their own path towards innovation, collaboration, transparency and openness, in order to meet the demands of an increasingly international market. These institutions have traditionally been considered as communities of experts, as storehouses of knowledge, which was unidirectionally transmitted by those experts and later certified by the institutions. According to Mulder (2011), "Universities may have changed over the years, but their role has changed little: (1) provide knowledge content, (2) offer a learning community that can help students understand the meaning of this content, and (3) certify students who prove that they have mastered this knowledge." However, when looking at the 21<sup>st</sup> century institutions, we may find a vast array of functions, which include teaching, research, public engagement, policy guidance and also incubators of new ideas and businesses. Technological advances have also contributed to the evolution of teaching and learning processes, with the influence of features such as new hardware and software, ubiquitous computing, cloud computing, sensor technologies, mobile learning, emerging personal learning environments (PLEs) and personal learning networks (PLNs). All of these features have led into the need of identity management and more collaborative behaviours, which, consequently, pressure institutions to increasingly innovate, cross-collaborate and design new business models, focusing on students and innovative practices.

### **Multidimensional nature of scholarship**

Within this context of change in higher education institutions, the role of scholars and how they perform their scholarly practice is also facing opportunities and challenges, particularly when we consider the relationship between information technology and scholarship. In his book *Scholarship Reconsidered*, Boyer (1990) developed the concept of what it means to be a scholar, using the term "scholarship" to identify the several activities carried out by scholars. Based on a broad empirical evaluation of scholars' practice in higher education, Boyer argued that knowledge is not only developed through the traditional practice of research, but also through teaching practice. Therefore, he developed a framework, illustrated in Figure 1, to analyse scholarly practice, based on the multidimensional nature of scholarship.

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<sup>2</sup> <http://openaccess.mpg.de/Berlin-Declaration>

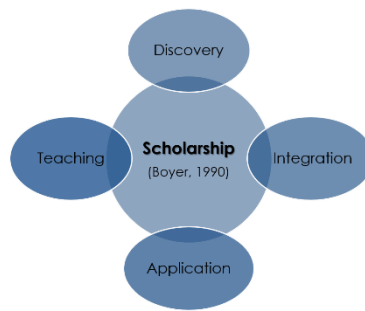


Figure 1 - Multidimensional nature of scholarship, based on the framework developed by Boyer (1990)

This framework integrates four different functions: (a) discovery, which is connected to the traditional research activity and the creation of knowledge associated to a specific disciplinary field; (b) integration, which focuses on making connections across disciplines and creating knowledge beyond disciplinary boundaries; (c) application, which focuses on using research findings and innovations to engage with the world outside academia, and also includes the service activities connected to the specific field of knowledge and professional activities; (d) teaching, which was not often considered as an important element of professional development and knowledge creation and sharing. All these functions together constitute what Boyer acknowledges as scholarly identity.

### Scholarship in the digital age

As abovementioned, the current use of Web 2.0 digital tools has been shaping the research work of scholars in different ways, and, similarly, this influence has been characterised in different terms in the literature, depending on the behaviours or practices each perspective intends to highlight. In this context, scholarship in the digital age has been termed as follows: (1) according to Cohen (2007), social scholarship “is the practice [...] in which the use of social tools is an integral part of the research and publishing process [and is characterized by] openness, conversation, collaboration, access, sharing and transparent revision”. The author specifically refers to Boyer’s scholarship of discovery, by emphasising the role of the Web 2.0 affordances have on the process related to research practices; (2) Pearce et al. (2010) define digital scholarship as “more than just using informal and communication technologies to research, teach and collaborate, but is embracing the open values, ideology and potential of technologies born of peer-to-peer networking and wiki ways of working in order to benefit both the academy and society”. This perspective adds to the previous one the teaching component in the notion of scholarship; (3) according to Burton (2009), “the Open Scholar is someone who makes their intellectual projects and processes digitally visible and who invites and encourages ongoing criticism of their work and secondary uses of any or all parts of it—at any stage of its development”; (4) Weller (2011) argues that “digital scholarship is more than just using information and communication technologies to research, teach and collaborate; it also includes embracing the open values, ideology and potential of technologies born of peer-to-peer networking and wiki ways of working in order to benefit both the academy and society.” and finally (5) Veletsianos & Kimmons (2012) state that “Networked Participatory Scholarship is the emergent practice of scholars’ use of participatory technologies and online social networks to share, reflect upon, critique, improve, validate and further their scholarship.” These authors also argue that the way digital technologies are used by scholars implies a set of practices and dispositions that have the potential to change the way scholarship is considered.

Within this framework, even though scholarship has been termed differently in the literature, the apparently diverse definitions place the focus beyond the use of technologies, highlighting the values that are embraced and promoted by that same use. What is common to all definitions are the principles of openness, collaboration, networking and sharing, and this represents a deep contrast to the traditional scholarly practices, usually portrayed as isolated processes, neither conversational nor participative. Thus, scholarship in a digital age is influenced by different factors, such as networking, sharing of digital data, increased collaborative work and increased emphasis on openness and benefits from the Web 2.0 affordances, by connecting traditional formal scholarly practices with more informal, open and collaborative practices.

### The scholarly communication cycle

Taking into consideration the scholarly communication cycle proposed by Czerniewicz et al. (2014), all stages of the research process are influenced by the increasing use of the Web 2.0 technologies. The authors propose a knowledge creation and dissemination model, which focuses on the research and dissemination activities

performed by scholars. This model outlines the main elements that are part of the traditional scholarly communication cycle, which are (a) conceptualisation; (b) data collection and analysis; (c) articulation of findings; (d) translation and engagement. In the authors' perspective, the traditional model of the scholarship cycle usually begins with conceptualising an issue, which involves theoretical tasks such as writing proposals or literature reviews and is traditionally an individual and private stage of the process. The second stage involves some type of data collection, followed by data analysis and, although the data may assume different formats, they are traditionally not shared and may not be digitised. In a subsequent stage, this data analysis leads to findings, whose outputs usually represent stable, text-based and final authoritative versions, whose dissemination is normally the responsibility of publishers. If the research is related to the teaching activity scholars perform, there is also an engagement phase, which may imply the release of textbooks or access to online resources to a clearly demarcated unidimensional audience, represented by course students. Figure 2 illustrates the changes that have been shaping each stage of this model, as a result of Web 2.0 technologies and the affordances offered by digital forms of content and communication.

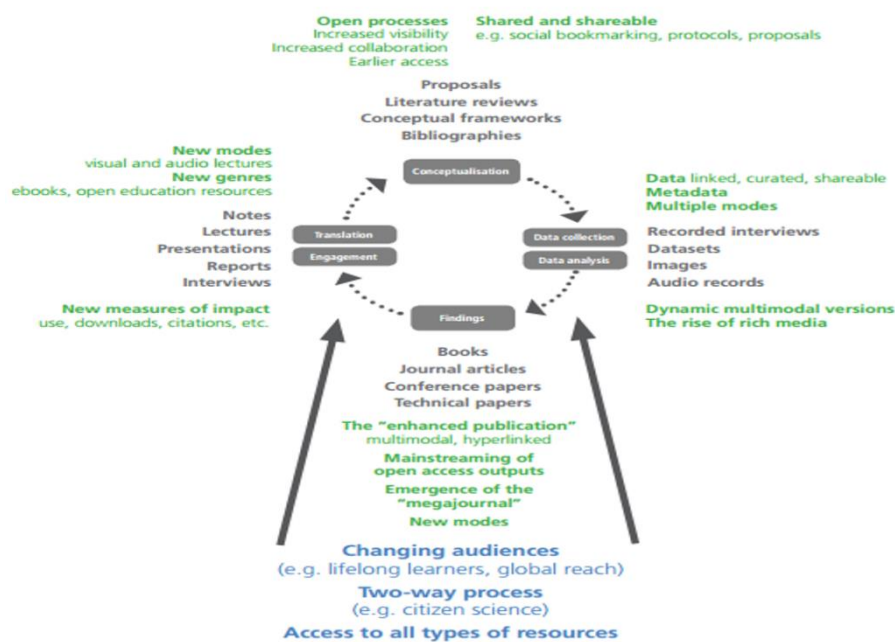


Figure 2 - The changing scholarly communication cycle (Czerniewicz et al., 2014)

As shown in the previous figure, all stages are influenced in the technological age: at the conceptualisation phase, activities become shared and shareable and the process is increasingly collaborative and open. At the next stage, the multimodality of the web allows dynamic versions of data, which are linked, curated and shareable. The outputs have also become multimodal and hyperlinked, with open access publications becoming more frequent, with audiences no longer being predefined and in a process which is no longer unidirectional. Consequently, the engagement stage of the cycle also reflects new modes and genres of resources, allowing the development of open textbooks and open educational resources, which, in turn, are challenging the role and delivery modes of higher education institutions themselves.

### Coherence of open domains

Even though there are multiple and diverse perspectives on how to characterise scholars, scholarship and the scholarly cycle, what is common to all perspectives are the concepts of sharing, networking and openness. As Conole & Alevizou (2010) refer, openness is “a trend, both in terms of the production and sharing of educational materials, as well as making research publications (and even research data) freely available”. Similarly, Veletsianos & Kimmons (2012) state that open scholarship refers to “teaching and research practices that espouse openness”. Similarly, the different ways of characterising openness depend on the “open” aspect each perspective intends to highlight or, as Corral & Pinfield (2014) put it “the various arenas of open activity have generated a range of definitions”, such as open data, open educational resources, open source, open systems, open research, open science and open content, among other concepts. The different “open” domains have developed through a wide range of different initiatives managed at various levels and have normally been followed by different communities

of practice, often with little connection between them. For example, OA has been promoted by various stakeholders, including funders, librarians, and researchers in particular disciplines; whereas OER has typically been promoted by learning technologists and educationalists. In their study, Corral & Pinfield (2014) suggest that developing the convergence of open domains and recognising common benefits, without forgetting their particularities will bring additional advantages both for institutions and scholars.

## Research problem

Within the previous theoretical framework, the present research intends to address the following main questions:

- What are the scholars' practices towards Open Educational Resources (OER) and Open Access (OA)?
- What is the influence of scholars' awareness, attitudes, perceived incentives, constraints and values regarding OER in their practices towards OER?
- What is the influence of scholars' awareness, attitudes, perceived incentives, constraints and values regarding OA in their practices towards OA?
- What is the relationship between scholars' awareness, attitudes, perceived incentives, constraints and values regarding OER in their practices towards OER and scholars' awareness, attitudes, perceived incentives, constraints and values regarding OA in their practices towards OA?

## Methodology

The methodology of this research will be mainly qualitative, with a mixed methodology approach, using both qualitative and quantitative techniques at different stages of the research. Authors such as Morais & Neves (2007) and Creswell (2003), among others, suggest that there are cases when it is an advantage to combine qualitative and quantitative techniques, as combining the two may provide a better understanding of the research problems. In a first empirical stage, data will be collected through a questionnaire survey, targeting teachers/researchers of public Higher Education Institutions in Portugal. Participants will be selected through a criterion sampling process: (i) they have to be researchers recognised by the Foundation of Science and Technology (FCT), the Portuguese research funding body; (ii) they belong to the Social Sciences and Humanities field, as it is both the researcher's specific field of work and it is also the field of the PhD programme; (iii) in the last two school years, they have had to participate in funded research projects and must have had teaching service as well. Regarding the questionnaire itself, the main dimensions are based on previous national and international surveys, concerning OER and OA in Higher education institutions and the indicators will be adapted, based on an analysis of common grounds for comparability in the measured dimensions.

After collecting and analysing the questionnaire data, a second stage will be carried out, with the objective of achieving a deeper understanding of the data collected in the previous stage, by means of focus groups. The purpose of the focus groups is to corroborate possible findings and explore in greater depth the relationships suggested by the previous analysis.

## Conclusion

The revision of literature carried out so far has allowed us to preliminarily acknowledge two aspects: first, that there aren't many studies focusing on addressing the awareness, knowledge and attitudes towards OER and OA practices, even though they represent two functions of scholarly practice; second, that some Portuguese institutions have participated in several initiatives regarding the two movements, but it is necessary to understand the current situation of the Portuguese scholars in the movement of openness to knowledge.

It is also important to refer that the research is currently in the stage of identifying the main dimensions and indicators as part of the questionnaire construction.

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